EXECUTIVE CHAMBERS

HONOLULU

BENJAMIN J. CAYETANO
GOVERNOR

May 1, 2002

TO: The Honorable Brian Minaai, Director
Department of Transportation

SUBJECT: Acceptance of the Final Environmental Impact Statement for the Kihei-Upcountry Maui Highway

With this memorandum, I accept the Final Environmental Impact Statement for the Kihei-Upcountry Maui Highway, island of Maui, as satisfactory fulfillment of the requirements of Chapter 343, Hawai'i Revised Statutes. The economic, social and environmental impacts, which will likely occur should this project be implemented, are adequately described in the statement. The analysis, together with the comments made by reviewers, provides useful information to policy makers and the public.

My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws but does not constitute an endorsement of the proposed action.

I find that the mitigation measures discussed in the environmental impact statement will minimize the negative impacts of the project. Therefore, if this project is implemented, the Department of Transportation and/or its agents should perform these or alternative and at least equally effective mitigation measures at the discretion of the permitting agencies. The mitigation measures identified in the environmental impact statement are listed in the attached document.

/s/ Benjamin J. Cayetano
BENJAMIN J. CAYETANO

Attachment

c: Honorable Bruce S. Anderson, Ph.D., M.P.H.
Office of Environmental Quality Control

KIHEI UPCOUNTRY MAUI HIGHWAY

FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME ONE: FINAL EIS AND TECHNICAL REPORTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEBRUARY 2002

KIHEI-UPCOUNTRY MAUI HIGHWAY
County of Maui, Hawaii

Final
Environmental Impact Statement

Submitted Pursuant to the National Environmental Policy Act, 42 U.S.C. 4332 (2)(c)
and
Hawaii Revised Statutes Chapter 343

U.S. Department of Transportation
Federal Highway Administration
and
State of Hawaii Department of Transportation
Highways Division

Cooperating Agency
U.S. Army Corps of Engineers

DEC 21 2001
Date of Approval

Brian K. Minaai
Director of Transportation
State of Hawaii Department of Transportation

JAN 10 2002
Date of Approval

Abraham Wong
Division Administrator
Federal Highway Administration

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This report documents environmental impact studies of a proposed two-lane limited-access rural highway from Kihei, an urban area on the southern coast of Maui, to Upcountry, a region on the western flank of Haleakala volcano. Eight alternative alignments and a No Build alternative are currently being considered. The eight alignments consist of all combinations of two Kihei and four Upcountry terminus options. The preferred alternative has been identified as the U1,K1 Alternative, the alignment from the Haliimaile Road / Haleakala Highway intersection in Upcountry to the Kaonoulu / Piilani Highway intersection in Kihei. The project would facilitate transportation between Kihei and Upcountry, thereby addressing growth in regional transportation demand, economic development trends, and coastal evacuation deficiencies. In addition, there is federal interest in the project because it would facilitate transportation between defense-related research activities at Science City atop Haleakala Crater and the Maui Research and Technology Park in Kihei. The project will have both adverse and beneficial impacts. Potential benefits and impacts include substantial travel time savings, loss of open space, interference with agricultural activities, changes in transportation patterns, loss of archaeological resources, and savings in energy consumption. The nature of the impact varies with the alignment alternative.

NATIONAL ENVIRONMENTAL POLICY ACT STATEMENT

The National Environmental Policy Act (NEPA), 42 U.S.C. 4321-4347, became effective January 1, 1970. This law requires that all federal agencies shall prepare a detailed Environmental Impact Statement (EIS) for every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment. The Federal Highway Administration (FHWA) is, therefore, required to have an EIS prepared on proposals funded under its authority if the proposal is determined to be a major action significantly affecting the quality of the human environment.

EISs are required for many transportation projects as outlined in NEPA. The processing of an EIS is carried out in two stages. Draft EISs are first written and forwarded for review and comment to federal, state and local agencies with jurisdiction by law or special expertise and are made available to the public. This availability to the public must occur at least 15 days before the public hearing and not later than the time of the first public hearing notice or notice of opportunity for hearing. Normally, 45 days, plus mailing time, will be allowed for comments to be made on the Draft EIS unless a time extension is granted by the Hawaii Department of Transportation (HDOT). After this period has elapsed, preparation can begin on the Final EIS.

A Final EIS is prepared to reflect the distribution of the Draft EIS by including the following:

1. Basic Content of the Draft EIS as amended due to internal agency comments, editing, additional alternatives being considered, and changes due to the time-lag between the Draft and Final EIS.

2. Summary of public hearing comments.

3. Summary of comments received on the Draft EIS.

4. Evaluation and disposition of each substantive comment.

Administrative action cannot take place sooner than 90 days after circulation of the Draft EIS to the U.S. Environmental Protection Agency (USEPA) or 30 days after submittal of the Final EIS to the USEPA.

Both the Draft and Final EIS are full disclosure documents, which provide a full description of the proposed project, the existing environment, and analysis of the anticipated beneficial or adverse environmental effects.

General Reviewer Information

In compliance with the Metric Conversion Act of 1975 (amended in 1988) and a 1991 Presidential Executive Order, numbers throughout this Final EIS are presented in metric units with the English equivalents in parentheses.

SUMMARY

S.1 INTRODUCTION

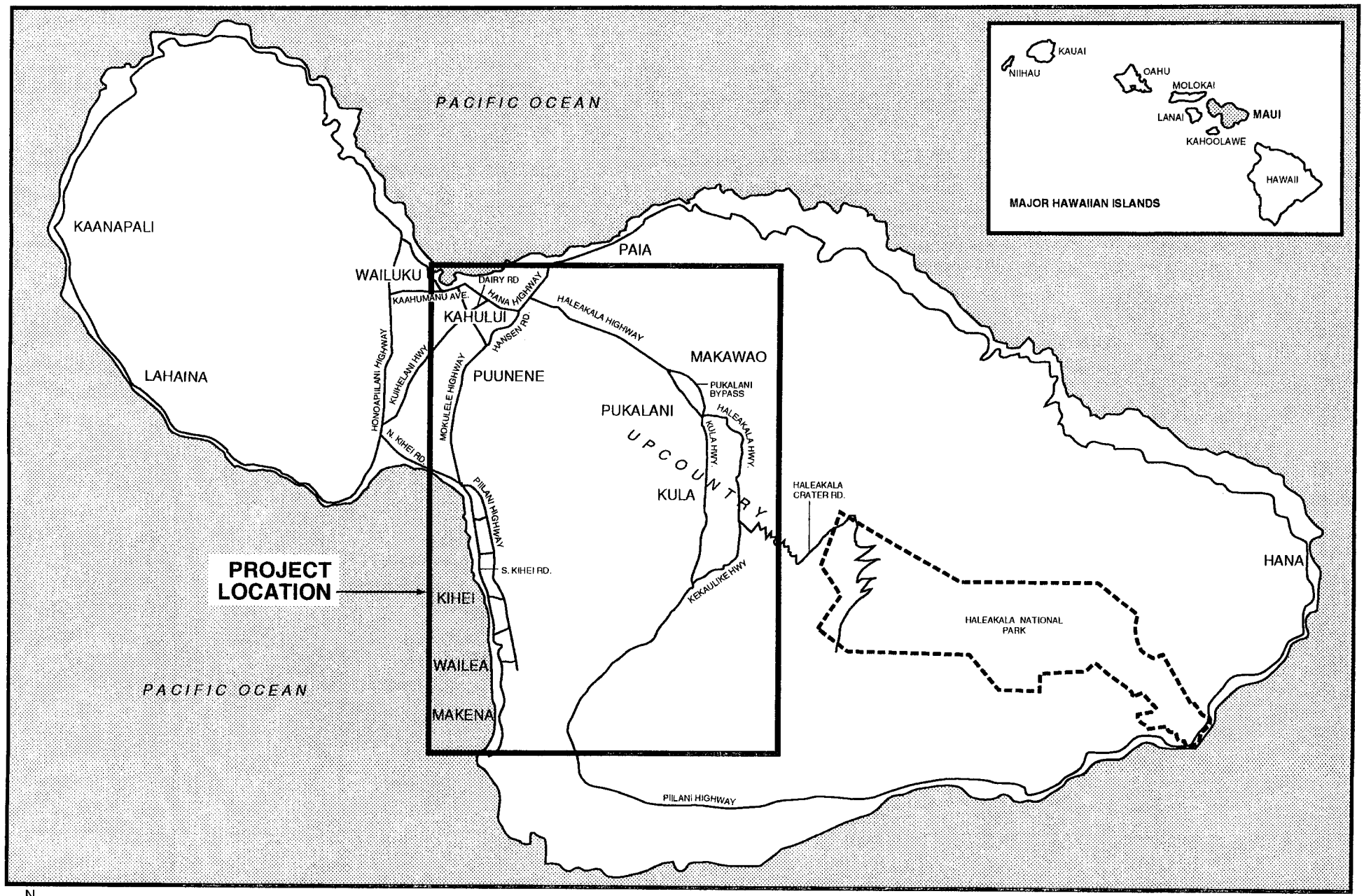
S.1.1 APPLICANT AND PROJECT SUMMARY

The Federal Highway Administration (FHWA) and the Highways Division of the State of Hawaii Department of Transportation (SDOT) are issuing this Final Environmental Impact Statement (EIS) as the lead federal and local agencies for this project, the proposed Kihei-Upcountry Maui Highway in Maui, Hawaii.

Figure S-1 shows the general project location in the County of Maui. This proposed federal-aid limited access highway would link the Kihei-Makena and Upcountry Maui regions. In its initial phase, the highway will be constructed as a two-lane facility. The right-of-way for a future four-lane facility will be acquired, and in certain sections of the highway, earthwork for a future four-lane facility will be conducted during the initial phase of construction. This document addresses the operational impacts of a two-lane facility, the right-of-way acquisition for a four-lane facility, and, in certain locations, the earthwork for a future four-lane facility.

S.1.2 PLANNING CONTEXT AND HISTORY

Study of a Kihei-Upcountry Maui Highway began over 25 years ago when, in 1970, the County of Maui studied the feasibility of a road between Upcountry Maui and Kihei. Two later studies, the County of Maui Toll Road Study (1988) and the Maui Long-Range Highway Planning Study (May 1991), also examined a roadway link between Upcountry and Kihei. Subsequently, a task force consisting of State and County officials and private citizens (the Joint State/County Task Force) was formed to recommend an alignment for this roadway. The Task Force met in 1992 and 1993, and produced a report in October 1993. Also in 1993, the SDOT, in cooperation with the FHWA, began an in-depth study of this proposed roadway link, including an evaluation of new alternatives as well as alternatives derived from past efforts. This Final EIS marks the completion of the SDOT planning efforts that began in 1993.



Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE S-1

S.1.3 ACCEPTING AUTHORITIES

At the federal level, the FHWA Hawaii Division Administrator approved this Final EIS. At the State level, the accepting authority of this Final EIS is the Governor of the State of Hawaii. It is expected that the Governor will accept this Final EIS, completing the EIS requirements under Hawaii's EIS Law. It is also expected that the FHWA will issue a Record of Decision (ROD), completing the project's requirements under the National Environmental Policy Act (NEPA). After issuance of the ROD and Final EIS acceptance by the Governor, the design phase of the project may proceed.

S.1.4 PURPOSE OF THIS DOCUMENT

This Final EIS has been prepared to comply with:

- The National Environmental Policy Act (NEPA);
- Chapter 343 of the Hawaii Revised Statutes (HRS);
- FHWA and FTA Joint Regulations, 23 CFR 771;
- Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR 1500-1508; and
- The Hawaii Administrative Rules [Title 11, Chapter 200 (August 1996)].

This document identifies and assesses the environmental and social impacts that could result from the development of the Kihei-Upcountry Maui Highway. The highway would be designed for anticipated traffic demand in the year, 2020, which corresponds to the planning horizon of the Maui Long-Range Land Transportation Plan (February 1996). Therefore, potential impacts are assessed for that year. Construction-phase impacts are also assessed.

The EIS process is designed to enable project sponsors to develop a well-planned project that is sensitive to the physical, natural and social environment within which it would exist, and to identify and evaluate impacts associated with various alternatives under consideration. Required coordination activities with interested and affected parties are also documented in this Final EIS.

S.2 PURPOSE OF AND NEED FOR THE PROJECT

Upon completion, the Kihei-Upcountry Highway would satisfy the following six purposes and needs:

- Establish a roadway system linkage;
- Support economic development;
- Address existing intersection capacity deficiencies;
- Satisfy increased transportation demand;
- Promote the National interest as expressed though legislative directive; and
- Increase coastal evacuation capacity.

S.2.1 ROADWAY SYSTEM LINKAGE

The existing circuitous route between Kihei-Makena, a major employment center along Maui's southern coast, and Upcountry, a popular residential area on Haleakala's western flank, is at least 25 km (16 miles) (the distance between the northern tip of Pukalani to the northern tip of Kihei). In contrast, the straight-line distance between Kihei-Makena and most Upcountry communities is 15 km to 20 km (9 to 12 miles). Travelers between the Maui Research and Technology (R&T) Park in Kihei and scientific facilities at the summit of Haleakala, called Science City, must also use the present circuitous route. The transportation route between the Upcountry communities and West Maui (Lahaina-Kaanapali-Kapalua) is also circuitous. Depending on the alternative selected, a Kihei-Upcountry Maui Highway would provide up to a 50 percent reduction in the length these journeys, substantially reducing travel time and vehicle fuel consumption.

S.2.2 ECONOMIC DEVELOPMENT

Maui's largest industry now and for the foreseeable future is tourism. Kihei-Makena and West Maui (Lahaina-Kaanapali-Kapalua) are expected to remain the principal visitor accommodation areas on the island, as well as the island's second and third largest employment centers. These areas will also continue to have an economic relationship with

Upcountry Maui because Upcountry has tourist attractions, such as Haleakala National Park, and is a major and popular residential area. Another increasingly important industry on Maui is high technology based at the Maui R&T Park in Kihei and Science City on the summit of Haleakala. Improved transportation efficiency would support businesses and federal government personnel at the R&T Park who provide technical assistance to Science City. In addition, road construction would infuse federal funds into the local economy.

S.2.3 EXISTING INTERSECTION CAPACITY DEFICIENCIES

Traffic volumes at nine intersections along the existing route between Kihei and Upcountry were analyzed using methodologies contained in the 1994 Highway Capacity Manual (HCM). The HCM methodologies classify traffic operations by level of service, defined by letters "A" through "F", representing best to worst conditions, respectively. In the morning peak hour, three of these intersections (including the Haleakala Highway / Hana Highway intersection and the Mokulele Highway / Piilani Highway intersection) operated at levels of service "E." In the afternoon peak hour, five intersections (including the Hana Highway / Dairy Road intersection, the Dairy Road / Kuihelani Highway / Puunene Road intersection and the Mokulele Highway / Piilani Highway intersection) operated at levels of service "E" or lower. A Kihei-Upcountry Maui Highway would divert some travel demand to an alternative route, thus relieving existing congestion at these intersections.

S.2.4 TRANSPORTATION DEMAND

Trip generation forecasts reported in the Maui Long-Range Land Transportation Plan (February 1996) indicate that the average number of daily trips on Maui would be over 386,000 in 2020, a 70 percent increase over 1990. A large portion of these trips would be generated by the tourism industry, such as home-based work trips by tourist industry employees and trips made by visitors. Because of this anticipated growth in travel demand and existing deficiencies in roadway capacity (see Section S.2.3), the following improvements are needed:

1. Additional roadway capacity between existing and future residential communities in Upcountry and employment centers in Kihei-Makena and West Maui; and
2. Additional roadway capacity between visitor accommodation regions (Kihei-Makena and West Maui) and Haleakala National Park and tourist attractions in Upcountry.

The proposed road would help satisfy both requirements above.

S.2.5 LEGISLATIVE DIRECTIVE

Federal funding for the planning of this project was appropriated because of the national interest in providing an improved transportation connection between defense-related activities at the Maui R&T Park in Kihei and Science City at the Haleakala summit. Science City receives technical support from key defense contractors in the R&T Park.

S.2.6 COASTAL EVACUATION CAPACITY

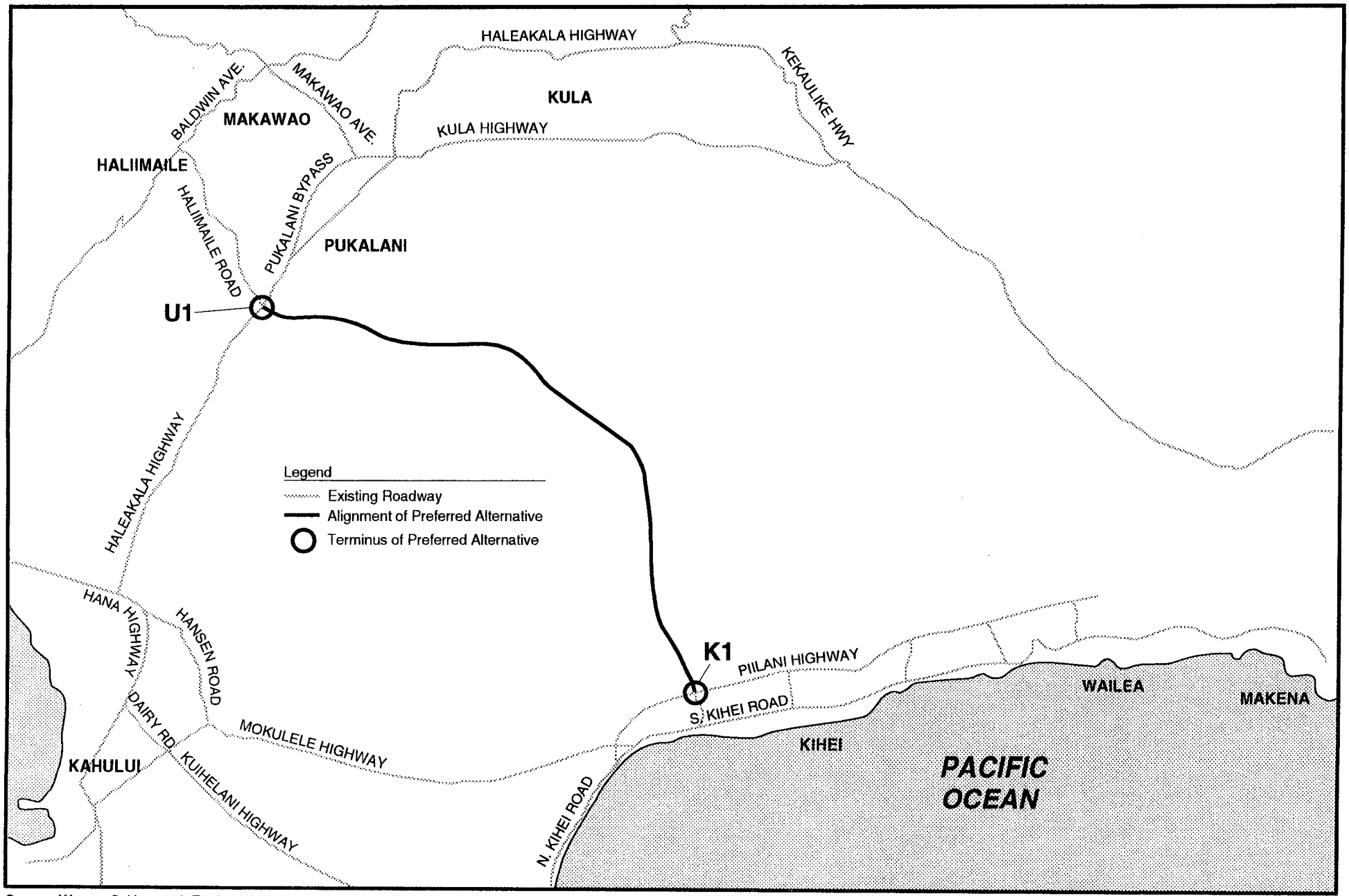
On the southern coast of Maui, the Kihei-Makena urban area is vulnerable to coastal hazards such as tsunami and tropical storms. The only routes out of Kihei-Makena are Mokulele Highway and North Kihei Road. The termini of these roadways are about 90 m (300 ft) from one another at the northern end of Kihei. The limited number of evacuation routes and their close proximity suggest there could be substantial congestion in north Kihei during an evacuation emergency. In addition, there are no alternatives should the evacuation route be blocked. A Kihei-Upcountry Maui Highway would increase evacuation capacity and provide an alternative evacuation route.

S.3 ALTERNATIVES AND ALTERNATIVE SELECTION PROCESS

S.3.1 PREFERRED ALTERNATIVE

The preferred alternative for the Kihei-Upcountry Maui Highway project has been identified as the U1,K1 Alternative, the alignment from the Haliimaile Road / Haleakala Highway intersection to the Kaonoulu Street / Piilani Highway intersection (see Figure S-2). The highway will be a limited access, two-lane arterial roadway, with a length of approximately 15.8 km (9.8 miles). The posted speed limit would vary from 70 km/h (45 mph) in the urban area near Kihei to 90 km/h (55 mph) in the rural area in Upcountry. The width of the right-of-way would be at least 49 m (160 ft) in rural areas and at least 37 m (120 ft) in urban areas. These right-of-way widths are sufficient to accommodate a four-lane divided highway. The acquisition of the right-of-way for a four-lane facility is proposed to allow for the future expansion of the highway to four lanes. However, the proposed action addressed in this EIS is only the construction of a two-lane road because projections indicate that two lanes would be sufficient to accommodate the forecast travel demand in the design year, 2020.

The roadway will include one 3.7 m (12 ft) lane in each direction, and paved shoulders wide enough to accommodate bicyclists. The highway in the urban section will include bike lanes and sidewalks that are in conformance with the Americans with Disabilities Act. The highway termini will be designed with adequate channelization (right- and left-turn lanes) to handle the projected traffic volumes. Both intersections will likely warrant traffic signals. However, this decision will be made during the design phase of the project. Several grade-separation (*i.e.*, interchange) options for the U1 terminus were considered after the selection of the preferred alternative. However, it was determined that the additional cost of a U1 interchange could not be justified since an at-grade signalized intersection would cost substantially less, and be able to acceptably handle projected year 2020 peak hour traffic demand.



Source: Warren S. Unemori, Engineering, Inc., October 1997

GRAPHIC SCALE:

N

0 1 km 2 km 3 km

0 1 mi. 2 mi.

Preferred Alternative
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE S-2

S.3.2 OTHER BUILD ALTERNATIVES

In addition to the preferred alternative, seven build alternatives have been carried forward for detailed analysis in this Final EIS (see Figure S-3). The eight build alternatives, including the preferred alternative, consist of all possible combinations of two Kihei and four Upcountry terminus options. Figure S-3 shows the candidate termini and the alignments that would link them. The Kihei termini and segments are named K1 and K2, and the Upcountry termini and segments are named U1, U2-A, U2-B and U3. The names of the other build alternatives are:

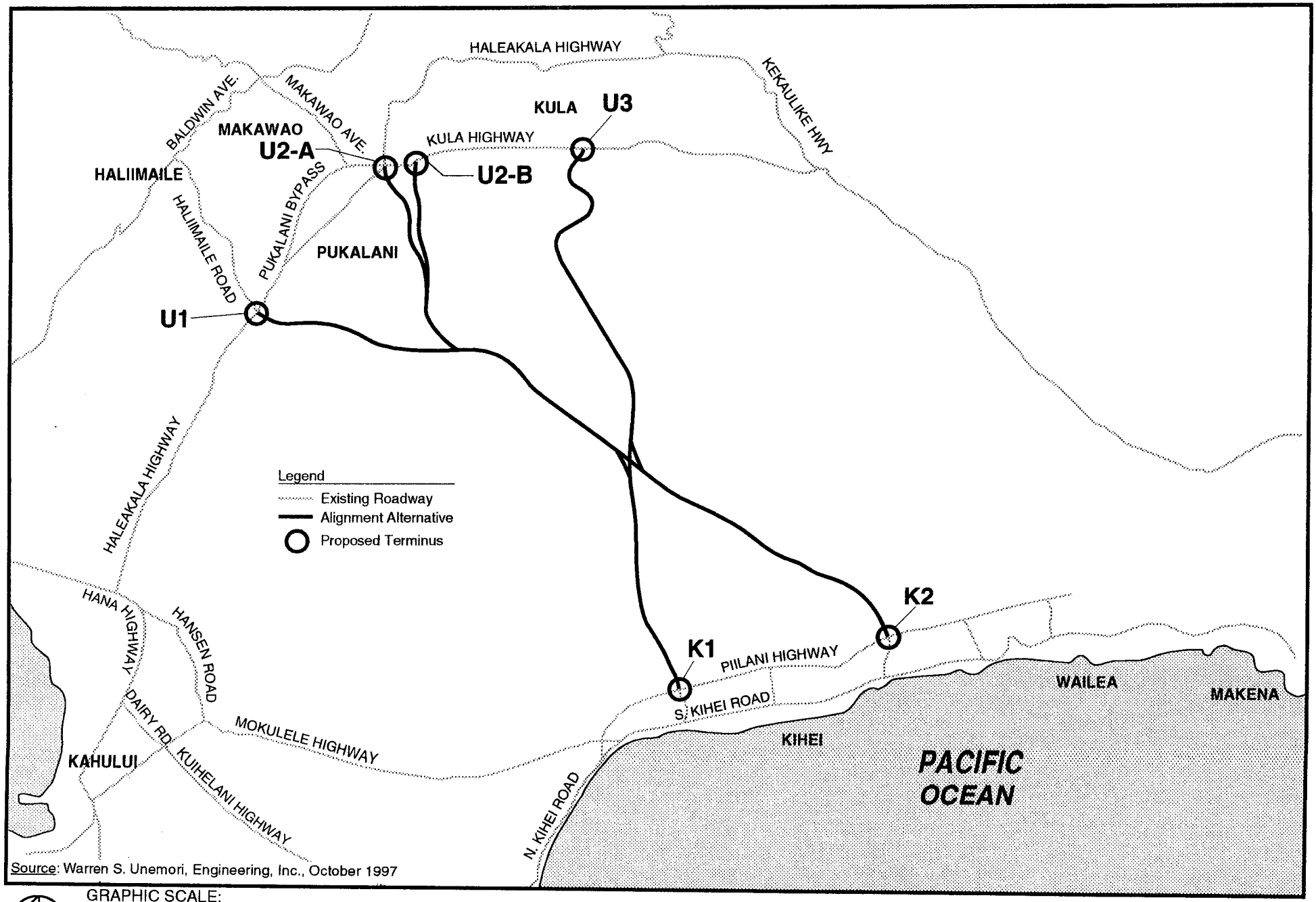
1. U1,K2
2. U2-A,K1
3. U2-A,K2
4. U2-B,K1
5. U2-B,K2
6. U3,K1
7. U3,K2

The U2-A alternatives (U2-A,K1 and U2-A,K2) would require the modification of the Pukalani Bypass / Haleakala Highway / Kula Highway "Five Trees" intersection. Kihei-Upcountry Maui Highway would replace the Haleakala Highway leg (Pukalani side) and Haleakala Highway would be re-aligned to link and form a T-intersection with Pukalani Bypass at approximately 370 m (1200 ft) north of the "Five Trees" intersection. The existing segment of Haleakala Highway between the new connection to Pukalani Bypass and the "Five Trees" intersection would be converted to a cul-de-sac to maintain access to future land uses.

The design of the other build alternatives would be similar to the preferred alternative. They would provide a limited access arterial roadway with one 3.6 m (12 ft) lane in each direction, with a roadway right-of-way of at least 49 m (160 ft) wide in rural areas and at least 37 m (120 ft) wide in urban areas to allow for the widening of the facility to four lanes if appropriate in the future. The posted speed limits would vary from 70 km/h (45 mph) in urban areas to 90 km/h (55 mph) in rural areas.

S.3.3 NO BUILD ALTERNATIVE

The No Build alternative consists of those roadway improvements that are expected to be implemented by 2020 as stated in the Maui Long-Range Plan Land Transportation Plan (Final



Build Alternatives
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE S-3

Report, February 1997), apart from the proposed project. The No Build alternative is the benchmark reference against which project impacts are assessed in this Final EIS.

S.3.4 ALTERNATIVES DEVELOPMENT AND SELECTION OF THE PREFERRED ALTERNATIVE

S.3.4.1 Development of Project Alternatives

Three general steps were accomplished to develop the alternatives studied in this Final EIS:

1. A two-tiered alternatives screening analysis;
2. Refinement of Alternative U2; and
3. Additional adjustments to alignments.

A two-tiered alternatives screening analysis was performed to evaluate fourteen alternatives that were developed from prior studies and reports, scoping activities conducted as part of the EIS process, and public involvement activities (see Figures 2-6 and 2-7). Twelve of these alternatives were different alignments. The other two alternatives were "enhanced widening of existing roadways," beyond the widening proposed in the No Build Alternative, and Transportation Systems Management (TSM).

Candidate evaluation criteria were generated and sorted into two groups: Tier One (fatal flaws) and Tier Two. The Tier One (fatal flaw) criteria were developed to eliminate alternatives that are impractical, unfeasible or not fundable to avoid unnecessary analysis of alternatives that would have minimal chance of being selected as the Preferred Alternative. The Tier Two criteria relate primarily to the nature and degree of impact. An alternative not satisfying a Tier Two criterion could be feasible, but would not be advantageous with respect to the criterion in question.

The Tier One screening analysis eliminated from further study six alignment alternatives, the "enhanced widening of existing roadways" alternative, and the TSM alternative (see Section 2.2.1.3a). The Tier Two screening analysis evaluated the remaining six alternatives and eliminated two alignment alternatives (see Section 2.2.1.3b). The remaining four alternatives were then recast as combinations of mauka and makai segments. By combining the two

makai terminus choices (K1 and K2) with the three mauka terminus choices (U1, U2 and U3), it became possible to generate six alternatives comprised of common roadway segments.

Following selection of these six alternatives, it was discovered that Segment U2 would cross a site planned for a Kamehameha Schools / Bishop Estate campus. Also, archaeological reconnaissance surveys found notable sites (potentially eligible for the National and/or State Registers of Historic Places and important for preservation) within the U2 alignment (see Section 3.10.2). Therefore, four modifications of the eastern (mauka) section of the U2 alignment (U2-A, U2-B, U2-C and U2-D) were developed and evaluated based on such criteria as maximum grade, number of gulch crossings, and operational considerations. Following this evaluation, the U2-A and U2-B modifications were selected for further evaluation. The U2-A alignment shifts the eastern (mauka) portion of the U2 alternative northward, creating a terminus at the Pukalani Bypass / Haleakala Highway / Kula Highway "Five Trees" intersection. The U2-B alignment shifts the U2 alternative along the northern boundary of the future Kamehameha Schools campus while maintaining the same terminus (as the original U2 alternative) on Kula Highway.

Finally, the results of archaeological reconnaissance surveys (see Section 3.9) required minor re-alignments of Segments U2-A and U3. The alternatives shown on Figure S-3 reflect all of the changes described above.

S.3.4.2 Selection of the Preferred Alternative

The eight build alternatives described in Section S.3.1 and S.3.2 were evaluated to determine the preferred alternative using transportation performance, cost, and agricultural impact criteria. In addition, community plan preferences were used. The purpose of this comparison was to determine how well each of the alternatives fared with respect to these criteria and in comparison to one another. Other criteria that relate to environmental and social impacts were considered for this analysis, but were not used because, while important, they did not differentiate between the build alternatives. This analysis of build alternatives to select the preferred alternative does not include the No Build alternative, because the No Build alternative remains under consideration until the Record of Decision is issued.

In evaluating the transportation performance of the alternatives, all of the U3 and K2 alternatives were eliminated from further consideration because they would not serve the major travel markets as well as the U1, U2 (A or B) and K-1 alternatives. The U3 terminus is furthest away from the Upcountry population centers, and the K2 alternatives would not serve the Upcountry – West Maui travel market. Although the K2 alternatives are better in augmenting the evacuation capacity of South Maui, this advantage was not judged to override the disadvantage of not serving the Upcountry - West Maui travel market. The remaining alternatives, U1,K1, U2-A,K1 and U2-B,K1, were then evaluated using the other criteria.

Of these remaining alternatives, the U1,K1 alternative would be the least expensive to construct. However, the costs of the three alternatives are all within 7 percent of one another. Therefore, cost was only a minor factor in the decision to select the preferred alternative.

The U2-A, and U2-B alternatives would cause less of an impact to agriculture than the U1,K1 alternative. However, Alexander & Baldwin, the parent company of Hawaiian Commercial and Sugar Company, indicated a willingness to work with the SDOT on appropriate mitigation to lessen the impact to their agricultural operations (see Volume Two: Draft EIS Comments and Responses). Therefore, like the cost factor, agricultural impacts were only a minor factor in the decision to select the preferred alternative.

All the remaining alternatives would be consistent with the Kihei-Makena Community Plan, and therefore, this plan does not help discriminate among the remaining alternatives. On the other hand, the Makawao-Pukalani-Kula Community Plan indicates a strong preference for a No Build alternative. However, this plan goes on to state a preference for a U1 alternative, if the highway project moves forward. This preference for a U1 alternative, among all the build alternatives, was reiterated by several Upcountry commentors throughout the EIS process. The community plan preference for a U1 alternative, if constrained to select among the three remaining alternatives, was highly influential, and was a major determining factor that led SDOT and FHWA to select the U1,K1 alternative as the preferred alternative.

S.4 IMPACTS AND MITIGATION

Table S-1 summarizes the environmental and social impacts, including construction-phase impacts, of the No Build and build alternatives, including the preferred alternative. A summary of mitigation measures for each adverse impact of the build alternatives is also provided in this table. In general, the build alternatives' impacts are similar. However, the following differences do exist:

Alternatives with a U1 alignment (U1,K1 (preferred alternative) and U1,K2)

- These alternatives would have the most severe cropland impacts.

Alternatives with either a U2-A or U2-B alignment (U2-A,K1; U2-A,K2; U2-B,K1; and U2-B,K2)

- These alternatives would have the second most severe cropland impacts.

Alternatives with either a U1, U2-A or U2-B alignment (U1,K1 (preferred alternative); U1,K2; U2-A,K1; U2-A,K2; U2-B,K1; and U2-B,K2)

- These alternatives would increase the use of Omaopio and Pulehu Roads as a through route. These roads were not designed for such a purpose, although the County is planning to improve them.

Alternatives with a U3 alignment (U3,K1 and U3,K2)

- These alternatives would be within visual distance of a cattle corral potentially affecting ranch operations. These alternatives would also cross two pineapple fields and the Kula Agricultural Park, County land that is leased to small-scale farmers at comparatively low rates. Remnant agricultural parcels that may be difficult to work may be created at one of the pineapple fields affected by this alternative.
- These alternatives may lead to the use of local residential roads between Kula and Haleakala Highways as a route to the Haleakala summit.

Alternatives with a K1 alignment (U1,K1 (preferred alternative); U2-A,K1; U2-B,K1 and U3;K1)

- These alternatives may affect adjacent ranching operations. Proper measures will need to be implemented to minimize the conflicts between cattle and roadway operations. For example, cattle will need to be herded across the highway right-of-way several times a year, and these crossings may take ten to fifteen minutes.

Table S-1
Summary of Environmental Impacts and Mitigation

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
LAND USE		
Construction Impacts. Construction impacts associated with the various roadway widening projects contained in the Maui Long-Range Land Transportation Plan (February 1997)	Construction Impacts. Introduction of a roadway to agricultural areas (sugarcane, pineapple and ranching), leading to an irrevocable loss of open space and interference with existing, adjacent agricultural practices (see Farmland below). No outright residential or business displacements.	
Operational Impacts. Kulamalu, the Department of Hawaiian Homeland's Keokea Homesteads, the Alexander & Baldwin (A&B) housing development in Haliimaile, the expansion of the Maui R&T Park and other developments would continue as planned.	Operational Impacts. The highway would have minimal influence on long-term regional land use trends because other factors, such as water availability, health of the visitor industry, and pace of development of "high-tech" industry control the speed and extent of land use development.	U1 Alternative (including the preferred alternative). Will facilitate development beyond Pukalani's urban growth boundary as defined by the community plan. Will support planned A&B development in Haliimaile. U2-A or U2-B Alternative. Would support the planned Kulamalu development. U2-B was the suggested alignment contained in the Kulamalu Master Plan. U3 Alternative. Not expected to influence land use development in Kula because water availability would continue to be the major constraint. K1 or K2 Alternative (including the preferred alternative). May promote in-fill development in Kihei, which would be a beneficial impact.
Mitigation. None required.	Mitigation. Landowners affected by right-of-way acquisition will be compensated based on the guidelines of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.	
FARMLAND		
Construction Impacts. Farmland impacts associated with various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Will convert agricultural lands to a transportation use, cause crop damage, disturb sugarcane and pineapple operations, and affect cattle grazing. Will damage existing	U1 Alternative (including the preferred alternative). In addition to direct conversion of cropland to a transportation use, will isolate approximately 400 ha (1000 acres) of sugarcane land from a larger field,

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
FARMLAND (cont.)		
Construction Impacts (cont.). See above.	Construction Impacts (cont.). agricultural infrastructure (haul roads, and irrigation and drainage systems), adversely affecting current operating practices.	U1 Alternative (cont.). and cross a pineapple field. In addition to direct conversion of cropland to a transportation use, will isolate approximately 400 ha (1000 acres) of sugarcane land from a larger field, and cross a pineapple field. U2-A or U2-B Alternative. In addition to direct conversion of cropland to a transportation use, would isolate approximately 25 ha (60 acres) of sugarcane land from a larger field, and cross two pineapple fields. U2-A Alternative. The realigned Haleakala Highway in Pukalani would cross a pineapple field, converting some of this land to a transportation use. U3 Alternative. In addition to direct conversion of cropland to a transportation use, would cross two pineapple fields, and a County agricultural park, which is used to lease parcels to small-scale farmers at comparatively low rates.
	Construction Impacts (cont.). Per the Farmland Protection Policy Act, Land Evaluation and Site Assessment scores for each alternative were calculated, and are shown to the right. No alternative has a score equal to or greater than 160, the threshold at which alternatives that avoid farmland impacts must be evaluated.	U1,K1 Alternative (preferred alternative). 151 points U1,K2 Alternative. 148 points U2-A,K1 Alternative. 141 points U2-A,K2 Alternative. 142 points U2-B,K1 Alternative. 139 points U2-B,K2 Alternative. 139 points U3,K1 Alternative. 140 points U3,K2 Alternative. 137 points

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
FARMLAND (cont.)		
Operational Impacts. Sugarcane, pineapple, ranching and small farm agriculture in the study area would remain viable. They would, however, continue to be adversely affected by external forces such as world market conditions and suburban encroachment.	Operational Impacts. Will interfere with sugarcane and pineapple cultivation because the highway will cross active fields, which will make working the fields more difficult. Will improve access to cattle grazing areas.	U3 Alternative. Would be within visual distance of a major cattle corral and water system. The corral may not operate normally if the highway is within visual distance. K1 Alternative (including the Preferred Alternative). Without mitigation, adjacent landowner would herd cattle across the roadway several times a year. Crossing the highway would take 10 to 15 minutes.
Mitigation. None required.	Mitigation. A "Maintenance of Agricultural and Ranching Activities Plan" will be prepared during design and implemented during construction. Measures to offset adverse impacts to agricultural production include allowance for haul road crossings and grade separation of selected haul roads, and replacement and relocation of other existing agricultural infrastructure, such as irrigation and drainage systems. Farmers (owners and leaseholders) will be compensated for crop damage and lease losses, if necessary. Sections of the roadway crossing pastureland will require stock-proof fencing along both sides of the highway. Cattle crossing locations at certain bridges will be designated to avoid the need for cattle to cross the roadway.	
SOCIAL AND ECONOMIC		
Construction Impacts. Socio-economic impacts associated with the various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. The project will infuse up to $66 million of federal funds into the local economy, increasing short-term employment and the purchase of local goods and services.	
Operational Impacts. Implementation of community plans would affect existing communities by increasing population and traffic, and have environmental impacts, such as agricultural encroachment.	Operational Impacts. No alternative will cut through or isolate existing neighborhoods. Therefore, existing social activities will be unaffected. With the exception of Kahului, the new highway does not function as a bypass roadway. Therefore, adverse	U2-B alternative. This alignment will be adjacent to a planned shopping center in the Kulamalu development. Depending on the type of shops at this center, visitor-related establishments in Makawao, and perhaps Pukalani, may suffer a loss.

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
SOCIAL AND ECONOMIC (cont.)		
Operational Impacts (cont.). Implementation of community plans would affect existing communities by increasing population and traffic, and have environmental impacts, such as agricultural encroachment.	Operational Impacts (cont.). impacts to existing business districts in Pukalani, Makawao, and Kihei are not anticipated. Adverse impacts to business districts in Kahului are also not expected because it is the island's principal commercial center. The potential for long-term employment opportunities will depend on how well the alternatives facilitate employment-producing land uses in areas approved by the County, such as Kulamalu or in-fill development in Kihei. Property tax revenues to the County would decrease by about $13,000 to $46,000 per year depending on the alternative because of the conversion of taxable real estate to public right-of-way.	U2-B alternative (cont.). of business from this market. This impact may also occur to a lesser extend under the U2-A and U3 alternatives.
Mitigation. None required.	Mitigation. None required.	
TRANSPORTATION		
Construction Impacts. Construction delays associated with various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Impacts to traffic flow will occur at construction site ingress and egress areas on Haleakala, Kula and Piilani Highways, and during work at intersections with existing roadways.	
Operational Impacts. Travel between Upcountry and Kihei-Makena / West Maui would continue to use the existing circuitous route. Transportation level of service would continue to deteriorate.	Operational Impacts. The proposed project will divert Kihei-Upcountry and some West Maui-Upcountry travel demand from its current circuitous route to the new highway. This traffic diversion will	U1, U2-A or U2-B Alternative (including the preferred alternative). Will encourage some motorists traveling between Kula and Kihei to use the substandard Omaopio or Pulehu Roads.

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
TRANSPORTATION (cont.)		
Operational Impacts (cont.). See above.	Operational Impacts (cont.). reduce total regional vehicle-miles-traveled (VMT), fuel consumption and travel time. Transportation level of service will improve on the existing route. The new highway will operate at acceptable levels of service (D or better).	U1, U2-A or U2-B Alternative (cont.). Increasing use of these roads will interfere with farm vehicle movements and local traffic, and may increase traffic related noise. This impact will be greatest under a U1 alternative, including the preferred alternative, because its Upcountry terminus is furthest away from the Omaopio and Pulehu Roads' intersections with Kula Highway. U3 Alternative. Would encourage some motorists traveling to the Haleakala summit to use local residential roads running between Kula and Haleakala Highways. This may increase traffic related noise along these roads and interfere with local traffic.
Mitigation. None required.	Mitigation. "Maintenance of Traffic Plan" will be prepared during the design phase to minimize impacts on traffic flows during construction.	U1, U2-A or U2-B Alternative (including the preferred alternative). Traffic conditions at the intersections of the proposed highway with Omaopio and Pulehu Roads will be monitored after completion of the project to determine whether one or both require signalization. U3 Alternative. Signage would be provided directing motorists to the proper route to the Haleakala summit.
AIR QUALITY		
Construction Impacts. Dust and mobile source emissions will be generated during the construction	Construction Impacts. Air quality impacts during roadway construction will consist of fugitive dust and mobile source emissions from construction equipment.	

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
AIR QUALITY (cont.)		
Construction Impacts (cont.). of the various roadway widening projects contained in the Long-Range Plan.	Construction Impacts (cont.). See above.	
Operational Impacts. No violations of State or federal air quality standards are anticipated.	Operational Impacts. None of the alternatives will cause a violation of the applicable State or federal air quality standards.	
Mitigation. None required.	Mitigation. Dust control measures will be implemented during construction, such as minimizing land disturbance, using watering trucks and windbreaks, limiting vehicular paths, and stabilizing temporary roads. Following construction, any disturbed land not permanently in use will be revegetated.	
NOISE AND VIBRATION		
Construction Impacts. Noise will be generated during the construction of the various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Construction will normally occur during daylight hours when occasional loud noises are more tolerable, and construction activities will generally be in isolated areas away from noise sensitive land uses. Unacceptable noise and vibration impacts at sensitive sites are not anticipated.	
Operational Impacts. Predicted future traffic noise levels are expected to be no more than 1 dBA over the existing noise levels. The Noise Abatement Criteria (NAC) would be approached at one noise receptor site located along Kula Highway.	Operational Impacts. Predicted traffic noise levels at 12 of the 13 selected noise receptor sites are predicted to increase 1 dBA to 11 dBA over existing ambient levels. These predicted increases are not considered "substantial" according to the SDOT Noise Analysis and Abatement Policy.	U3 Alternative. Although the predicted noise level at a site located on Kula Highway would be slightly below the predicted noise level under the No Build alternative, an impact, per the Noise Policy, would occur because the future noise level would approach the NAC. K1 Alternative (including the preferred alternative). Early morning noise impacts from vehicles traveling to the Haleakala summit were specifically mentioned as a potential concern during scoping.

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
NOISE AND VIBRATION (cont.)		
Operational Impacts (cont.). See above.	Operational Impacts (cont.). See above.	K1 Alternative (cont.). However, early morning noise levels at the most affected neighborhood would increase only by 3 dBA, which is barely perceptible and is well below a substantial increase. K2 Alternative. A substantial increase in noise, per the Noise Policy, is predicted to occur at a site in the future Kihei Regional Park adjacent to the highway.
Mitigation. None required.	Mitigation. Specifications for allowable noise levels during construction at nearby communities will be formulated and implemented. A noise permit will be obtained from the State Department of Health (SDOH) if stipulated noise control standards can not be met.	U3 Alternative Mitigation. A noise barrier at the site along Kula Highway was considered, but was found not to be reasonable and feasible because it would block viewplanes from the affected residence and would be inappropriate in a rural setting. K2 Alternative Mitigation. The SDOT and FHWA would work with the County of Maui to mitigate impacts to noise sensitive activities at the future park. Measures could include buffer zones and berms along the highway.
WATER RESOURCES		
Construction Impacts. Erosion and sedimentation may occur during construction from various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Water resource impacts could occur from erosion and sedimentation associated with the project's earthmoving and stockpiling activities, and construction of gulch crossings.	

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
WATER RESOURCES (cont.)		
Operational Impacts. Increase in regional pollutant loading of surface waters from roadway drainage because of increases in regional VMT.	Operational Impacts. Highway runoff containing automobile-related pollutants (petroleum, oil, rubber) would percolate into the ground. During heavy rain, runoff will drain into the gulches on the side of Haleakala. However, since total regional VMT will decrease (see Transportation), the highway's impact on total regional pollutant loading of surface waters from roadway drainage will be reduced in comparison to the No Build alternative. Inadvertent spills of petroleum-based fuels or chemical products could infiltrate groundwater sources underlying the highway.	
Mitigation. None required.	Mitigation. Storm water runoff and erosion during project construction will be mitigated through the use of Best Management Practices (BMPs) established before construction begins in coordination with the SDOH and Maui County. In the event of a petroleum or hazardous materials release, established incident response procedures will prevent impacts to groundwater sources. The depth of the water table from the ground will also help protect the aquifer under these conditions.	
FLORA		
Construction Impacts. Vegetational communities will be cleared in association with the construction of various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Vegetational communities will be cleared for the roadway (see right). None of these communities contain threatened or endangered species, consisting mostly of existing and former cultivated lands, kiawe forests, buffelgrass and gulch vegetation. Therefore, construction will not threaten the region's botanical resources, which consists of non-native species in the areas to be directly affected by construction.	Amount of Vegetation cleared by alternative: Alternative U1,K1 (preferred alternative). 97 ha (240 acres) Alternative U1,K2. 112 ha (277 acres) Alternative U2-A,K1. 99 ha (245 acres) Alternative U2-A,K2. 113 ha (280 acres) Alternative U2-B,K1. 99 ha (246 acres) Alternative U2-B,K2. 114 ha (282 acres) Alternative U3,K1. 89 ha (220 acres) Alternative U3,K2. 102 ha (252 acres)
Operational Impacts. None.	Operational Impacts. The new highway will increase the possibility of fires in the region due to enhancing public access to dry areas.	K2 Alternative. This alignment would be approximately 1.5 km (1 mile) from Puu O Kali, a dry land forest containing three endangered plant

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
FLORA (cont.)		
Operational Impacts (cont.). See above.	Operational Impacts (cont.). See above.	K2 Alternative (cont.). species. This alignment would not directly affect the forest or these endangered species, however.
Mitigation. None required.	Mitigation. Landscaping will be provided, which would include native trees and shrubs wherever practicable. The Maui Native Plant Society and the State Department of Land and Natural Resources will be consulted. Details of the landscaping plan will be developed during the design phase. Existing SDOT specifications, such as proper use of mulch and cleaning and maintenance of construction vehicles and equipment, will help control the spread of alien species. Signage will alert motorists of possible fire conditions and warn them to take measures to minimize fire risk.	
FAUNA		
Construction Impacts. Animals associated with the vegetation to be removed would be displaced from the construction of various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Some existing faunal habitats will be converted into roadway and embankment. However, this change will not threaten the relatively common faunal communities in the region.	
Operational Impacts. None.	Operational Impacts. Use of Kihei-Upcountry Maui Highway will increase the number of vehicle collisions with axis deer. It is unlikely that the highway will increase the incidence of vehicle-cattle collisions because cattle can be prevented from entering the highway right-of-way by well-maintained stock-proof fencing.	U1, U2-A or U2-B Alternative (including the preferred alternative). Will be in proximity to a reservoir that may be used by migratory and resident water birds, including the endangered Hawaiian coot. However, there is sufficient horizontal and vertical buffer between the alignment and the reservoir so that the highway will not affect the waterbirds using the reservoir. U1,K1 Alternative (preferred alternative). Alternative that is furthest away from the maximum

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
FAUNA (cont.)		
Operational Impacts (cont.). See above.	Operational Impacts (cont.). See above.	U1,K1 Alternative (cont.). concentration of deer, and therefore is the build alternative least likely to increase the rate of vehicle-deer collisions. U3,K2 Alternative. Most likely alternative to increase the rate of vehicle-deer collisions.
Mitigation. None required.	Mitigation. Well-maintained stock-proof fencing at cattle grazing areas will prevent cattle from wandering onto the highway. However, such fencing will not prevent deer from getting onto the highway if they so wish. Frequent signage will be provided warning motorists of the danger of deer on the highway.	
SOLID AND HAZARDOUS WASTE		
Construction Impacts. Wastes would be generated in association with the construction of various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. The volumes of cut and fill will be balanced across the project so there will be no requirement for fill material to be disposed of or imported from outside the construction site. Excavated material is expected to be free of contamination. Construction activities will generate solid and hazardous waste.	
Operational Impacts. None.	Operational Impacts. None.	
Mitigation. None required.	Mitigation. Solid and hazardous waste generated during construction will be properly handled and disposed of per SDOH and Maui County requirements.	
NATURAL HAZARDS		
Construction Impacts. None.	Construction Impacts. None.	

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
NATURAL HAZARDS (cont.)		
Operational Impacts. Evacuation capacity of the Kihei-Makena region would continue to be limited due to the lack of roadway capacity and alternative routes.	Operational Impacts. An additional egress route and roadway capacity will be provided in the event of an evacuation from Kihei-Makena. The new highway will not result in additional exposure to natural hazards.	
Mitigation. None required.	Mitigation. None required.	
HISTORIC AND ARCHAEOLOGICAL RESOURCES		
Construction Impacts. Historic properties could affected by the construction of various roadway widening projects contained in the Long-Range Plan..	Construction Impacts. Construction activities will eliminate archaeological sites that require data recovery, but do not require preservation. The number of these type of sites affected by each alternative is provided on the right. Only the preferred alternative (U1,K1) underwent an archaeological inventory survey. The information about the other alternatives was based on reconnaissance surveys. It is likely that the number of sites that would be affected by the other alternatives would change if they were to undergo inventory surveys.	Number of archaeological sites requiring data recovery by alternative: Alternative U1,K1 (preferred alternative). three (3) sites Alternative U1,K2. seven (7) sites Alternative U2-A,K1. three (3) sites Alternative U2-A,K2. seven (7) sites Alternative U2-B,K1. three (3) sites Alternative U2-B,K2. seven (7) sites Alternative U3,K1. six (6) sites Alternative U3,K2. ten (10) sites
Operational Impacts. None.	Operational Impacts. None.	
Mitigation. None required.	Mitigation. A mitigation measure that has already been implemented is the modification of alignments to avoid sites that require preservation. In accordance with Section 106 of the National Historic Preservation Act, a Memorandum of Agreement (MOA) was prepared und signed by the FHWA and the State Historic Preservation Officer (SHPO), with which the SDOT has concurred. The MOA specified that a data recovery plan be prepared and implemented, in coordination with the State Historic	

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
HISTORIC AND ARCHAEOLOGICAL RESOURCES (cont.)		
Mitigation (cont.). None required.	Mitigation (cont.). Preservation Division, before construction. During construction, buffer zones would be fenced around known archaeological sites that require preservation. If additional sites are uncovered during construction, work would stop immediately and the SHPO would be notified and consulted on the appropriate treatment measures.	
PARKLANDS		
Construction Impacts. Parklands could be affected by the construction of various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. None.	
Operational Impacts. None.	Operational Impacts. The highway will enhance access to Haleakala National Park, the Kihei Aquatic and Community Center and the future Kihei Regional Park, among others. No parks or other recreational resources will be directly or indirectly adversely affected.	K2 Alternative. Would enhance access to the future Kihei Regional Park to a greater degree than a K1 alternative. However, this alternative would cause a substantial increase in noise from existing levels at areas in the future park adjacent to the alignment The future park site is currently used for pasture.
Mitigation. None required.	Mitigation. None required.	K2 Alternative. See Noise above.
VISUAL AND AESTHETIC RESOURCES		
Construction Impacts. Vegetation along roadway shoulders would be removed from the construction of various roadway widening projects contained in the Long-Range Plan. This could potentially affect existing viewsheds.	Construction Impacts. Imposition of a linear construction site on mauka viewsheds.	

Table S-1
Summary of Environmental Impacts and Mitigation
(continued)

No Build Alternative	Build Alternatives	
	Common	Alignment-Specific
VISUAL AND AESTHETIC RESOURCES (cont.)		
Operational Impacts. None.	Operational Impacts. Regardless of the alternative selected, the visual quality of Upcountry viewsheds will not be affected because the terrain drops away towards Central Maui and the ocean. However, the intactness of the eastern (mauka) Haleakala viewshed from Kihei will be affected by a paved roadway and associated embankments climbing the slope. Viewpoints may be created by the proposed highway, offering motorists using the highway mauka and makai viewsheds.	
Mitigation. None required.	Mitigation. Landscaping consistent with the climatic conditions of the area will be provided to improve the appearance of the roadway. Opportunities to establish scenic overlooks will be explored.	
ENERGY		
Construction Impacts. Energy would be expended in constructing the various roadway widening projects contained in the Long-Range Plan.	Construction Impacts. Energy will be expended in constructing the highway.	
Operational Impacts. Would have higher overall vehicle fuel consumption when compared to any of the build alternatives, as travelers experience increasing congestion between Upcountry and Kihei-Makena / West Maui along the existing indirect route.	Operational Impacts. Will have lower overall vehicle fuel consumption when compared to the No Build alternative because the highway will provide a more direct route between Upcountry and Kihei or West Maui. As shown to the right, the trip length between the "Five Trees" intersection and the Lipoa Street / Piilani Highway intersection will be reduced for each alternative when compared to the No Build alternative.	Trip length reductions by alternative: U1,K1 Alternative (preferred alternative). 13 km (36%) trip reduction U1,K2 Alternative. 11 km (31%) trip reduction U2-A,K1 Alternative. 18 km (50%) trip reduction U2-A,K2 Alternative. 15 km (42%) trip reduction U2-B,K1 Alternative. 17 km (47%) trip reduction U2-B,K2 Alternative. 14 km (39%) trip reduction U3,K1 Alternative. 14 km (39%) trip reduction U3,K2 Alternative. 12 km (33%) trip reduction
Mitigation. None required.	Mitigation. None required.	

Alternatives with a K2 alignment (U1,K2; U2-A,K2; U2-B,K2; and U3;K2)

- These alternatives would cause noise impacts at the future Kihei Regional Park.

Cumulative impacts in the project area would be caused by implementation of the County's Community Plans, and other actions by governmental and private interests (see Section S.5). However, these impacts would be tempered by the large size of the project area. For example, the loss of some uncultivated lands would not affect the biological diversity of the region because the plant species affected are abundant, and are mostly not native. However, continuing encroachment on agricultural land is a concern. If not controlled, continued urban encroachment could adversely affect the sugarcane and pineapple industries on Maui, as well the small-scale farmers in Kula. The planned residential and commercial developments in Upcountry are also a concern because they would substantially increase the population of a region that is largely based on rural and agricultural lifestyles. Many Upcountry residents expressed concern that large population growth could change the "country" ambience of Upcountry.

Secondary impacts from highway projects often occur because they can induce development. These secondary impacts can include effects on open space, air quality, water quality, natural vegetation, historic sites, social environment and demands on infrastructure. However, in this case, secondary impacts from the proposed project are not anticipated because the highway would have little influence on those proposing development because other factors, such as a severely limited water supply, appear to be controlling development. The exception would be the U1 alternatives, which may facilitate a westward (makai) expansion of Pukalani and additional growth in Haliimaile, beyond what is designated in the Community Plan.

S.5 MAJOR ACTIONS PROPOSED BY GOVERNMENTAL AGENCIES IN THE PROJECT VICINITY AND COMPATIBILITY WITH LAND USE PLANS AND POLICIES

Kihei-Upcountry Highway would be consistent with most of the governmental plans, policies and projects in the area. Specifically:

- Kihei-Upcountry Maui Highway would fulfill the recommendations of the Island of Maui-Long Range Land Transportation Plan (February 1997) to construct a new highway from Upcountry to Piilani Highway.

- The SDOT and the County of Maui are planning to make improvements to the highway and roadway system in the project area. Most SDOT improvements consist of widening existing highways. Most planned new roadways are in Kihei to improve local circulation. These other roadway improvements are consistent with the proposed Kihei-Upcountry Highway.

- The proposed Kihei-Upcountry Maui Highway would support the goals of the Hawaii State Plan (June 1991) dealing with economic, physical and natural environment, and transportation objectives and policies.

- The proposed project would be consistent with the objectives and policies of the State's Coastal Zone Management (CZM) Program. The Department of Business, Economic Development and Tourism (DBEDT), the agency administering the State's CZM program, is presently reviewing project consistency.

- Kihei-Upcountry Maui Highway would be consistent with the County of Maui's General Plan 1990 dealing with economic, environmental, and transportation objectives and policies.

- All of the alternatives are consistent with Kihei-Makena Community Plan (1998), which included the proposed highway. However, only the No Build alternative is fully consistent with Makawao-Pukalani-Kula Community Plan (July 1996). The Makawao-Pukalani-Kula Community Plan did not support the highway, but indicated a preference for the U1 terminus if the road were to be built.

Public and private interests are developing the following projects in the general vicinity of the proposed road:

- The State of Hawaii Department of Hawaiian Home Lands will be developing homesteads in Keokea.

- The County of Maui Board of Water Supply (BWS) is planning additional reservoirs and other improvements in the Upcountry water supply systems (Makawao, and Upper and Lower Kula). The purpose of these improvements is to support planned developments as specified in the Makawao-Pukalani-Kula Community Plan and to minimize the need to implement water use restrictions during drought conditions.

- A private developer will be constructing Kulamalu, an approximately 93 ha (230 acre) residential, recreational, cultural and commercial development located south of Pukalani. A Kamehameha Schools campus has already been built on this site.

- Alexander & Baldwin is planning a 27 ha (67 acre) residential housing development in Haliimaile.

- The Maui R&T Park may eventually encompass 168 ha (415 acres). Per County ordinance, fifty percent of the R&T Park must be dedicated to research and development, forty percent to support facilities and ten percent to light manufacturing and general industrial.

- The Maui Electric Company, Ltd., is planning to construct a 232-megawattt electrical generating station on Pulehu Road, approximately two miles east (mauka) of Mokulele Highway.

- Two parcels along Mokulele Highway, Mokulele Baseyard and the old Puunene Airport, are planned to be redeveloped for light industrial and other uses.

S.6 UNRESOLVED ISSUES

The major planning-level issues associated with the proposed highway have been addressed and resolved during the EIS process. There are no unresolved issues that need to be addressed at this phase of project planning. Several project mitigation measures must be tracked and implemented starting in the design phase of the project, including the preparation of detailed mitigation plans for archeological and agricultural impacts. Various design details must be investigated in the next phase of project planning, including the

provision of signals at the project termini and scenic overlooks. Various permits and approvals (see Section S.7) must be obtained before construction starts.

S.7 APPROVALS AND PERMITS

The following permits or approvals would be required prior to the construction of the highway.

Federal

- Army Corps of Engineers - Section 404 permit (Nationwide)

State

- State Department of Health (SDOH) - National Pollutant Discharge Elimination System (NPDES) permit (storm water from construction site)
- SDOH - Noise permit (if noise levels are expected to exceed allowable levels as stated in HAR 11-46-6(a), which would be determined during the design phase)
- SDOH - Water Quality Certification

County

- Department of Public Works (DPW)- Grading, Grubbing, Stockpiling and Excavation permit
- DPW - Permit for Excavation of Highway

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CHAPTER ONE

Purpose of and Need for Action

CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

1.1 PLANNING CONTEXT

The Federal Highway Administration (FHWA) and the Highways Division of the State of Hawaii Department of Transportation (SDOT) are issuing this Final Environmental Impact Statement (EIS) as the lead federal and local agencies for the Kihei-Upcountry Maui Highway Project. This proposed federal-aid, two-lane limited access rural highway would directly link Kihei-Makena, an urban area on the southern coast of Maui, to Upcountry, a suburban and rural region on the western flank of Haleakala Volcano (see Figure 1-1). The highway would connect Piilani Highway (Kihei-Makena) with either Haleakala Highway or Kula Highway (Upcountry). This project is included in the current, federally-approved Statewide Transportation Improvement Program.

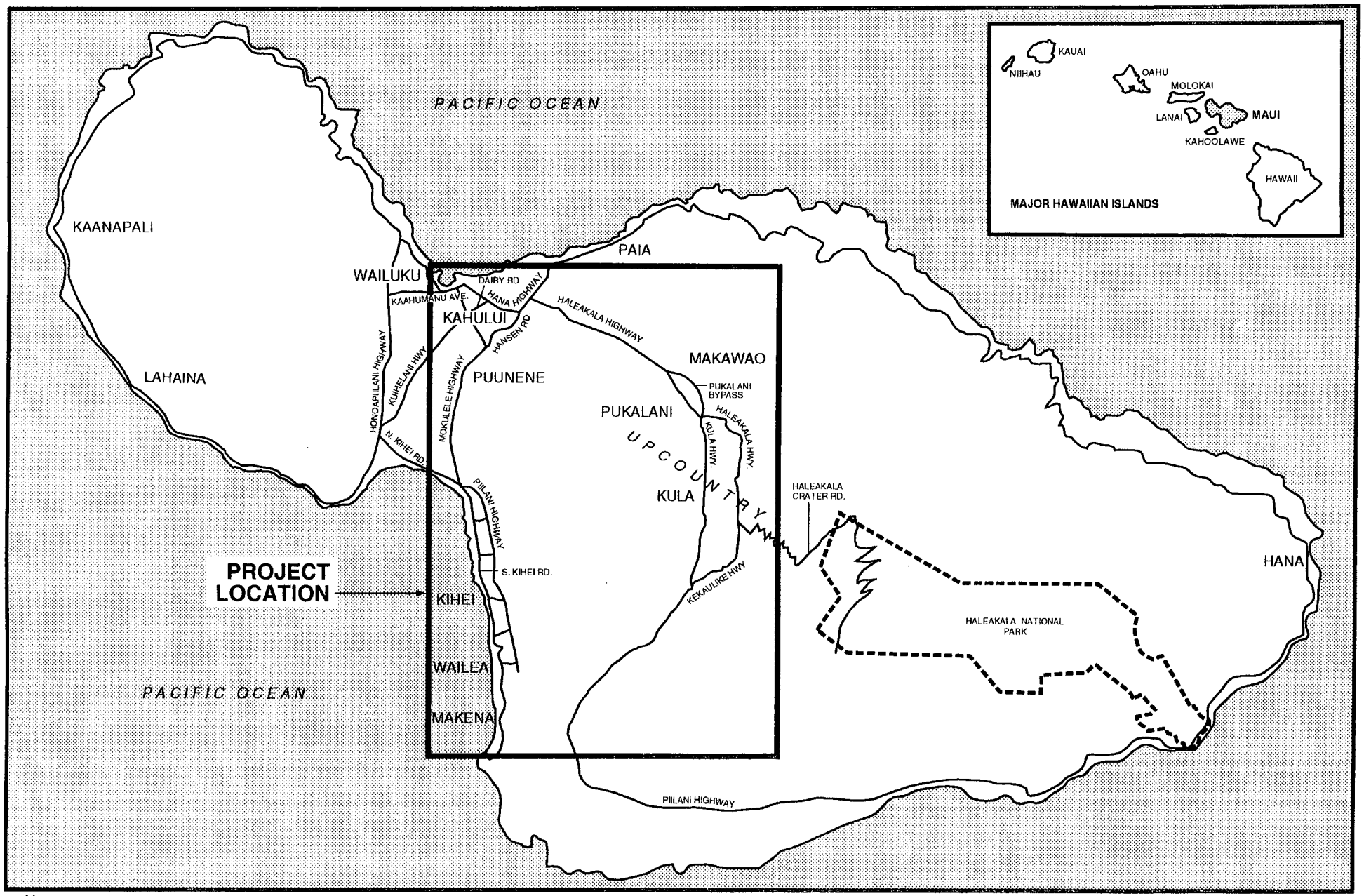
1.1.1 ACCEPTING AUTHORITIES

At the federal level, the FHWA Hawaii Division Administrator approved this Final EIS. At the State level, the accepting authority of this Final EIS is the Governor of the State of Hawaii. It is expected that the Governor will accept this Final EIS, completing the EIS requirements under Hawaii's EIS Law. It is also expected that the FHWA will issue a Record of Decision (ROD), completing the project's requirements under the National Environmental Policy Act (NEPA). After issuance of the ROD and Final EIS acceptance by the Governor, the design phase of the project may proceed.

1.1.2 PURPOSE OF THIS DOCUMENT

This Final EIS has been prepared to comply with:

- the National Environmental Policy Act (NEPA);
- Chapter 343 of the Hawaii Revised Statutes (HRS);



Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 1-1

- FHWA and FTA Joint Regulations, 23 CFR 771;
- Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR 1500-1508; and
- the Hawaii Administrative Rules [Title 11, Chapter 200 (August 1996)].

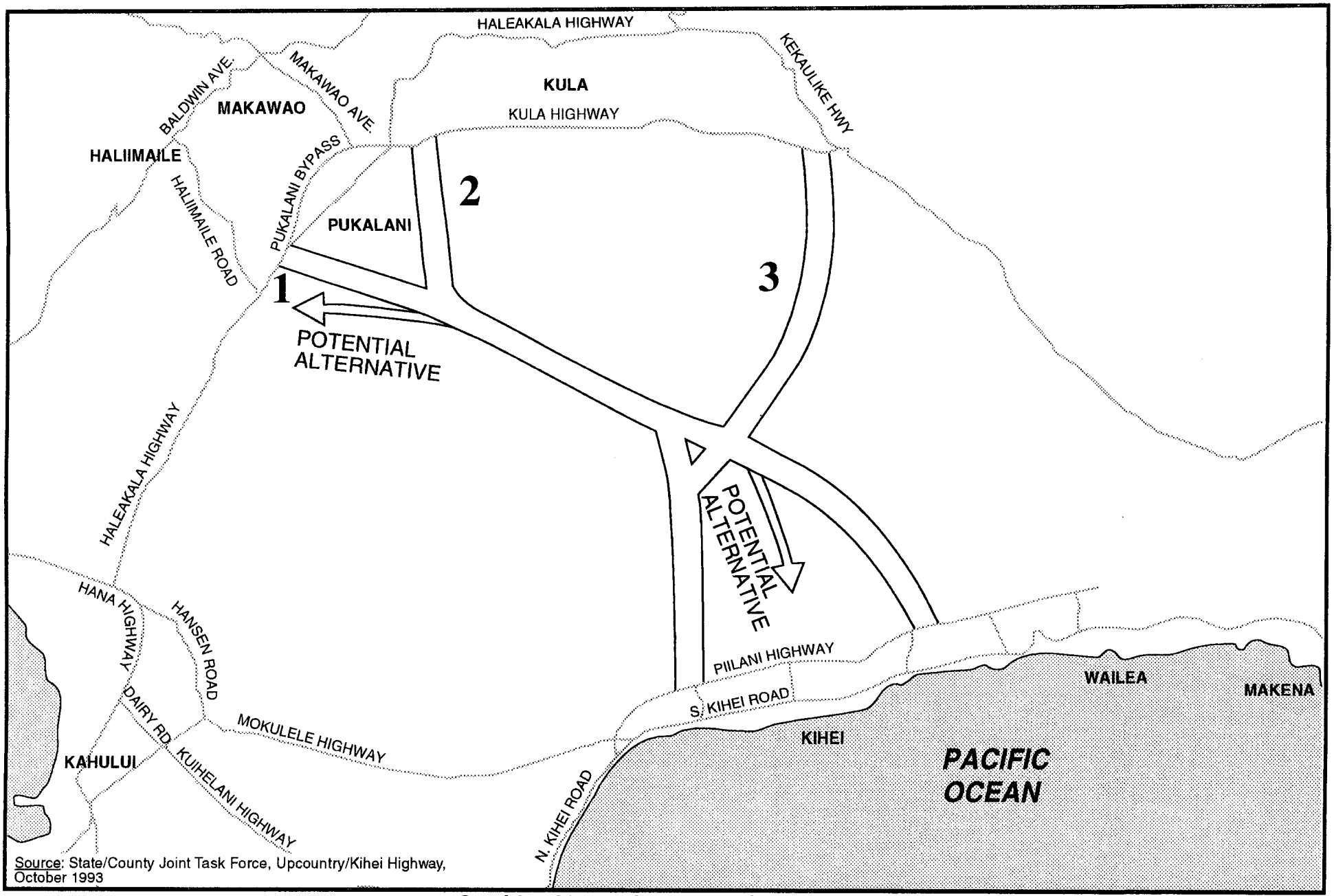
This document identifies and assesses the environmental and social impacts that could result from the development of the proposed highway. The highway would be designed for anticipated traffic demand in the year 2020, which corresponds to the planning horizon of the Maui Long Range Land Transportation Plan (February 1997). Therefore, potential impacts are assessed for that year. Construction-phase impacts are also assessed.

The EIS process has been designed to enable project sponsors to develop a well-planned project that is sensitive to the physical, natural and social environment within which it would exist, and to evaluate and set forth the impacts associated with various alternatives under consideration. Coordination with interested and affected parties is also required and must be documented.

1.1.3 HISTORY

Study of a Kihei-Upcountry Highway began over 30 years ago when, in 1970, the County of Maui studied the feasibility of a road between Upcountry and Kihei. In 1988, the County of Maui Toll Road Study developed three possible alternative alignments. In 1991, the Maui Long-Range Highway Planning Study was completed and again identified a link between Upcountry and Kihei as a needed transportation improvement.

More recently, in 1993, the Mayor of the County of Maui created a State/County Joint Task Force for an Upcountry/Kihei Highway (Task Force). Its membership consisted of State and County officials and private citizens. The Task Force's mission was to recommend an alignment between the coastal urban center of Kihei and the rural residential communities of Upcountry. The Task Force produced a report in October 1993, which recommended possible alignment corridors (see Figure 1-2). When SDOT and FHWA began in-depth study of this proposed roadway link, they considered the alignment corridors recommended by the Task Force as well as alternatives derived from other past efforts (see Section 2.2).



Corridor Alternatives Established by the Kihei-Upcountry Maui Highway Task Force

KIHEI-UPCOUNTRY MAUI HIGHWAY

Final Environmental Impact Statement

FIGURE 1-2

1.2 PURPOSE OF AND NEED FOR THE PROJECT

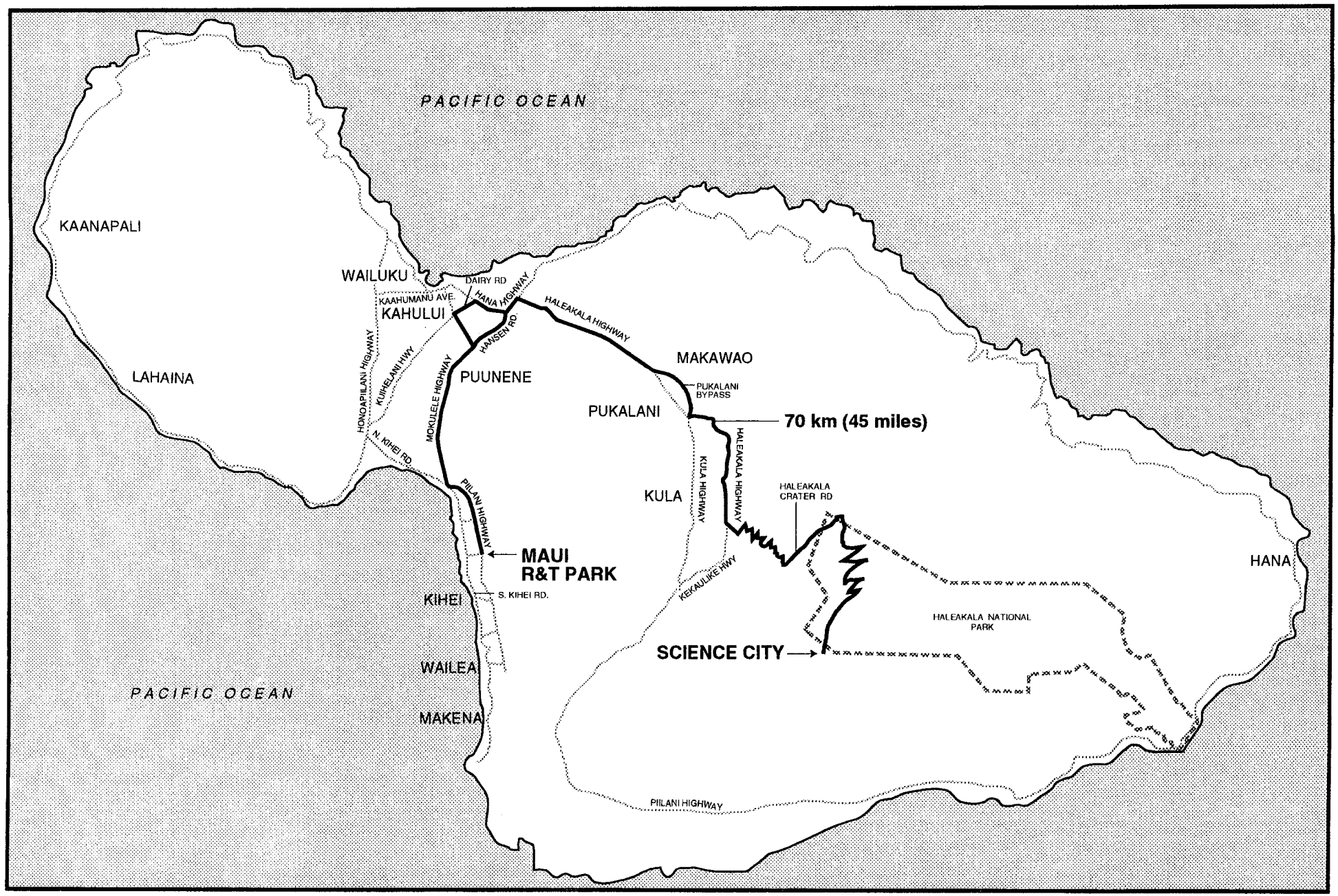
The project ("the proposed action") is being designed to satisfy the following six purposes and needs:

- establish roadway system linkage;
- support economic development;
- address existing intersection capacity deficiencies;
- satisfy increased transportation demand;
- promote the National interest as expressed though legislative directive; and
- increase coastal evacuation capacity.

1.2.1 ROADWAY SYSTEM LINKAGE

The travel distance between Kihei-Makena, a major employment center located along Maui's southern coast, and Makawao or Pukalani, the larger Upcountry residential communities, is 30 km to 35 km (19 to 22 miles). However, the straight-line distance between the two areas is substantially less, at 15 km to 20 km (9 to 12 miles). The large difference between distance by roadway and direct distance is due to the circuitous transportation route the traveler must presently take to get from one area to the other. Starting from Upcountry, the route includes Haleakala Highway, Hana Highway, Dairy Road, Hansen Road, Puunene Avenue, Mokulele Highway and Piilani Highway. In addition to other purposes, the Kihei-Upcountry route is used for travel between the Maui Research and Technology (R&T) Park in Kihei and scientific facilities at the summit of Haleakala, called Science City. The travel distance between the two interrelated facilities is presently about 70 km (45 miles) (see Figure 1-3). The transportation route between the Upcountry communities and West Maui (Lahaina-Kaanapali-Kapalua) is also circuitous.

A Kihei-Upcountry Maui Highway would establish a direct route for these journeys, substantially reducing travel distances, thereby saving both travel time and vehicle fuel consumption.



Existing Route Between Maui R & T Park and Science City

KIHEI-UPCOUNTRY MAUI HIGHWAY

Final Environmental Impact Statement

FIGURE 1-3

1.2.2 ECONOMIC DEVELOPMENT

Maui's largest industry now and for the foreseeable future is tourism. According to socioeconomic projections prepared for the county (Maui County Community Plan Update Program, Socio-Economic Forecast, January 1994), the number of Maui visitors is expected to be close to four million by the year 2010, a daily average of over 66,000. In 1990, visitor arrivals numbered approximately 2.3 million, a daily average of 38,000. In other words, almost three out of ten persons, on a daily average, is a visitor. Independent projections prepared by the State of Hawaii Department of Business, Economic Development and Tourism (DBEDT) indicate that the daily average visitor count will be 64,900 by the year 2010, which is close to the County of Maui projections.

In 1990, West Maui and Kihei-Makena contained approximately 53 percent and 42 percent of the island's hotel rooms, respectively. These two regions are expected to continue to be the primary visitor accommodation areas for the island, maintaining their 95 percent share of the island's hotel rooms in the future. In contrast to the hotel accommodation concentration in these two regions, tourist-related attractions are spread throughout the island: from the historic Lahaina town on the west side of the island, to Iao Needle near Wailuku, to Hana and Oheo Gulch (Seven Pools) on the east side of the island, to the new Maui Ocean Center in Maalaea on the south side of the island, to the National Park on the summit of Haleakala.

Along with visitor growth, the number of tourism-related jobs in Kihei-Makena and West Maui is also expected to increase. In 1990, these regions contained over 7,500 and 15,400 jobs, respectively, accounting for over 44 percent of the island's total. Socioeconomic projections contained in the Maui Long-Range Land Transportation Plan (February 1996) indicate by 2020 an increase to over 13,000 (73 percent) and 23,000 (49 percent) jobs in these two regions, respectively. Residential population is projected to grow by over 60 percent from 1990 to 2020. New housing to accommodate this growth would generally be concentrated at existing residential areas of Kahului-Wailuku, West Maui, Kihei-Makena and Upcountry. Upcountry would continue to be a popular residential area because of its spectacular vistas and cool climate.

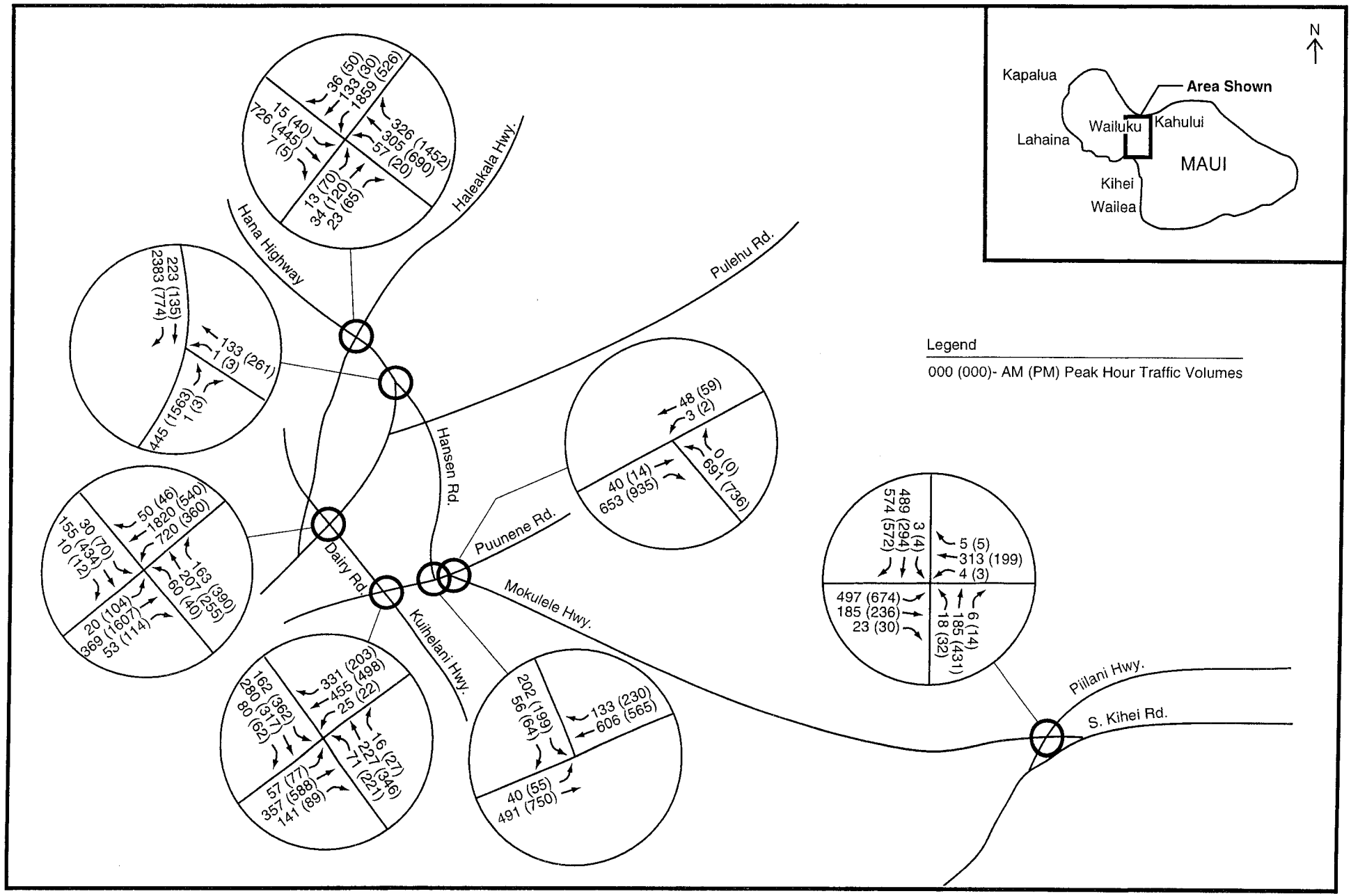
Maui's high technology industry, located primarily at the Maui R&T Park in Kihei and Science City on the summit of Haleakala, is contributing to the diversification of Maui's economy. The Maui R&T Park currently houses the Maui High Performance Computing Center, Boeing-Rocketdyne, Sunsource, the U.S. Air Force, the Pacific Disaster Center, Lockheed Martin, the University of Hawaii, the University of New Mexico, and a number of small companies. Currently about eight percent built-out, the Park may eventually encompass 168 ha (415 acres) and include major new industries such as bio- and medical-technology; arts and entertainment; environmental, earth and ocean sciences; information processing and exchange; defense missions; and education and international training and technology conferencing. Science City, a federal facility, is used for space- and defense-related research and development. Science City receives technical support from defense contractors occupying space in the R&T Park.

A Kihei-Upcountry Maui Highway would support economic development initiatives by facilitating tourist travel between hotel accommodation regions and Haleakala National Park and other tourist-related attractions in Upcountry; linking the growing residential areas of Upcountry with growing labor markets in Kihei-Makena and West Maui; and providing improved transportation mobility between the R&T Park and Science City, which would support businesses and federal government personnel at the R&T Park who provide technical assistance to Science City.

1.2.3 EXISTING INTERSECTION CAPACITY DEFICIENCIES

Figures 1-4 and 1-5 present the morning and afternoon peak hour turning movement volumes at the following intersections between Kihei-Makena and Upcountry Maui.

- Pukalani Bypass and Makawao Avenue
- Haleakala Highway and Haliimaile Road
- Haleakala Highway and Hana Highway
- Hana Highway and Hansen Road
- Hana Highway and Dairy Road
- Dairy Road and Puunene Road and Kuihelani Highway



Source: Parsons Brinckerhoff, June and August 1996

Existing Peak Hour Volumes in Kihei and Kahului

KIHEI-UPCOUNTRY MAUI HIGHWAY

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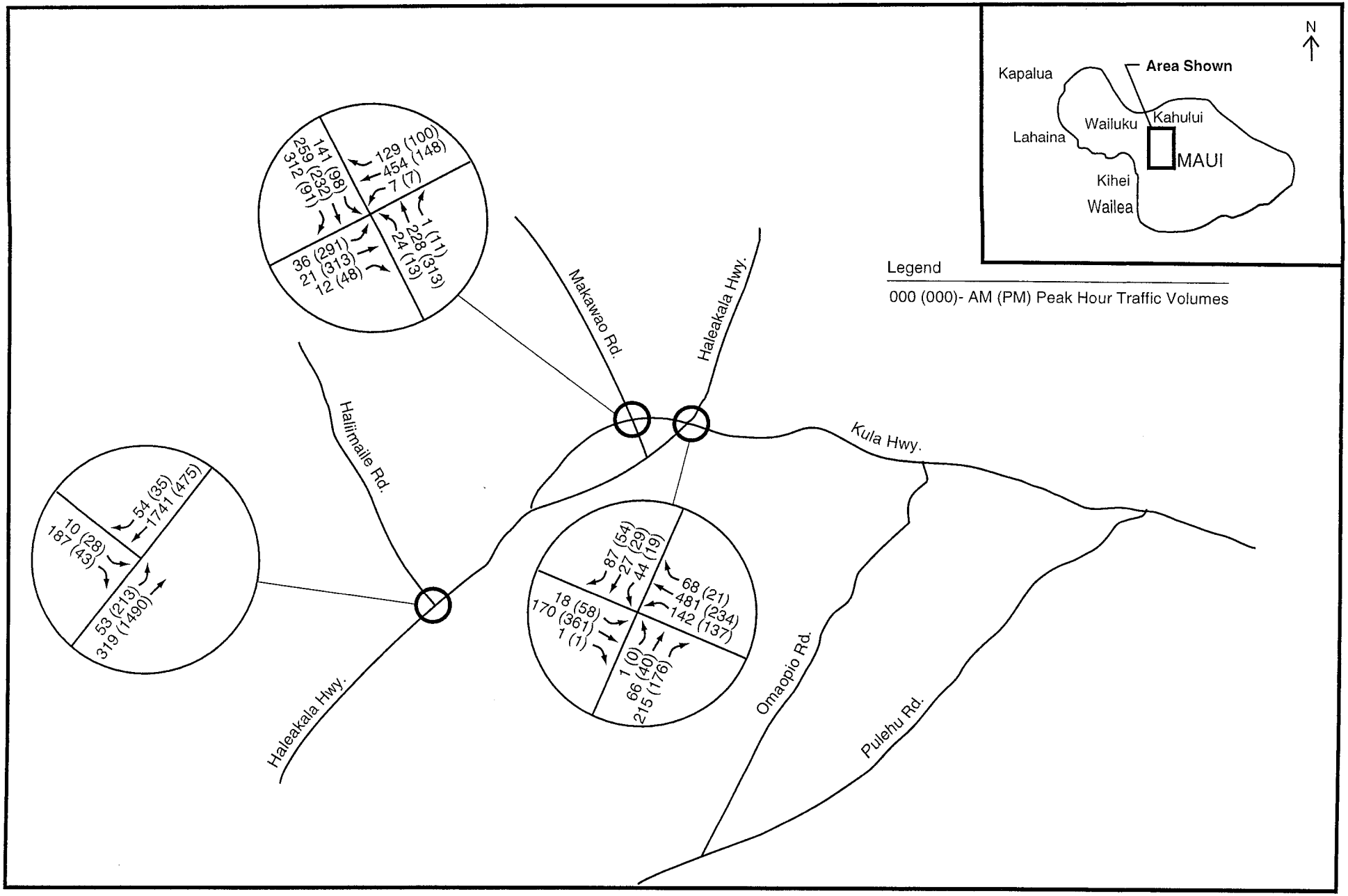
FIGURE 1-4



Source: Parsons Brinckerhoff, June and August 1996

Existing Peak Hour Volumes in Upcountry
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 1-5

- Puunene Avenue and Hansen Road
- Puunene Avenue and Mokulele Highway
- Mokulele Highway and Piilani Highway

Operating conditions at these intersections were analyzed using the methodologies contained in the 1994 Highway Capacity Manual (HCM). The HCM methodologies classify traffic operations by "level of service" (LOS). LOS is designated "A" through "F", representing best to worst conditions. The levels are based on user delays, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. LOS C or D are generally considered the lowest levels that are still acceptable.

Table 1-1 summarizes the existing levels of service at the intersections identified above. In the a.m. peak hour, three intersections are experiencing levels of service "E" or lower. In the p.m. peak hour, five intersections are experiencing levels of service "E" or lower.

A Kihei-Upcountry Maui Highway would divert some travel demand from these intersections to a new, more direct route; relieving existing congestion at these intersections.

1.2.4 TRANSPORTATION DEMAND

In 1990, daily average trip generation on the island exceeded 233,000 trips. According to the Maui Long-Range Land Transportation Plan (February 1996), daily trip generation is projected to increase to over 386,000 trips in the year 2020. Kihei-Makena and West Maui presently generate a large portion of these trips as major employment centers and primary hotel accommodation regions. The concentration of trip generation is expected to remain in these regions. Since Maui's population is expected to grow by over 60 percent from 1990 to 2020, home-based work trips are projected to exceed 69,000 in 2020; 26,000 more than in 1990. Many home-based work trips would be between residential areas and the employment centers of Kihei-Makena and West Maui. Many workers in these two regions live in other parts of the island, including Upcountry, which is one of Maui's most popular residential regions because of its cool climate and spectacular vistas.

Table 1-1
Existing Levels of Service at Critical Intersections

Location	Peak Hour	
	A.M.	P.M.
Haleakala Hwy./Pukalani Bypass (Signalized)	C	B
Haleakala Hwy./Haliimaile Road(Unsignalized)	A	B
Major Street Left Turn	D	B
Minor Street Left Turn	F	F
Haleakala Hwy./Hana Hwy. (Signalized)	E	C
Hana Hwy./Hansen Road (Unsignalized)	A	F
Major Street Left Turn	B	F
Minor Street Left Turn	F	F
Hana Hwy./Dairy Road (Signalized)	C	E
Dairy Rd./Kuihelani Hwy./Puunene Road (Signalized)	D	E
Puunene Ave./Hansen Road (Unsignalized)	E	F
Major Street Left Turn	B	B
Minor Street Left Turn	F	F
Puunene Ave./Mokulele Highway (Unsignalized)	A	A
Major Street Left Turn	B	B
Minor Street Left Turn	D	F
Mokulele Hwy./Piilani Highway (Signalized)	E	E

Notes: LOS A: describes operations with very low delay, i.e., less than 5.0 seconds per vehicle, and most vehicles do not stop at all.
LOS B: describes operations with delays in the range of 5.1 to 15.0 seconds per vehicle.
LOS C: describes operations with delays in the range of 15.1 to 25.0 seconds per vehicle. The number of vehicles stopping become more noticeable, however, many vehicles still pass through the intersection without stopping.
LOC D: describes operations with delays in the range of 25.1 to 40.0 seconds per vehicle. Many vehicles stop, and the proportion of vehicles not stopping declines.
LOS E: describes operations with delays in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay.
LOS F: describes operations with delay in excess of 60.0 seconds per vehicle. This is considered to be unacceptable to most drivers.

Source: Parsons Brinckerhoff Quade & Douglas, November 1997

Maui's heavy reliance on the tourist industry also generates a high percentage (15 percent) of daily trips made by visitors. Trip generation by visitors is projected to increase from over 35,000 in 1990 to close to 60,000 (approximately a 70 percent increase) in 2020 based on projections of visitor arrivals. Many Maui tourists would visit Haleakala National Park, arriving by rental car, tour bus or shuttle, or bicycle tour. Currently, approximately one million people visit the Haleakala summit annually. A Park official indicated that the number of visitors to the summit correlates with the number of visitors to the island, including seasonal variations (telephone conversation, December 8, 1997). Therefore, a visitor count projection of four million in the year 2010 (made by the County of Maui) would increase the number of visitors to the summit to approximately 1.7 million. Since approximately 95 percent of the visitors stay at Kihei-Makena and West Maui (based on these regions' share of hotel rooms on the island), a large number of trips would be made between accommodation regions and the summit.

Based on the transportation demand projections and intersection capacity deficiencies described in Section 1.2.3, the following improvements are needed:

1. additional roadway capacity between existing and future residential communities in Upcountry and employment centers in Kihei-Makena and West Maui; and
2. additional roadway capacity between visitor accommodation regions in Kihei-Makena and West Maui, and Haleakala National Park and tourist attractions in Upcountry.

The proposed project would help satisfy both requirements.

1.2.5 LEGISLATIVE DIRECTIVE

Federal funding for the planning of this project was appropriated because of the national interest in improved mobility between defense-related activities at the Maui R&T Park in Kihei and Science City at the Haleakala summit (see Section 1.2.2). Science City does and will continue to receive technical support from defense contractors in the R&T Park. The construction of the proposed highway would address the national interest as expressed by this legislative directive.

1.2.6 COASTAL EVACUATION CAPACITY

Located on the southern coast of Maui, Kihei-Makena is vulnerable to coastal hazards such as tsunami or tropical storms. In the event of an evacuation, the only routes presently available are Mokulele Highway and North Kihei Road. Both roads are near sea level, making them vulnerable to flooding during a heavy storm, and may become impassable. In addition to the limited number of lanes these roads provide (two each), their north Kihei termini are approximately 90 m (300 ft) from one another. The close proximity of Mokulele Highway and North Kihei Road, their limited number of lanes, and the vulnerability of these roads to flooding could become sources of evacuation delay.

A Kihei-Upcountry Maui Highway would improve evacuation capacity by providing two additional lanes out of Kihei-Makena approximately 2.4 km (1.5 miles) or 7.6 km (4.7 miles) from the Piilani Highway / Mokulele Highway intersection (2.4 km (1.5 miles) for the preferred alternative). These two additional lanes would relieve some of the evacuation congestion at the northern end of Kihei, and provide an alignment for evacuation that would be geographically separated from the existing routes.

CHAPTER TWO

Alternatives

CHAPTER 2
ALTERNATIVES

This chapter describes the alternatives that receive detailed analysis in Chapter 4 of this Final EIS (eight build alternatives and the No Build alternative). It also describes the alternative development and screening processes that led to the selection of these alternatives.

2.1 DESCRIPTION OF ALTERNATIVES

2.1.1 NO BUILD ALTERNATIVE

The No Build alternative consists of roadway improvements that are expected to be implemented by 2020, according to the Maui Long-Range Land Transportation Plan (Final Report, February 1997), except for the Kihei-Upcountry Maui Highway Project. Proposed roadway improvements in the vicinity of the proposed project include:

- South Kihei Road. Widen from two to four lanes with a continuous left turn lane from Longs Drug Store to Lipoa Street, and widen from two to four lanes from Kupuna Street to Welakahao Road;
- North-South Collector. Construct a two lane collector road from Uwapo Road to Road F;
- Road C. Construct a four lane connector road from South Kihei Road (at Azeka Commercial Center) to Piilani Highway;
- Piilani Highway. Widen from two to four lanes from Mokulele Highway to Wailea Ike Road;
- Mokulele Highway / Piilani Highway Intersection. Reconfigure intersection making Mokulele Highway to Piilani Highway the through movement;
- Mokulele Highway. Widen from two to four lanes from Puunene Avenue to North Kihei Road;
- Puunene Avenue. Widen from two to four lanes from Kaahumanu Avenue to Mokulele Highway;

- Kuihelani Highway. Widen from two to four lanes from Puunene Road to Honoapiilani Highway, and construct an access road to Kahului Airport, bypassing Dairy Road;
- Hana Highway. Widen from four to six lanes from Kaahumanu Avenue to Haleakala Highway, and widen from two to four lanes from Haleakala Highway to Baldwin Avenue;
- Haleakala Highway. Widen from three to four lanes from Hana Highway to Haliimaile Road;
- Pukalani Bypass. Widen from three to four lanes from Haliimaile Road to Kula Highway; and
- Kula Highway. Widen two to four lanes from Haleakala Highway to Pulehu Road.

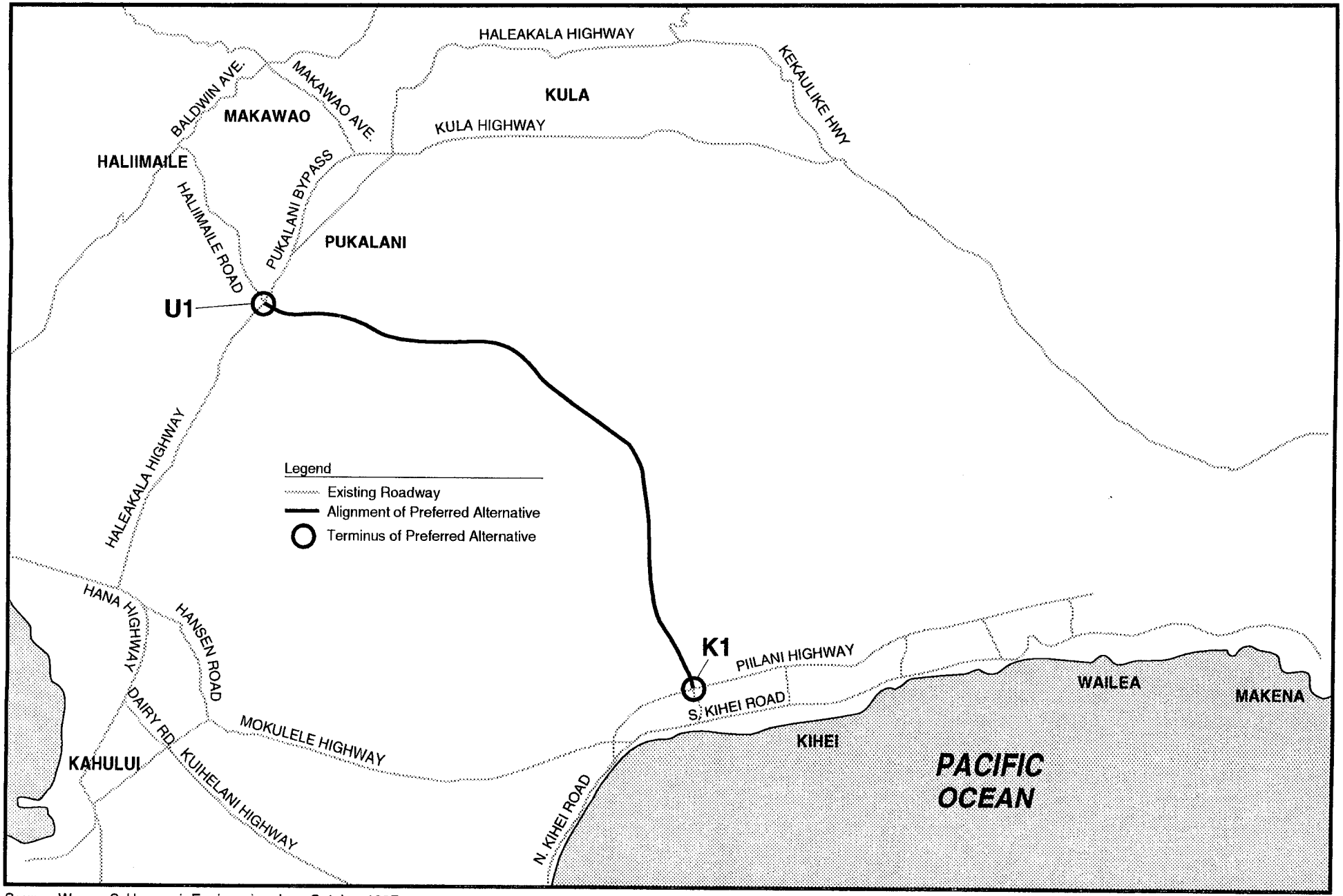
The Maui Long-Range Land Transportation Plan (1996) also references the construction of Ke Alii Alanui Street. This project was completed in 1997.

In summary, the No Build alternative consists primarily of widening to varying degrees the existing roads along the present route from Kihei to Upcountry. The No Build alternative (the projects listed above) serves as the reference against which project impacts are assessed in Chapter 4.

2.1.2 PREFERRED ALTERNATIVE

The preferred alternative is the alignment from the Haliimaile Road / Haleakala Highway intersection to the Kaonoulu Street / Piilani Highway intersection (see Figure 2-1). This alternative is called U1,K1. (As discussed in more detail below, the alternative Kihei termini and segments are named K1 and K2, and the alternative Upcountry termini and segments are named U1, U2-A, U2-B and U3.)

The proposed highway will be a limited access, two-lane arterial roadway, with a length of approximately 15.8 km (9.8 miles). A two-lane highway is proposed because projections indicate that two lanes would be sufficient to accommodate travel demand in the design year, 2020. A truck climbing lane is not proposed because the number of loaded trucks heading uphill is expected to be small, and cars would have opportunities to pass.



Source: Warren S. Unemori, Engineering, Inc., October 1997

GRAPHIC SCALE:

N

0 1 km 2 km 3 km

0 1 mi. 2 mi.

Preferred Alternative
KIHEI-UPCOUNTRY MAUI HIGHWAY
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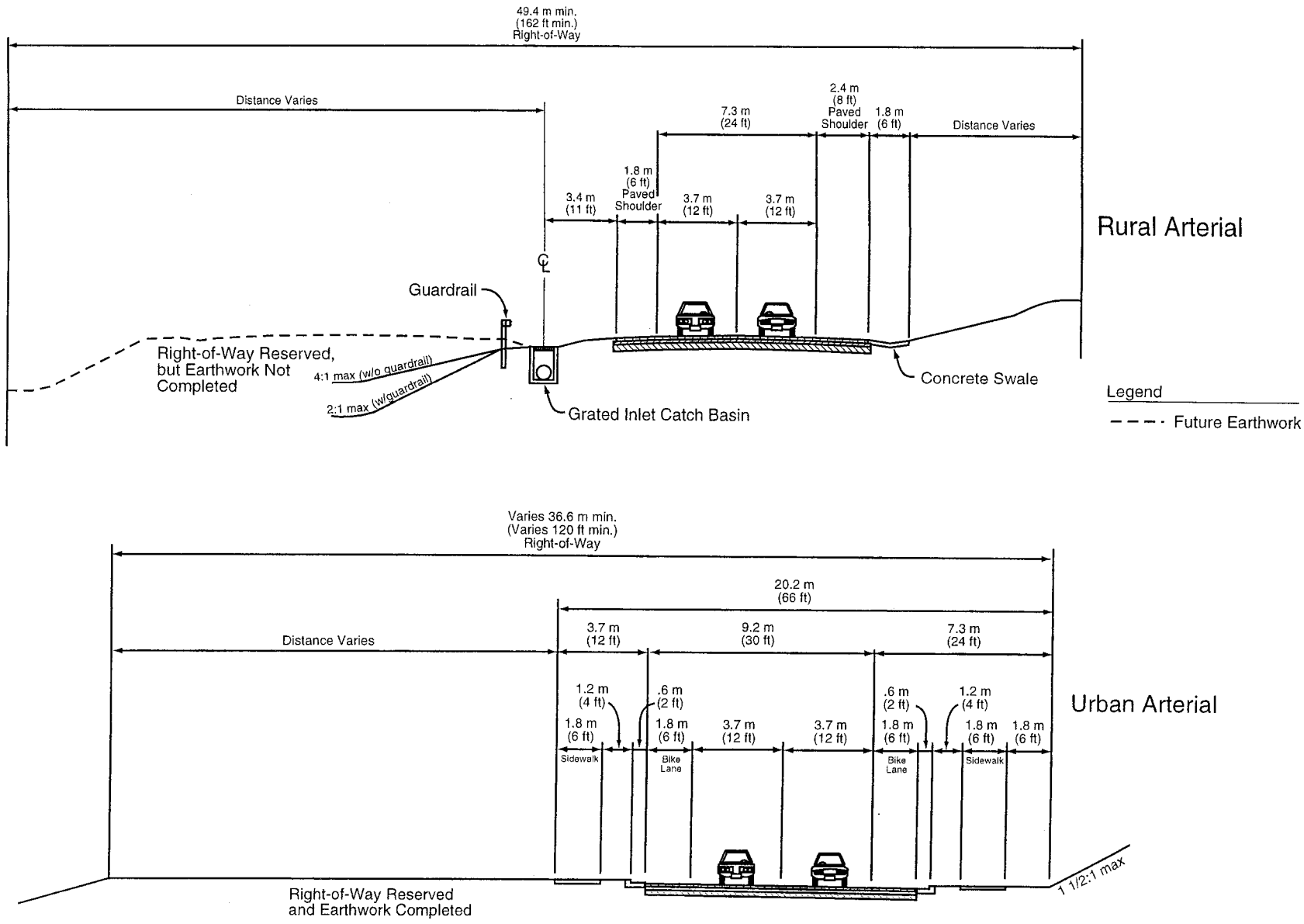
FIGURE 2-1

The roadway will include one 3.7 m (12 ft) lane in each direction, and paved shoulders (see Figure 2-2). The shoulders will be wide enough to accommodate bicyclists. A rural design, shown on Figure 2-2, will generally be used where the highway traverses rural areas presently used for crop production, pasture or open space. The urban design, which includes bike lanes and sidewalks that are in conformance with the Americans with Disabilities Act (see Figure 2-2), will be used for the section of highway that passes through Urban-designated land (in accordance with the State land use classification system) in the vicinity of the Kaonoulu Street / Piilani Highway intersection (K1 terminus).

Under the rural design, roadway drainage structures will consist of a partially concrete-lined swale along one side of the road and a grated inlet catch basin on the other side at or near the right-of-way center line. Roadway runoff will be discharged to the nearest gulch. The urban design's drainage facilities will be storm drains or grated catch basins along the curbs. Runoff will again be discharged to the nearest gulch or drainage canal.

The width of the right-of-way needed for Kihei-Upcountry Maui Highway would be at least 49 m (160 ft) in rural areas and at least 37 m (120 ft) in urban areas. Although only a two-lane highway is being proposed initially, the acquisition of right-of-way for a four-lane divided highway will be conducted to allow for the future expansion of the highway to four lanes (two lanes in each direction). The preferred alternative assessed in this document involves construction and operation of a two-lane road, and the necessary earthwork for a four-lane, divided highway where the highway crosses some gulches (see below), and where the urban design roadway section will be provided (see Figure 2-2). During the detailed design of the earthwork, the cut and fill volumes will be balanced so that excess fill material will not need to be disposed outside the construction area, nor will fill material need to be imported from other areas. If the road is widened in the future, additional earthwork will only be required in rural areas and those gulches not addressed in the initial phase of construction.

The precise width of the right-of-way at a given point will depend on local terrain features, which will affect the amount of earthwork required (i.e., cut and fill to achieve the desired roadway profile).



Source: Warren S. Unemori Engineering, Inc., December 1997

Typical Roadway Sections
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 2-2

The amount of land estimated for the preferred alternative's right-of-way is approximately 97.6 ha (241 acres), which will be obtained from three property owners: Alexander & Baldwin (42.4 ha), Haleakala Ranch (47.5 ha) and Kaonoulu Ranch (7.7 ha).

At the termini, Kihei-Upcountry Highway will be designed with adequate channelization (right- and left-turn lanes) to handle the projected traffic volumes. Both the mauka and makai termini will probably warrant traffic signals. However, this decision will be made during the design phase of the project based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices, published by FHWA. Lighting will be provided at the termini, but will not be provided along the length of the highway.

Four grade-separated (i.e., interchange) options were evaluated for the U1 terminus in comparison to an at-grade signalized intersection. Under each of the following options Haliimaile Road / Kihei-Upcountry Maui Highway would pass underneath Haleakala Highway: 1) diamond; 2) single point urban (a signalized intersection is provided directly underneath Haleakala Highway at the point where Haliimaile Road transitions to Kihei-Upcountry Maui Highway); 3) partial cloverleaf (single cloverleaf for the Haleakala Highway to Kihei-Upcountry Maui Highway makai bound movement); and 4) diamond with flyover (ramp for the Haleakala Highway to Kihei-Upcountry Maui Highway makai bound movement). An at-grade signalized intersection is estimated to cost roughly $800 thousand not including right-of-way, and an additional $250 thousand if double left-turn lanes are provided. The interchange options would cost between $20.3 million (diamond) and $29.8 million (diamond with flyover) not including right-of-way. None of the interchange options were found to warrant further consideration because the additional cost could not be justified, especially since the at-grade signalized intersection would be able to acceptably handle projected year 2020 traffic volumes.

The posted speed limit would vary from 70 km/h (45 mph) in urban areas to 90 km/h (55 mph) in rural areas.

Kihei-Upcountry Maui Highway will cross several gulches. These crossings will either be by bridge or embankment (fill) within the gulches. The decision to construct a bridge or embankment depended in part on the storm water flow in the gulch being spanned. Culverts

at the base of an embankment could handle up to 100 m^3/s (3,500 cfs) of storm water flow. Flow volumes above this amount require a bridge crossing. Another factor affecting the type of gulch crossing was construction considerations, such as ease of access into the gulch and location of the gulch in relation to source of available borrow material. Based on these criteria, the preferred alternative will require five bridges (see Figure 2-3). Those bridges crossing Pulehu (#2), Kolaloa (#3), Keahuia (#4), and Waiakoa (#5) Gulches will be shorter spans, approximately 30 m (100 ft), with clearances ranging from 3 m (9 ft) to 8 m (25 ft). The bridge crossing Kalialinui Gulch (#1) will be approximately 100 m (340 ft) long.

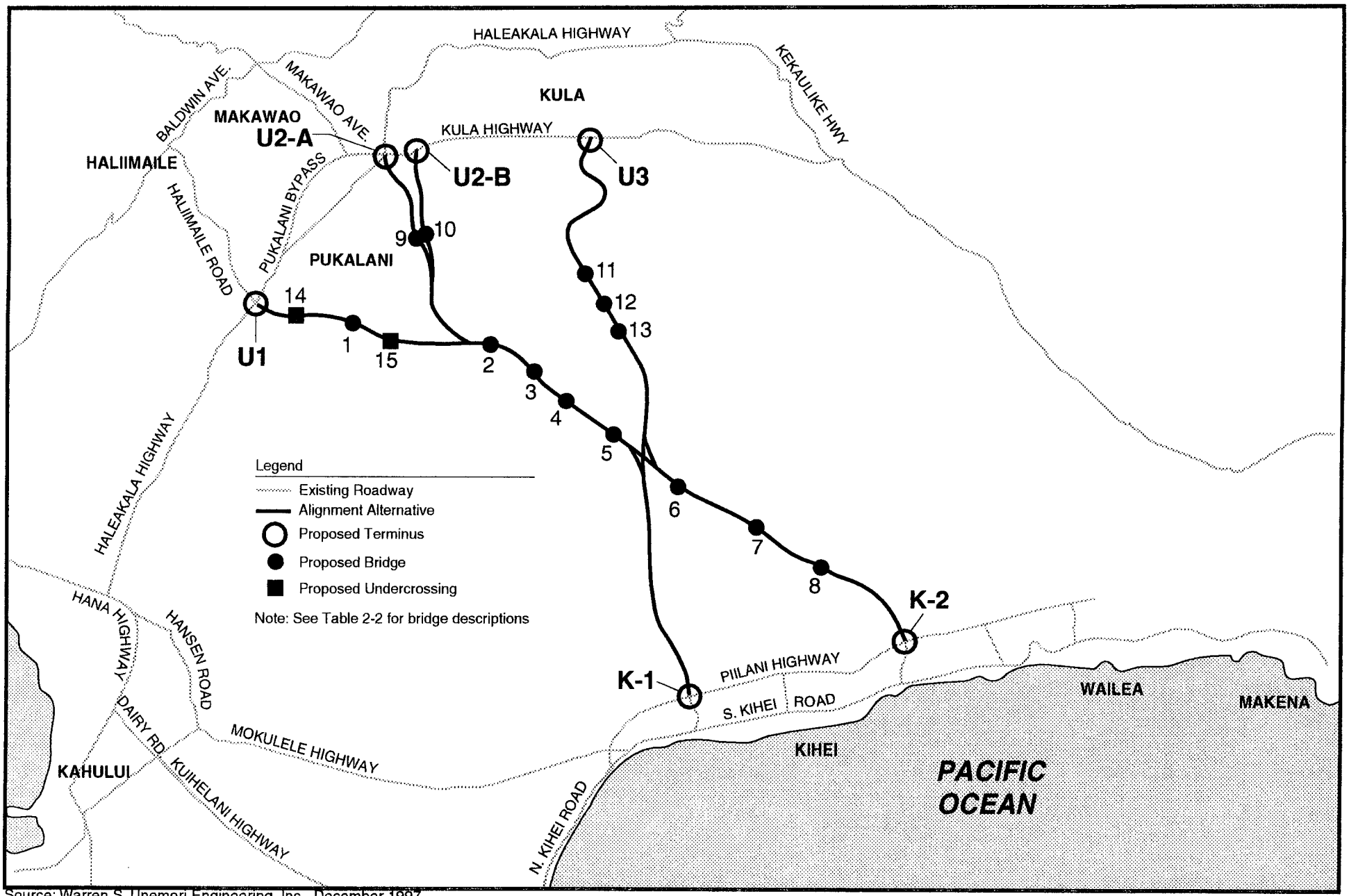
All the bridges will be two lanes. If the highway is expanded to four lanes in the future, additional two-lane bridges would be constructed at the gulch crossings.

The four shorter span bridges may not require piers, whereas the Kalialinui Gulch bridge may require piers (see Figure 2-4). If piers are required for the Kalialinui Gulch bridge, their placement will be designed to not impede storm water flow, and scour protection will be provided where necessary in accordance with federal and State requirements. Details of the bridges will be determined during the design phase of the project.

Embankment crossings will require placing fill material in the affected gulch and providing suitable scour protection. Excess material from grading to establish the roadway profile will be used to construct the embankments. The amount of borrow material created by establishing the roadway profile will be sufficient to construct all of the required embankments. Culverts will be placed at the base of the embankments to convey the storm water flow.

The preferred alternative also includes environmental mitigation measures to lessen the degree of unavoidable adverse impact. Major mitigation elements are listed below:

- Construction of grade-separated intersections (undercrossings) where the highway will cross two existing cane haul roads (see Figure 2-3; #14 and #15). The steepness of the terrain at these locations would make it difficult for the 136 000 kg (300,000 lb.) cane hauling trucks to stop if at-grade intersections are used, such as those along



Source: Warren S. Unemori Engineering, Inc., December 1997

GRAPHIC SCALE:

N

0 1 km 2 km 3 km

0 1 mi. 2 mi.

Bridge Locations

KIHEI-UPCOUNTRY MAUI HIGHWAY

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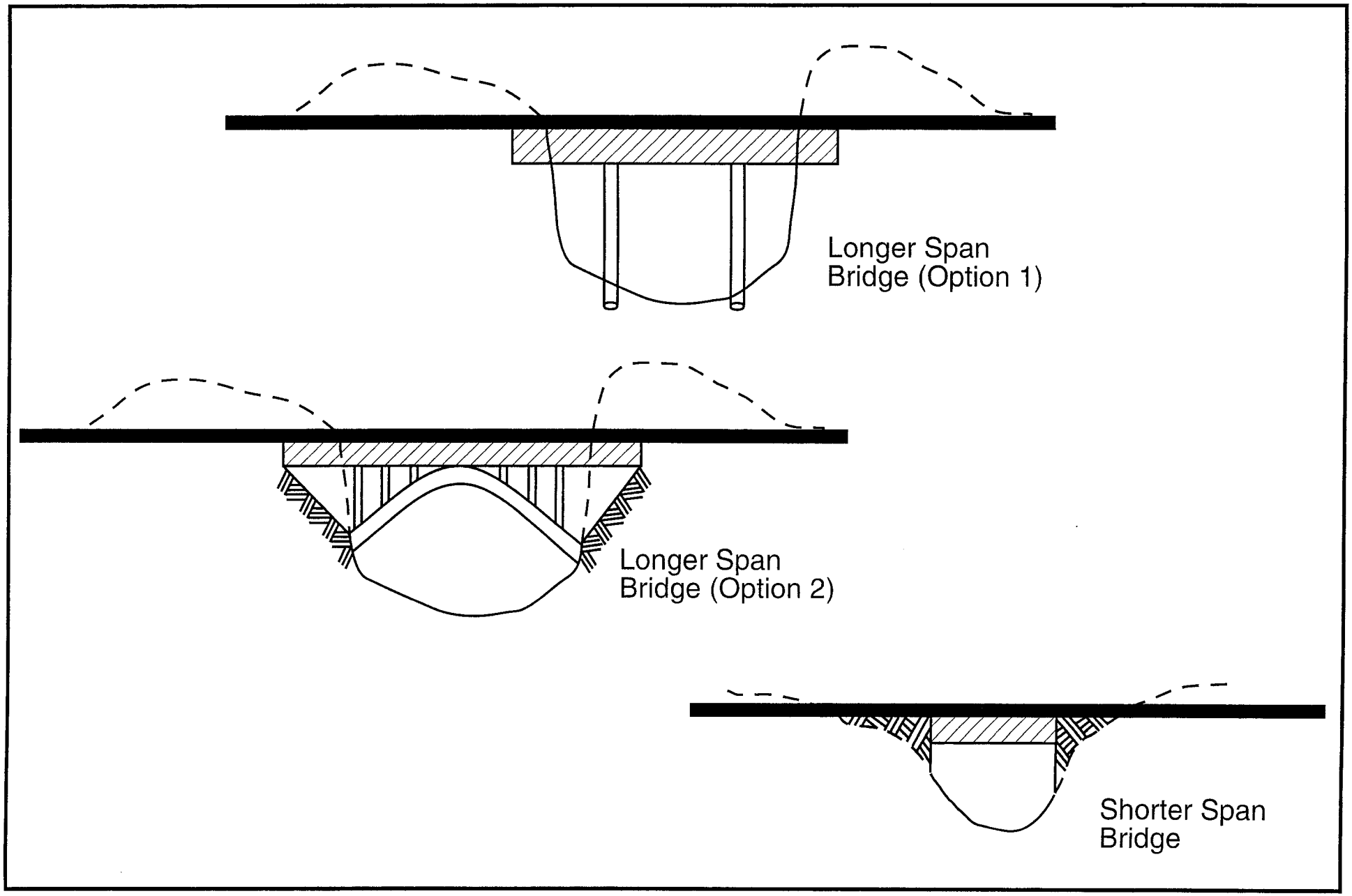
FIGURE 2-3



Source: Warren S. Unemori Engineering, Inc., December 1997

Typical Bridge Profiles
KIHEI-UPCOUNTRY MAUI HIGHWAY
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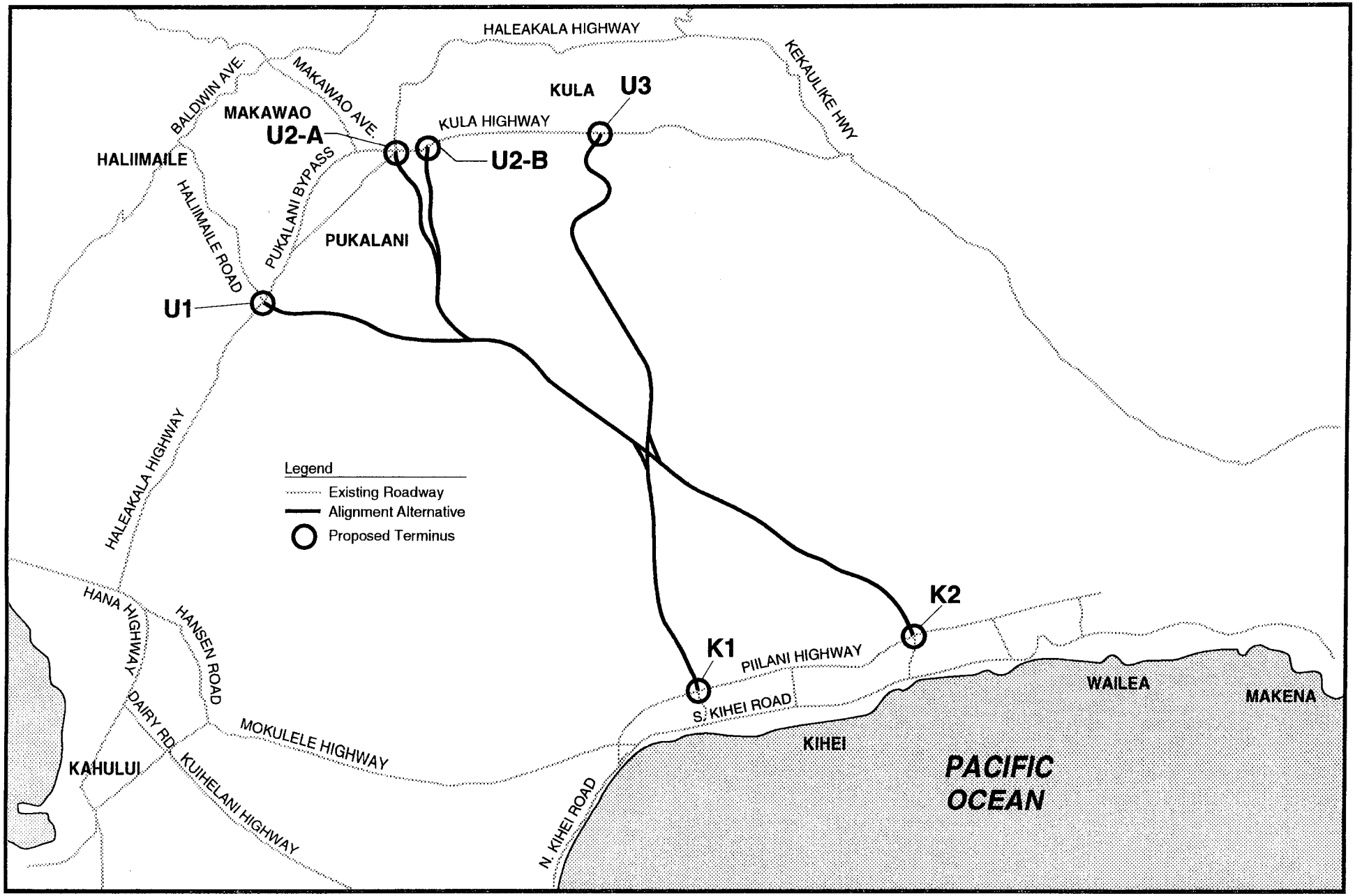
FIGURE 2-4

Haleakala, Hana and Mokulele Highways. These undercrossings will be approximately 12 m (40 ft) long, with 10.7 m (35 ft) clearance.

- Landscaping will be provided wherever practicable, which will include native trees and shrubs adapted to the site climatic conditions. Details of the landscaping plan will be developed during the design phase.
- Signage will be provided to alert motorists to possible fire conditions, and axis deer that may be on the highway.
- Scenic overlooks may be provided. This will be explored during the design phase.
- A "Maintenance of Agricultural and Ranching Activities Plan" will be prepared during the design phase and implemented during construction to minimize the adverse impact of construction-phase activities on adjacent agricultural and ranching activities. The Plan will address such items as repair and replacement of affected agricultural infrastructure systems, provision of stock-proof fencing, and designation of cattle crossings.
- A "Maintenance of Traffic Plan" will be prepared during the design phase and implemented during construction to minimize impacts on existing traffic flows during construction.
- Appropriate archaeological mitigation will be implemented at historic sites affected by the preferred alternative.

2.1.3 OTHER BUILD ALTERNATIVES

In addition to the preferred alternative, seven build alternatives receive detailed analysis in this Final EIS (see Figure 2-5). All eight alternatives, including the preferred alternative, consist of all possible combinations of two Kihei terminus options and four Upcountry terminus options. Figure 2-5 shows the Kihei and Upcountry termini and the roadway segments that would link the termini. The Kihei termini and segments are named K1 and K2, and the Upcountry termini and segments are named U1, U2-A, U2-B and U3 (the evolution of U2-A and U2-B from U2 is explained in Section 2.2.2). All these alternatives would address the purposes and needs described in Chapter 1.



Source: Warren S. Unemori, Engineering, Inc., October 1997

GRAPHIC SCALE:

N

0 1 km 2 km 3 km

0 1 mi. 2 mi.

Build Alternatives

KIHEI-UPCOUNTRY MAUI HIGHWAY

Final Environmental Impact Statement

FIGURE 2-5

Descriptions of the alternatives excluding the preferred alternative, which was described in Section 2.1.2, follow:

1. Alternative U1,K2. This alternative is the same as the preferred alternative from the Upcountry terminus to where the alternative alignments cross. However, this alternative would proceed southwest to the Ke Alii Alanui Street / Piilani Highway intersection. The length of Alternative U1,K2 is approximately 17.5 km (10.9 miles). Table 2-1 shows the land requirement for this alternative.

2. Alternative U2-A,K1. This alternative would extend from the existing Pukalani Bypass / Haleakala Highway / Kula Highway "Five Trees" intersection in Upcountry, and follow a generally west to southwest alignment to the Piilani Highway / Kaonoulu Street intersection in Kihei. The length of this alternative is approximately 15.8 km (9.8 miles). The U2-A terminus connection to the "Five Trees" intersection would require the realignment of the Haleakala Highway leg (Pukalani side) of the intersection (see Figure 2-6). The modification of the "Five Trees" intersection would consist of the following, as shown in Figure 2-6:

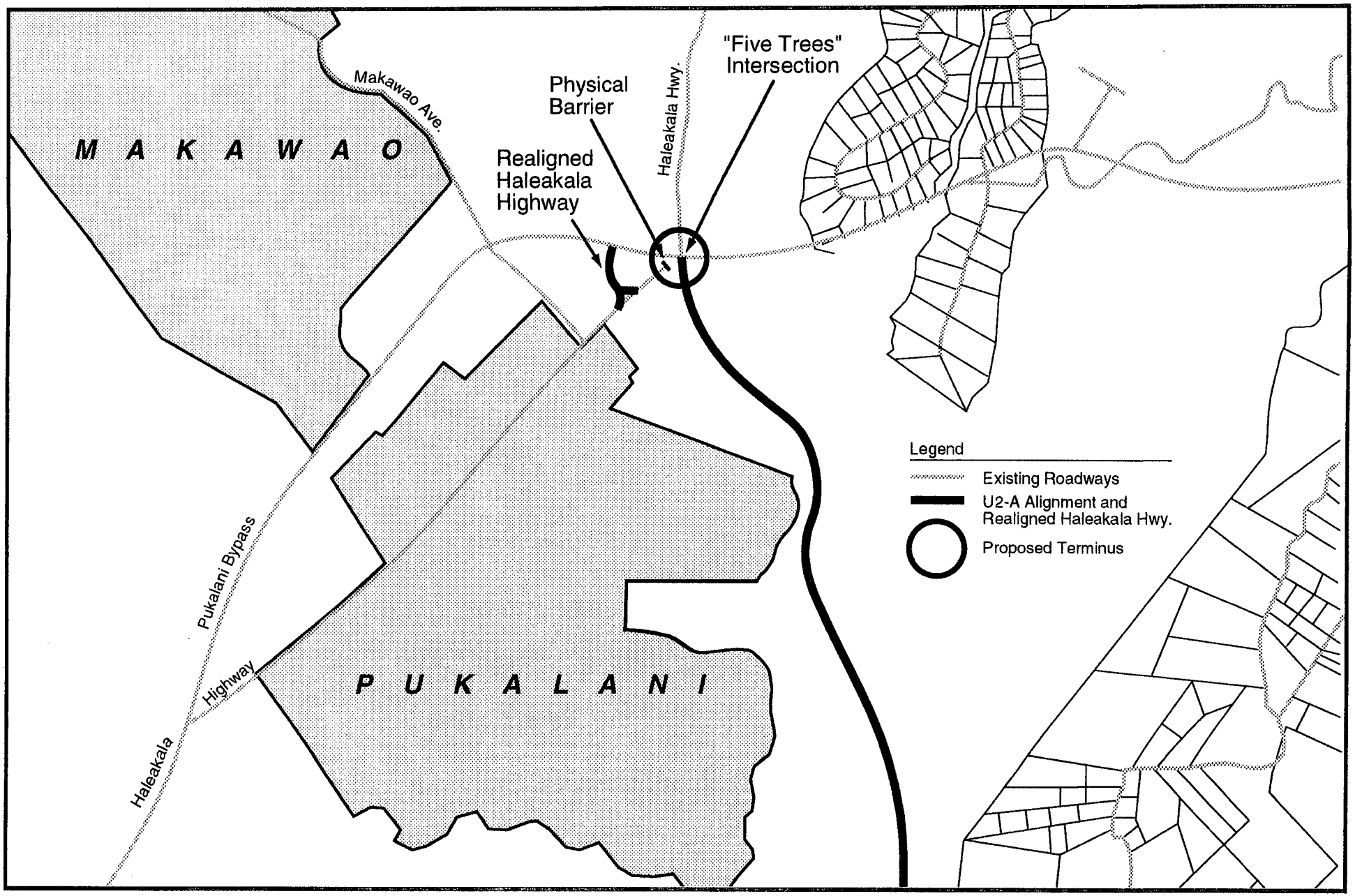
   - The Haleakala Highway leg (Pukalani side) would curve in an eastern direction to Pukalani Bypass, and a new Haleakala Highway / Pukalani Bypass T-intersection would be provided approximately 370 m (1200 ft) north of the "Five Trees" intersection (see Figure 2-6). At the T-intersection, only right turns would be allowed (eastbound traffic on the realigned Haleakala Highway turning southbound on Pukalani Bypass; and southbound traffic on Pukalani Bypass turning westbound on the realigned Haleakala Highway) for safety reasons. Left turns for northbound traffic on Pukalani Bypass onto the realigned Haleakala Highway would not be allowed.
   - The existing segment of Haleakala Highway between the new connection to Pukakani Bypass and the "Five Trees" intersection would remain open to traffic, maintaining access to future land uses in this area. Access to this cul-de-sac would be from the Northwest. A physical barrier would be erected to prevent automobile access between this cul-de-sac and the "Five Trees" intersection. The

Table 2-1
Estimated Right-of-Way Requirement For Each Alignment Alternative

Land Owner	Alignment Alternative							
	U1,K1	**U1,K2**	**U2-A,K1[1]**	**U2-A,K2[1]**	**U2-B,K1**	**U2-B,K2**	**U3,K1**	**U3,K2**
Alexander & Baldwin (HC&S)	42.4 ha	42.4 ha	16.8 ha	16.8 ha	16.8 ha	16.8 ha	--	--
County of Maui	--	--	--	--	--	--	8.9 ha	8.9 ha
Dowling Company	--	--	6.4 ha[2]	6.4 ha[2]	12.4 ha	12.4 ha	--	--
Haleakala Ranch	47.5 ha	58.3 ha	47.6 ha	58.4 ha	48.5 ha	59.3 ha	42.9 ha[2]	52.5 ha[2]
Kaonoulu Ranch	7.7 ha	11.5 ha	7.7 ha	11.5 ha	7.7 ha	11.5 ha	7.7 ha	11.5 ha
Malama Mohala Corp.	--	--	8.1 ha[2]	8.1 ha[2]	--	--	--	--
Maui Land & Pineapple Company	--	--	13.8 ha	13.8 ha	12.3 ha	12.3 ha	20.7 ha[2]	20.7 ha[2]
Von Tempsky Trust	--	--	--	--	--	--	10.5 ha	10.5 ha
Others[3]	--	--	0.9 ha	0.9 ha	1.7 ha	1.7 ha	2.4 ha[2]	2.4 ha[2]
Total	**97.6 ha**	**112.2 ha**	**101.3 ha**	**115.9 ha**	**99.4 ha**	**114 ha**	**93.1 ha**	**106.5 ha**

Notes: [1] Includes right-of-way for re-aligned Haleakala Highway under the U2-A alternatives.
[2] Includes the acquistion of remnant parcels.
[3] Other land owners are: Robert A. and Astrid I. Watanabe, Alfred Boteilho, Dwight Joan, Sr., et.al., and the State of Hawaii.

Source: Warren S. Unemori Engineering, Inc., October 1997, July 1998 and September 1998



Source: Warren S. Unemori, Engineering, January 1998

GRAPHIC SCALE:

0 .5 km 1 km

0 .25 mi. .5 mi.

U2-A Alternative near the "Five Trees" Intersection

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FIGURE 2-6

roadway between the cul-de-sac and intersection will be converted to a pedestrian walkway.

3. Alternative U2-A,K2. This alternative would extend from the existing Pukalani Bypass / Haleakala Highway / Kula Highway "Five Trees" intersection to the Ke Alii Alanui Street / Piilani Highway intersection. The length of this alternative is approximately 17.5 km (10.9 miles). This alternative also includes the realignment of the Haleakala Highway leg (Pukalani side) of the "Five Trees" intersection as described above for U2-A,K1. (see Figure 2-6). Table 2-1 shows the land requirement for this alternative.

4. Alternative U2-B,K1. This alternative would extend west from Kula Highway at approximately 700 m (2300 ft) south of the "Five Trees" intersection. The alignment runs parallel with Segment U2-A for about 3000 m (10,000 ft), and then shares the same U2-A alignment. This alternative's Kihei terminus is at the Piilani Highway / Kaonoulu Street intersection. The length of this alternative is approximately 15.5 km (9.6 miles).

5. Alternative U2-B,K2. This alternative would extend west from Kula Highway at approximately 700 m (2300 ft) south of the "Five Trees" intersection. The alignment runs parallel with Segment U2-A for about 3000 m (10,000 ft), and then shares the same U2-A alignment. This alternative's Kihei terminus is at the Piilani Highway / Ke Alii Alanui Street intersection. The length of this alternative is approximately 17.3 km (10.8 miles).

6. Alternative U3,K1. This alternative would extend west from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway / Kaonoulu Street intersection in Kihei. The length of this alternative is approximately 14.5 km (9.0 miles). Table 2-1 shows the land requirement for this alternative.

7. Alternative U3,K2. This alternative would extend west from Kula Highway, south of Pulehu Gulch in Kula, to the Ke Alii Alanui Street / Piilani Highway intersection in Kihei. The length of this alternative is approximately 16.1 km (10.0 miles). Table 2-1 shows the land requirement for this alternative.

Like the preferred alternative, the other build alternatives would provide a limited access, two-lane arterial roadway, but would reserve right-of-way for a future four-lane divided roadway (see Figure 2-2). Since most of the roadway would be in rural areas, primarily the rural design would be used. Those alternatives with U2-A, U2-B or K1 alignments would pass through State Urban-designated lands, which may require an urban design for these segments.

The other build alternatives would also be designed with adequate channelization (right- and left-turn lanes) to handle the projected traffic volumes at the Upcountry and Kihei termini. If either a U2-A or K2 alternative were selected as the preferred alternative, the existing traffic signals at the U2-A terminus (Five Trees Intersection) and K2 terminus (Piilani Highway / Ke Alii Alanui Street intersection) would be modified. At the other termini (U1, U2-B, U3, and K1), the decision to place traffic signals would be made during the design phase, and would be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices.

The other build alternatives would have the same posted speed limit, and similar roadway drainage structures as the preferred alternative.

The same criteria for selecting a bridge or embankment crossing of particular gulches that applied to the preferred alternative, also applied to the other build alternatives. Table 2-2 displays the bridges anticipated along each build alternative other than the preferred alternative, and their locations are shown on Figure 2-3. The number of bridge crossings for each these alternatives is shown on Table 2-3. The shorter span bridges may not require piers, whereas longer span bridges (e.g., 60 m (200 ft) or more) may require at least one pier within the gulch (see Figure 2-4). The placement of any piers in the gulches would be done in a manner to not impede storm water flow, and scour protection would be provided where necessary.

The other gulch crossings would be by embankments, and excess material from grading other sections of the roadway would be used to construct the embankments. Culverts would be placed at the base of the embankments to convey storm water flow.

Table 2-2
Potential Bridges for Build Alternatives Other Than the Preferred

Loc.	Description	Segment	Approx. Length m (ft)	Approx. Clearance m (ft)
2	Pulehu Gulch*	U2-(A or B)	30 (100)	5.5 (18)
3	Kolaloa Gulch #1*	U2-(A or B)	30 (100)	6 (20)
4	Keahuia Iwi Gulch #1*	U2-(A or B)	30 (100)	3 (9)
5	Waiakoa Gulch # 1*	U2-(A or B)	30 (100)	8 (25)
6	Kulanihakoi Gulch	K2	30 (100)	5.2 (17)
7	Waipuilani Gulch	K2	30 (100)	6.4 (21)
8	Keokea Gulch	K2	30 (100)	4 (13)
9	Kalialinui Gulch #2	U2-A	90 (300)	19.5 (64)
10	Kalialinui Gulch #3	U2-B	210 (680)	30 (96)
11	Kolaloa Gulch #2	U3	130 (440)	17 (55)
12	Keahuia Iwi Gulch #2	U3	60 (200)	9.4 (31)
13	Waiakoa Gulch #2	U3	80 (260)	9.8 (32)

Note: Locations of bridges are shown on Figure 2-3.
* These bridges will be constructed under the preferred alternative.

Source: Warren S. Unemori Engineering, Inc., December 1997

The other build alternatives would also include environmental mitigation measures, similar to those described for the preferred alternative. If a U2-A or U2-B alternative were selected as the preferred alternative, the project would have included pedestrian facilities at or near King Kekaulike High School or Kamehameha School. For example, under a U2-A alternative, the segment of the Haleakala Highway at the Five Trees intersection, which would have been replaced by Kihei-Upcountry Maui Highway, would be converted to a pedestrian walkway. In addition, sidewalks would be provided between the modified Five Trees Intersection and the high school. Also, an archaeological inventory survey would need to be conducted if another alignment were selected as the preferred alternative. Depending on the results, appropriate mitigation would need to be conducted.

Table 2-3
Bridge Requirements for Build Alternatives Other Than the Preferred

Alternative	Number of Bridges
U1,K2*	10
U2-A,K1	5
U2-A,K2	8
U2-B,K1	5
U2-B,K2	8
U3,K1	3
U3,K2	6

Note: * U1 alignments include undercrossings where they cross two cane haul roads

Source: Warren S. Unemori Engineering, Inc., December 1997

2.1.4 ESTIMATED COST AND SCHEDULE

The preferred alternative, U1,K1, is currently (year 2001) estimated to cost $80.3 million, which includes approximately $4.9 million for right-of-way and $75.4 million for construction. The cost of the preferred alternative includes the cane haul undercrossings (see Section 2.1.2). Estimated right-of-way acquisition and construction costs (year 1997 dollars) for the other build alternatives are provided in Table 2-4. The lowest cost build alternative is U3,K1 because it would be the shortest, have the fewest bridges and have lower right-of-way acquisition cost. The most expensive alternative is U2-A,K2. Design normally costs approximately ten percent of the construction cost.

The present schedule of the project is shown on Table 2-5. Design is scheduled to commence in 2002, and construction could begin in 2004. Kihei-Upcountry Maui Highway could open for service in 2007.

Table 2-4
Estimated Cost by Alternative

Alternative	Estimated Cost (1997 Dollars)[1]		
	Construction[4]	Right-of-Way[4]	Total[4]
U1,K2[2]	$75,000,000	$3,800,000	$78,800,000
U2-A,K1[3]	$63,500,000	$5,600,000	$69,100,000
U2-A,K2[3]	$77,200,000	$5,600,000	$82,800,000
U2-B,K1[5]	$61,400,000	$6,600,000	$68,000,000
U2-B,K2[5]	$75,800,000	$6,500,000	$82,400,000
U3,K1	$49,600,000	$3,500,000	$53,100,000
U3,K2	$63,000,000	$3,400,000	$66,400,000

Notes: [1] Costs are based on acquiring right-of-way for a four-lane divided highway; conducting earthwork for a two-lane highway in rural areas and a four-lane highway in urban areas, earthwork for a four-lane highway within major gulches where bridges would not be used, and construction of a two-lane highway (see Figure 2-2) and two-lane bridges (see Tables 2-2 and 2-3).
[2] Includes two undercrossings where the road crosses cane haul roads.
[3] Includes the re-alignment of Haleakala Highway in Pukalani.
[4] Estimates are rounded to the nearest 100 thousand.
[5] Reflects reduced cost with credit for portion constructed as part of Kulamalu development.

Source: Warren S. Unemori Engineering, Inc., December 1997, June 1998, September 1998 and November 1999

Table 2-5
Proposed Project Schedule

Activity	Period
Design and Right-of-Way Acquisition	2002 – 2004
Construction	2004 - 2007
Open for Service	2007

Source: State of Hawaii, Department of Transportation, January 2001

2.2 ALTERNATIVES DEVELOPMENT

Three steps were accomplished to develop the alternatives described in Section 2.1.2.1. The first step was a two-tiered screening analysis used to eliminate some of the alternatives developed during the project's scoping phase. This resulted in the selection of two Kihei terminus options and three Upcountry terminus options. The second step was an evaluation of alternatives evolving from the original U2 alignment, after it was found to impact a future private school site (the school has since been constructed) and two archaeological sites likely to require preservation in place. The third step involved minor alignment shifts of U2-A and U3 to avoid important sites identified in archaeological reconnaissance surveys.

2.2.1 SCREENING ANALYSIS

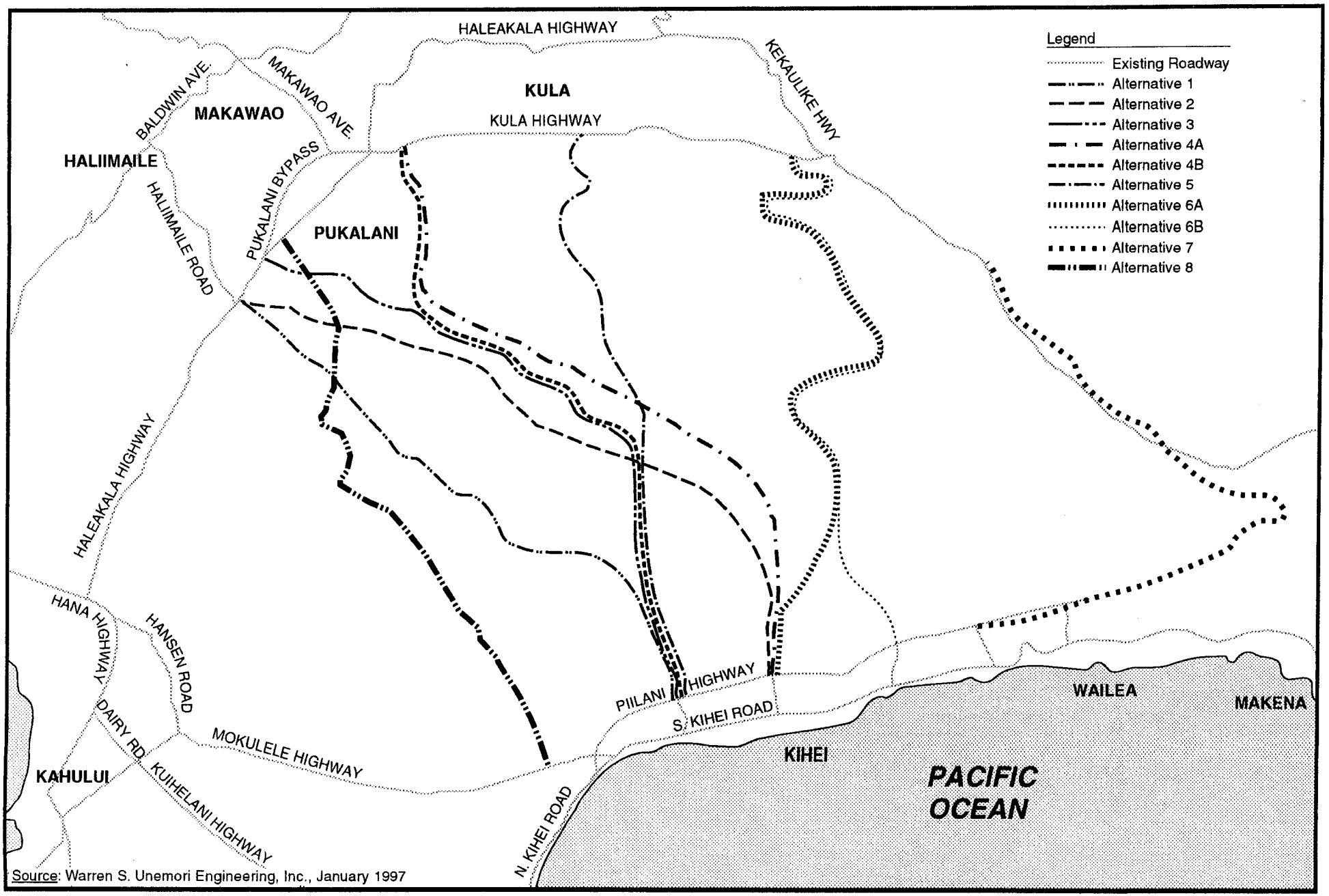
A two-tiered alternatives screening analysis was performed to evaluate a wide range of candidate alternatives and eliminate those with the fewest benefits or overriding adverse characteristics so that a manageable number of alternatives would be evaluated in detail in the Draft and Final EIS (see Chapter 4). The No Build alternative was not evaluated in this screening analysis because it is automatically included in the Draft and Final EIS as a viable option.

This section summarizes the screening analysis. The Alternatives Analysis Report that was prepared after the screening analysis appears in Appendix D.

2.2.1.1 Alternatives Considered in the Screening

Ten alignment alternatives (see Figure 2-7 and Table 2-6) were developed during the public and agency scoping process that preceded the issuance of the project's Environmental Assessment (EA) (see Chapter 5.0). The alternatives were introduced to the public through distribution in September 1995 of an EA addressing the project (see Chapter 5). After publication of the EA, public comments were received through the channels listed below, and were used to develop additional alternatives:

- written comments generated in response to the EA;



Source: Warren S. Unemori Engineering, Inc., January 1997

N

GRAPHIC SCALE:

0 1 km 2 km 3 km 0 1 mi. 2 mi.

Alternatives Entering Screening Analysis

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FIGURE 2-7

- oral testimony given at two public information meetings held in October 1995;
- testimony provided during a second round of public information meetings held in May 1996 (one Upcountry and one in Kihei); and
- written comments following the May 1996 information meetings.

Table 2-6
Original Alignment Alternatives

Alternative	Upcountry Terminus	Kihei Terminus	Length
Alternative 1	Haleakala Highway / Haliimaile Road inter.	Piilani Highway / Kaonoulu Street inter.	14.3 km (8.9 miles)
Alternative 2	Haleakala Highway / Haliimaile Road inter.	Maui R&T Park	16.3 km (10.1 miles)
Alternative 3	Haleakala Highway, between Haliimaile Road and Pukalani	Piilani Highway / Kaonoulu Street inter.	15.5 km (9.6 miles)
Alternative 4A	Kula Highway, east of the Pukalani Bypass Road	Maui R&T Park	16.6 km (10.3 miles)
Alternative 4B	Kula Highway, east of the Pukalani Bypass Road	Piilani Highway / Kaonoulu Street inter.	15.5 km (9.6 miles)
Alternative 5	Kula Highway, south of Pulehu Gulch in Kula	Piilani Highway / Kaonoulu Street inter.	14.0 kilometer (8.7 miles)
Alternative 6A	Kula Highway, near Kekaulike Highway / Kula Highway inter.	Maui R&T Park	17.0 km (10.6 miles)
Alternative 6B	Kula Highway, near Kekaulike Highway / Kula Highway inter.	Piilani Highway, next to the future Kihei Regional Park	16.3 km (10.1 miles)
Alternative 7	Kula Highway south of Kula Sanitarium	southern section of Piilani Highway	14.4 km (8.9 miles)
Alternative 8	Haleakala Highway in Pukalani	Mokulele Highway	14.6 km (9.1 miles)

Sources: Warren S. Unemori Engineering, Inc. derived from State/County Joint Task Force Upcountry / Kihei Highway Final Report, October 1, 1993; County of Maui Toll Road Study, 1988; and Maui Long-Range Highway Planning Study, 1991

Based on these comments, conceptual engineering was prepared for three additional alternatives: Alternatives 2B and 2C (modifications of Alternative 2) and the "enhanced widening of existing roadways" alternative (see Figure 2-8).

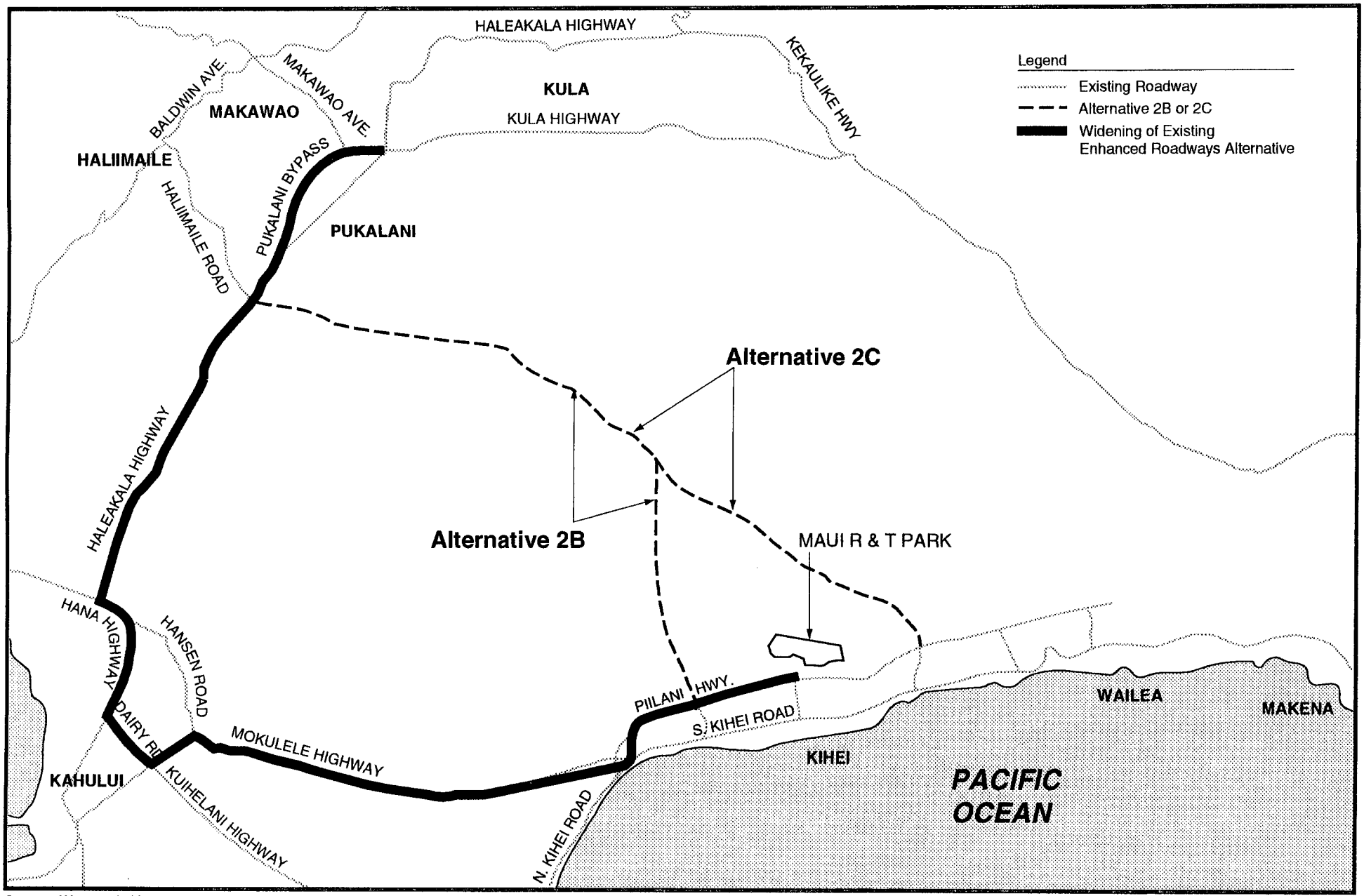
- Alternative 2B. This alternative would extend from Haleakala Highway / Haliimaile Road intersection in the Upcountry area, (as Alternative 2), but would then share portions of Alternative 4B's mauka alignment near the Hawaiian Commercial & Sugar Company (HC&S) land to Kihei at Kaonoulu Street. The length of this alternative is approximately 15.6 km (9.7 miles).

- Alternative 2C. This alternative would maintain the Haliimaile Junction Upcountry terminus and share Alternative 4B's alignment near the HC&S land. However, its Kihei terminus would be located at the intersection of Piilani Highway and the proposed Road F. The length of Alternative 2C is approximately 17.5 km (10.9 miles).

Alternatives 2B and 2C were developed in response to comments asking that impacts to Hawaiian Commercial and Sugar (HC&S) Company land be minimized, the Maui R&T Park not be bisected, and the Kihei terminus be moved as far south as possible to create an alternative evacuation route for South Kihei and to support hotels and resorts in Wailea / Makena.

- The "enhanced widening of existing roadways" alternative. This alternative would provide an additional lane in each direction on the existing roads between Kihei and Upcountry beyond the widening improvements already proposed in the Maui Long-Range Land Transportation Plan (February 1996) (see Section 2.1.1). Enhanced widening of the following roadways is included in the "enhanced widening of existing roadways" alternative:

  - Haleakala Highway (12.4 km (7.7 miles));
  - Hana Highway (3.2 km (2.0 miles));
  - Dairy Road (1.3 km (0.8 miles));
  - Puunene Avenue / Mokulele Highway (10.5 km (6.5 miles)); and
  - Piilani Highway (4.8 km (3.0 miles)).



Source: Warren S. Unemori Engineering, Inc., January 1997

GRAPHIC SCALE:

N

0 1 km 2 km 3 km 0 1 mi. 2 mi.

Alternatives 2B, 2C and Enhanced Widening of Existing Roadways

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FIGURE 2-8

Finally, FHWA participation in this project requires that Transportation Systems Management (TSM) be considered among the alternatives. TSM is the application of construction, operational, and institutional actions to make the most efficient and cost effective use of existing transportation infrastructure. TSM actions are categorized as being either "demand-side" or "supply-side". As is explained below, TSM can be an attractive solution to many types of transportation problems. However, TSM would not satisfy a purpose such as provision of a system linkage between two localities, such as this project, that is intended to connect Kihei and Upcountry. Therefore, a TSM alternative was eliminated from further consideration.

Demand-side TSM actions, often referred as Transportation Demand Management (TDM), are intended to reduce congestion by decreasing the number of vehicles traveling at the same time by such measures as increasing vehicle occupancy, lowering the peak travel demand by shifting the time of travel, or making the use of single-occupant vehicles less attractive. Demand-side actions include high-occupancy vehicle (HOV) lanes, ride-sharing programs, parking management, and transit service improvements. Except for HOV facilities, demand-side actions tend to be more appropriate within the context of a metropolitan area.

TSM actions are intended to increase the capacity of existing infrastructure (e.g., a roadway) using relatively "low cost" and localized solutions, such as use of contraflow lanes, intersection channelization, improved pavement or signage, and synchronization of traffic signals. Supply-side actions are most effective when alleviating traffic problems at spot locations. Supply-side TSM actions would not be used when a project's intent is to provide a transportation connection between two localities.

2.2.1.2 Methodology

Criteria for evaluating the project alternatives described in Section 2.2.1.1 were developed from the following sources:

- Federal Highway (FHWA) Technical Advisory Guide (October 1987);
- State/County Joint Task Force Upcountry / Kihei Highway Final Report (October 1993);

- Federal, State, County, and local comments to a project initiation letter issued by SDOT on September 1, 1994;
- An agency scoping meeting held on October 26, 1994;
- Engineering standards (Hawaii Statewide Uniform Design Manual for Streets and Highways, American Association of State Highway and Transportation Officials (AASHTO), and American Society for Testing and Materials (ASTM);
- Kihei-Upcountry Maui Highway Environmental Assessment (EA) (May 1995);
- Written comments received in response to publication of the EA; and
- Comments (oral and written) made at the public information meetings held on Maui on October 17 and 18, 1995, and on May 15 and 16, 1996.

The evaluation criteria were then sorted into two groups: Tier One (fatal flaws) and Tier Two.

2.2.1.2a Tier One Criteria

Tier One (fatal flaw) criteria identify alternatives that are impractical, unfeasible or cannot be funded given the constraints associated with federal participation in project construction. Eliminating alternatives with "fatal flaws" avoids unnecessary analysis of alternatives that are extremely unlikely to be selected as the Preferred Alternative. For this project, the Tier One criteria were:

- Satisfaction of project goals;
- Conformance with engineering design criteria;
- Benefit/cost ratio; and
- Bifurcate Maui R&T Park.

Satisfaction of Project Goals

The alternatives were evaluated with respect to whether they satisfied the project goals stated in Chapter 1, such as establishing a roadway linkage between the Kihei and Upcountry areas. An alternative received a "Y" (yes) score if it would satisfy the project goals. A "N" (no) score means the alternative would not satisfy the project goals.

Design Feasibility

The alternatives were evaluated to determine whether they met engineering design criteria for a rural, limited access arterial roadway, such as minimum curve radius and design speed. A "Y" (yes) signifies that the alternative would have a conforming design, whereas a "N' (no) would mean that its design would not conform to the criteria.

Benefit-Cost Ratio

A preliminary benefit-cost analysis to the year 2023 (completion of construction plus 20 years) was performed to eliminate alternatives that would clearly not be cost-effective in achieving the goal of linking Kihei and Upcountry Maui. Calculation of the benefit-cost ratio (BCR) for each alternative was based on a comparison of travel time between two centroids, one located at the Maui R&T Park in Kihei and the other in Pukalani, Upcountry Maui, under the future No Build Alternative. Other factors used to calculate the BCRs included:

- cost of each alternative, consisting of initial cost (construction, right-of-way acquisition, design) and annual roadway maintenance;
- user costs for vehicle operation and maintenance; and
- economic factors, such as the expected long-term inflation rate and discount rate.

The methodology conformed to procedures described in the Manual On User Benefit Analysis of Highway and Bus Transit Improvements (AASHTO, 1977). Normally, an alternative's BCR would have to be greater than one (the benefits of the project exceed its cost) for the investment to be economically justified. However, because of the preliminary nature of the analysis and the limited definition of what is considered a benefit, an alternative would have to have an extremely low BCR to have a "fatal flaw."

Bifurcate Maui R&T Park

The master plan for the Maui R&T Park was revised in 1996 to create a more campus-like atmosphere, in contrast to the light industrial park atmosphere that was originally envisioned. Its central roadway element is a large roundabout or "green" located at the core of the Park. Any alignment that divides the Maui R&T Park would be inconsistent with the Park's proposed campus-like roadway system. Because the Maui R&T Park is intended to be one of the major beneficiaries of the proposed highway, conformance with the master plan's proposed

campus-like roadway system was elevated to a Tier One level of significance. Those alternatives that bifurcate the R&T Park were given a "Y" (yes), while those that did not were given a "N" (no). A "Y" score for this criterion indicates that the alternative has a "fatal flaw."

2.2.1.2b Tier Two Criteria

The Tier Two criteria were developed to further screen the alternatives passing the first tier criteria. These criteria relate primarily to the nature and degree of adverse impact or benefit. An alternative not satisfying these criteria could be feasible, but would not be advantageous with respect to the criterion in question. A large number of candidate Tier Two criteria were developed, but many of them were rejected. The Alternatives Analysis Report (November 1996) (see Appendix C) contains the rationale for their rejection. Many criteria were not used in the Tier Two analysis because they would not discriminate among alternatives. The omission of a criterion from the Tier Two analysis does not imply that the criterion is not important. In the final analysis, the following Tier Two criteria were used:

- Adverse agricultural impact;
- Cost;
- Conformance with community plans;
- Highway operations;
- Potential impact on endangered and threatened species;
- Enhancement of access to Hawaiian Home Lands (HHL) parcel (TMK 2-02-002:014); and
- Visual impacts.

Adverse Agricultural Impact

The number of hectares presently used for crop production (pineapple or sugarcane cultivation or Upcountry truck farms) which each alternative would displace was calculated. Impacts on pasture lands were not considered as important because of the abundance of pasture land in the area and the substantially reduced level of investment in irrigation, drainage and other infrastructure for pasture in comparison to cropland. The following five-point scale was defined based on the acreage of encroachment for each alternative:

(1): less than 10 hectares

(2): 10 to 20 hectares

(3): 20 to 30 hectares

(4): 30 to 40 hectares

(5): over 40 hectares

Cost

This criterion compares the estimated cost of land acquisition, site work, roadway construction, and drainage for each alternative. The following four-point scale was used to score these costs:

(1): less than $45 million

(2): $45 to $55 million

(3): $55 to $65 million

(4): over $65 million

Conformance with Community Plans

There are nine planning regions in Maui County for which community plans have been prepared. The plans report current and anticipated conditions, and stipulate advance planning goals, objectives, policies and implementation considerations to guide decision making for each region. The study area overlaps planning areas addressed by the Kihei-Makena Community Plan and the Makawao-Pukalani-Kula Community Plan. Although the community plans are not official until adopted by the County Council and the Mayor, it is customary on Maui to use the most recent proposed update to the community plans to assess conformance with county planning.

The most recent proposed update for the Kihei area is the Kihei-Makena Community Plan (1998) This proposed plan recommends a roadway that would link the primary residential area of Upcountry with job centers within the Kihei region. The Plan, therefore, favors those alternatives with mauka termini near Pukalani, and makai termini at or north of the Maui R & T Park. The Kihei-Makena Community Plan was approved by the County Council and the Mayor in early 1998.

The Community Plan Update of Makawao-Pukalani-Kula (July 1996) "files" (removes from the active list) the proposed Kihei-Upcountry Maui Highway, and states that the No Build alternative is favored over any build alternative. However, the recommendations also include provisions that if the roadway is built, the preferred Upcountry terminus is in the vicinity of Haliimaile Road.

The alternatives that best conform to the community plans were scored "Y" (yes). Alternatives that did not conform as well were scored "P" (poor). Alternatives that do not conform to the plans were scored "N" (No).

Highway Operations

While all of the alternatives entering the Tier Two screening can be designed to conform with applicable engineering standards (see Section 2.2.1.3), there may be operational problems with certain alternatives when connected to the existing roadway network. Those alternatives that would connect well with the existing roadway network were scored a "B" (better); those that would not were scored a "W" (worse).

Impact on Endangered and Threatened Species

A botanical reconnaissance was conducted to rank the alternatives in terms of their relative potential adverse impact on areas where endangered or threatened plant species might exist. The survey included:

- a helicopter reconnaissance of the project area;
- government agency interviews and literature search;
- a comparative ranking of the alternatives for potential botanical impacts, emphasizing impacts on rare species; and
- a general assessment of the level of potential impact of each alternative.

Based on the botanical reconnaissance, alternatives were scored numerically, from "1" (alternatives that were least likely to threaten endangered species) to "5" (alternatives with a higher possibility of displacing endangered species). Potential impact on endangered species was not considered a "fatal flaw" because at this stage of project planning, the

alignment alternatives are considered general enough to allow some latitude to bypass particularly sensitive locations, if warranted.

Enhancement of Access to Hawaiian Home Lands Parcel

The Kihei-Upcountry Maui Highway State/County Joint Task Force's Final Report (October 1, 1993) identified access to the Hawaiian Home Lands parcel (TMK 2-02-002:014) as a desirable benefit of this project. Alignment alternatives that would enhance future access to the HHL parcel received a "B" (better), while those alternatives that would not enhance access received a "W" (worse).

Visual Impact

Since all of the alternatives share a common typical design (see Figures 2-2 and 2-3) and a similar setting (agricultural lands on the western flank of Haleakala), the amount of earthmoving (cut plus fill) required for roadway construction was used as an approximate indicator of the project's long-term aesthetic impacts. It is assumed that the more material moved during construction, the greater the potential for visual disturbance of the existing landscape, even after the establishment of new plantings.

A four-point scale was developed to score the total amount of cut and fill material required for each alternative. Alternatives requiring less earthmoving received lower scores, while those requiring the most activity received a "4."

(1): less than 1.5 million cubic meters
(2): 1.5 to 2.0 million cubic meters
(3): 2.0 to 2.5 million cubic meters
(4): over 2.5 million cubic meters.

2.2.1.3 Alternatives Evaluation

2.2.1.3a Tier One Screening

Table 2-7 summarizes the outcome of the Tier One evaluation. Scores not satisfying the criteria are shaded. In summary, Alternatives 4A, 6A through 8, the enhanced widening of existing roadways alternative, and the TSM alternative were eliminated from further study.

Table 2-7
Tier One Screening

Criteria	Alternative													
	1	2	2B	2C	3	4A	4B	5	6A	6B	7	8	EWR	TSM
Satisfies Project Goals	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Design Feasibility	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N.A.
Benefit-Cost Ratio	1.00	1.00	1.06	0.67	1.01	0.94	1.34	1.53	0.42	0.28	-0.04	1.10	Low[1]	N.A.[2]
Bifurcate Maui R&T Park	N	Y	N	N	N	Y	N	N	Y	N	N	N	N.A.	N.A.

Notes: EWR: Enhanced Widening of Existing Roadways Alternative
TSM: Transportation Systems Management Alternative
Y: Yes
N: No
▒▒▒▒ Does not satisfy criterion.
N.A.: Not Applicable.

[1] The BCR for the EWR Alternative was not calculated because it failed to satisfy the project goals criterion. If the BCR for the EWR Alternative was calculated, it would be quite low because the method of calculating BCRs is based on a comparison with the future No Build Alternative of travel time between Kihei and Upcountry Maui. When compared to the No Build Alternative, the EWR Alternative would offer a slight decrease in travel time because of marginally less congestion along the same circumferential route. This travel time savings, however, would not compare favorably to the decrease in travel time that would be achieved by substantially shortening the distance between Kihei and Upcountry Maui through a new roadway. Therefore, along with its large capital cost ($78 million), its BCR, as calculated here, would be small.

[2] The BCR for the TSM Alternative was not calculated because it failed to satisfy the project goals criterion.

Source: Warren S. Unemori Engineering, Inc. and Parsons Brinckerhoff Quade & Douglas, Inc., January 1997

Non-satisfaction of project goals eliminated the enhanced widening of existing roadways and TSM alternatives. The enhanced widening of existing roadways alternative would not establish a roadway linkage between Kihei and the Upcountry area. The TSM alternative would also not satisfy this goal, nor other goals, such as providing additional roadway capacity and infrastructure to meet existing and future travel demand in the region.

The design feasibility criterion eliminated Alternative 8 because it is constrained to an existing government right-of-way that does not conform to modern highway design standards.

The preliminary benefit-cost analysis generated BCRs ranging from -0.04 to 1.53 (see Table 2-7). After noting the spread of the results and considering the preliminary nature of the analysis, the allowable threshold was set at 0.67, which eliminated Alternatives 6A, 6B, and 7. To affect these results (pass some alternatives eliminated by this criterion), the minimum passing BCR would have to be lowered to 0.42. However, lowering the BCR to this threshold would not affect the overall screening because Alternative 6A, with its 0.42 BCR, would have been eliminated anyway because it bifurcates the Maui R&T Park, the last Tier One criterion. This last criterion also eliminated Alternatives 2 and 4A.

2.2.1.3b Tier Two Screening

Table 2-8 summarizes the Tier Two screening analysis. An alternative did not have to satisfy every criterion to pass the screening. However, in certain instances, a particular score or group of scores disqualified an alternative from moving forward. These disqualifying scores are shaded.

Based on the Tier Two criteria, Alternatives 1 and 3 were dropped from future study in the Draft EIS for the following reasons:

- Alternative 1. This alternative would produce a substantially greater displacement of cultivated fields. It would displace approximately 56.2 ha (139 acres), while the alternative with the next largest impact, Alternative 3, would displace approximately 32.6 ha (81 acres), 42 percent less.

- Alternative 3. This alternative was eliminated because of its poorer operational aspects, particularly at its mauka terminus at the intersection of Haleakala Highway

and Pukalani Bypass Highway where there is a seven percent grade. Because of this steep grade, a very long left turn storage lane would be required for makai-bound traffic on Haleakala Highway turning left onto Kihei-Upcountry Highway. The length of this left turn lane, plus the proximity of the two intersections, would cause a conflict in turning movements. Furthermore, this alternative scored a four (4) in terms of displacement of cultivated acreage.

Table 2-8
Tier Two Screening

Criteria	Alternative					
	1	2B	2C	3	4B	5
Adverse Agricultural Impact						
Score	5	3	3	4	3	2
Encroachment (hectares)	56.2	27.1	27.1	32.6	21.6	13.3
Cost						
Score	3	2	3	2	2	1
Estimated Cost ($ millions)	57	47	57	54	52	40
Conformance with Community Plans						
Kihei-Makena	Y	Y	Y	Y	Y	P
Makawao-Pukalani-Kula	N	N	N	N	N	N
Highway Operations	B	B	B	W	B	B
Potential Impact to Endangered & Threatened Species	1	1	2	2	3	5
Enhancement of Access to HHL	W	W	B	W	W	W
Visual Impacts						
Score	3	1	2	2	2	1
Est. Earthmoving (millions of cubic meters)	2.1	1.4	1.7	1.9	1.8	1.4

Notes: B: Better Y: Yes
P: Poor N: No
W: Worse

Source: Warren S. Unemori Engineering, Inc. and Parsons Brinckerhoff Quade & Douglas, Inc., January 1997

Alternatives 2B, 2C, 4B and 5 passed the screening evaluation for the following reasons:

- Alternative 2B. The advantages of Alternative 2B are its cost (the second cheapest alternative) and its relatively minimal environmental impacts in those disciplines selected for the screening analysis. Although this alternative scored a three (3) in the agricultural impact criterion, the alignment was coordinated with HC&S to minimize adverse impacts to their sugarcane operations.

- Alternative 2C. Since this alternative is similar to Alternatives 2B and 4B, it too passed the Tier Two screening. The major disadvantage of this alternative, in comparison to these other two alternatives, is its cost (21 percent greater than Alternative 2B and 10 percent greater than Alternative 4B). Its advantages are that it is the only remaining alternative that may facilitate access to the HHL parcel, and it provides another Kihei terminus option (Alternatives 2B, 4B and 5 all have the same Kihei terminus at Kaonoulu Street).

- Alternative 4B. This alternative compares favorably against other alternatives regarding cost, impacts to cultivated fields and visual environment. It scores relatively high (3) under the "potential impact to endangered and threatened species" criterion. However, because the botanical reconnaissance was done from the air and because there is some latitude in modifying alternatives to avoid sensitive locations, this moderately high score did not warrant eliminating this alternative at this stage.

- Alternative 5. The primary benefits of this alternative are its cost (the least expensive alternative) and it would have the least impact on cultivated fields. The disadvantages of this alternative are its higher probability of encountering endangered species habitats, and its "P" (poor) score in regards to conformance to the Kihei-Makena Community Plan (1998). However, these factors did not warrant eliminating this alternative.

In general, the alternatives passing Tier Two would generate comparatively fewer adverse environmental impacts in the topics selected for the screening analysis, and would not

present operational difficulties interfacing with the existing roadway network. Only one of the passing alternatives would facilitate access to the HHL parcel.

2.2.1.4 Conclusion

The four alternatives that passed the screening analysis (2B, 2C, 4B and 5) were recast as combinations of mauka and makai segments. By combining their two Kihei terminus choices with their three Upcountry terminus choices, it became possible to generate six alternatives comprised of common roadway segments.

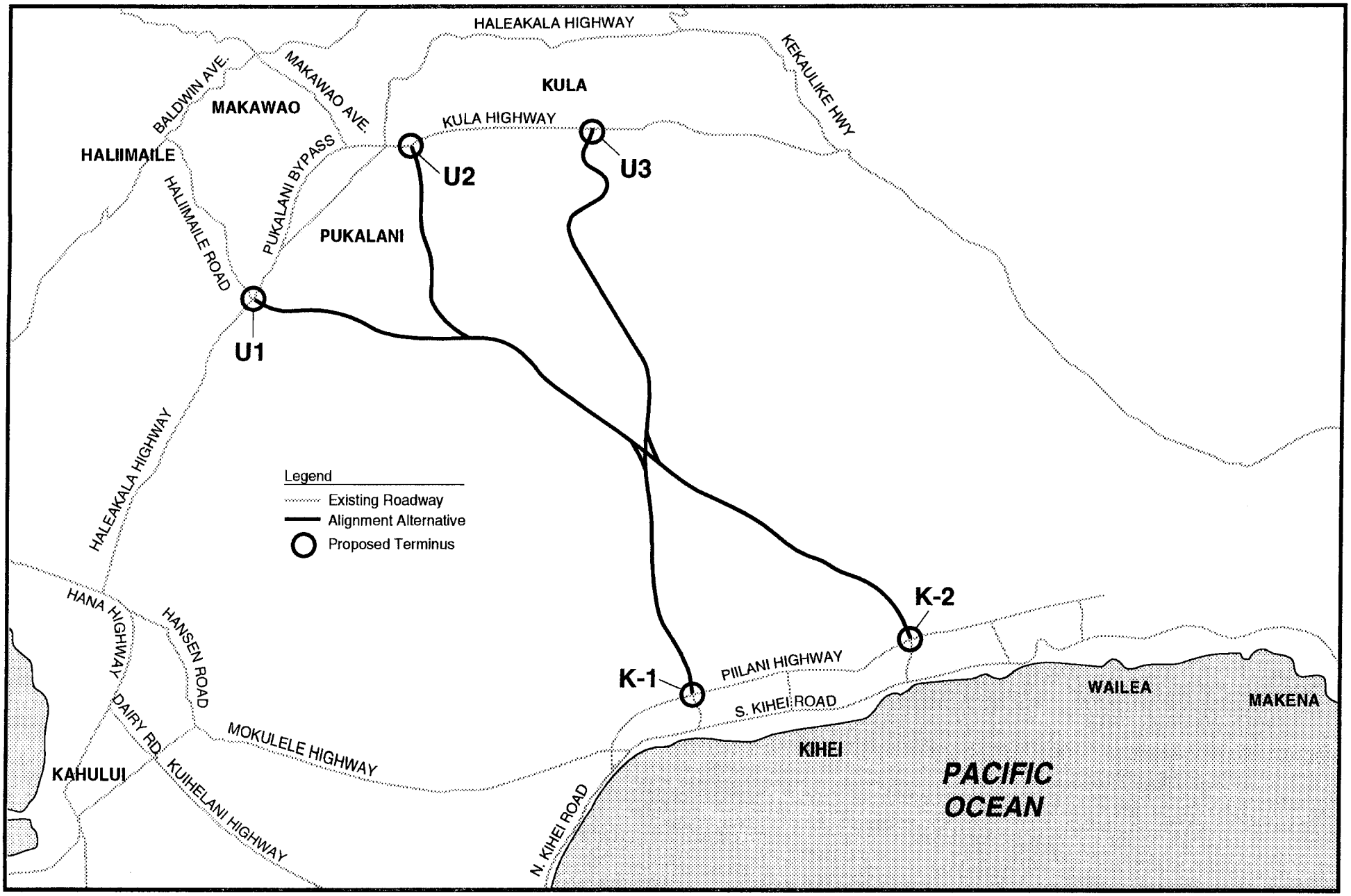
Figure 2-9 shows the Upcountry and Kihei termini choices and the alignment segments that would be used by the six alternatives. As shown on this figure, the Kihei termini and segments were named K1 and K2, and the Upcountry termini and segments were named U1, U2 and U3.

2.2.2 MODIFICATION OF SEGMENT U2

Following selection of the six alternatives described in Section 2.2.1.4, it was discovered that the eastern (mauka) portion of Segment U2 would bisect a Kamehameha Schools / Bishop Estate campus (portions of the campus have been developed). Furthermore, the U2 alignment would potentially affect two archaeological sites that were likely to require preservation (see Section 3.10.2). Therefore, the following four variations to the U2 described in Section 2.2.1.4 were developed (see Figure 2-10):

- U2-A. This modification would shift the U2 terminus 685 m (2250 ft) north to the Pukalani Bypass / Haleakala Highway / Kula Highway "Five Trees" Intersection. The Haleakala Highway (Pukalani side) leg of this intersection would be modified to join Pukalani Bypass north of the "Five Trees" intersection.

- U2-B. This modification would maintain the original U-2 terminus on Kula Highway. It would shift the alignment to the north, running along the northern boundary of the Kamehameha School campus and a future commercial district that would be located west (makai) of Kula Highway.



Source: Warren S. Unemori Engineering, Inc., January 1997

GRAPHIC SCALE:

N

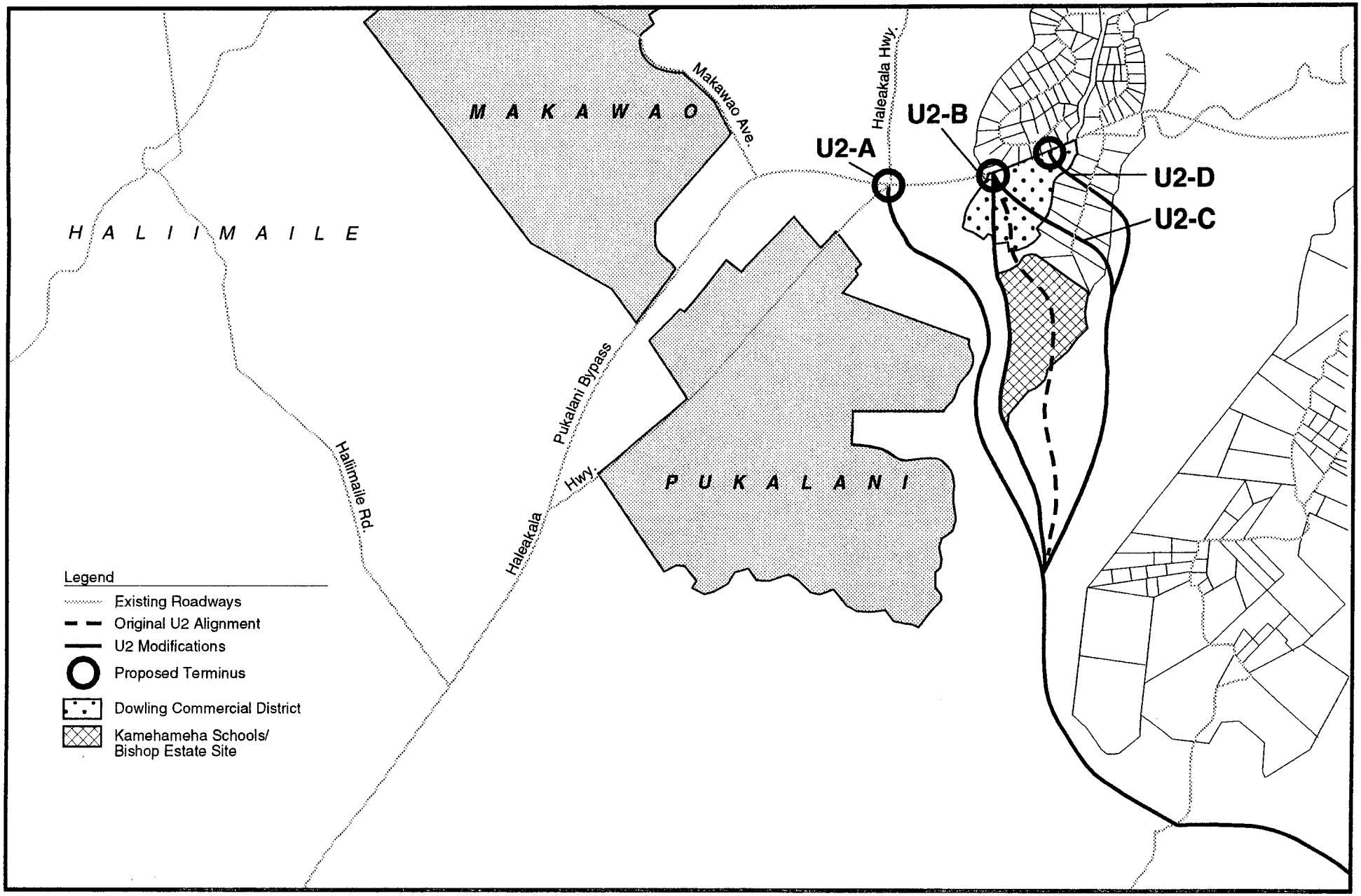
0 1 km 2 km 3 km 0 1 mi. 2 mi.

Alternatives Selected Following Screening Analysis

KIHEI-UPCOUNTRY MAUI HIGHWAY

Final Environmental Impact Statement

FIGURE 2-9



Source: Warren S. Unemori, Engineering, January 1998

GRAPHIC SCALE:

0 .5 km 1 km

0 .25 mi. .5 mi.

Modifications of Segment U2
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 2-10

- U2-C. This modification is similar to U2-B in maintaining the original U-2 terminus on Kula Highway. However, instead of shifting the alignment to the north, it would shift the alignment to the south, bisecting a pineapple field and two vacant agricultural lots in the Kula Estates subdivision.

- U2-D. This modification is similar to U2-C. However, instead of terminating at the original U-2 terminus, it would terminate at the intersection of Kula Highway and Ohana Street, one of the access roads to the Kula 200 residential subdivision, 335 m (1100 ft) south of the original U2 terminus. It would also bisect the pineapple field and two different agricultural lots in the Kula Estates subdivision.

Table 2-9 compares the four alternative modifications to U2 against ten criteria based on design and engineering considerations.

U2-A has several advantages over the other U2 options, including: termination at an established signalized intersection; a 6.8 percent maximum grade; no residential displacements with proper advance planning and coordination; minimal proximity impacts (air quality and noise) to the Kamehameha School campus, which opened in August 1999; and conformance with future widening of Pukalani Bypass. The disadvantage of this alternative is that it would have the highest right-of-way cost because of its length through urban designated land.

U2-B is the suggested alignment of the Kulamalu master plan, a future commercial, housing and institutional development just south (mauka) of Pukalani (see Section 3.1.3). Therefore, U2-B would be consistent with this development, and the private developer would not have to modify its master plan and has offered to donate the right-of-way. U2-B's disadvantage is that it does not meet AASHTO's recommended seven percent maximum grade for a limited access rural highway. U2-B's maximum grade is 10 percent. All the other U2 modifications (U2-A, U2-C and U2-D), alignment alternatives (U1, U3, K1 and K2), and federal-aid highways in the project vicinity (Haleakala Highway, and Pukalani Bypass) meet this criterion.

U2-C and U2-D require little or no right-of-way acquisition in State urban designated land, minimizing their right-of-way costs. The disadvantages common to both alternatives are

Table 2-9
Comparison of U2 Modifications

Criterion	Alternative Modification			
	U2-A	U2-B	U2-C	U2-D
Maximum Grade	6.8%	10.0%	6.8%	6.8%
Number of Bridges	1	1	1	1
Length of Bridge Required	76 m (250 ft)	215 m (700 ft)	76 m (250 ft)	76 m (250 ft)
Maximum Pier Height	20 m (65 ft) ±	32 m (105 ft) ±	11 m (35 ft) ±	11 m (35 ft) ±
Number of Gulch Crossings	3	3	5	6
Maximum Height of Fill	17 m (55 ft)	15 m (50 ft)	21 m (70 ft)*	21 m (70 ft)
Maximum Height of Cut	9 m (30 ft)	11.5 m (38 ft)	12 m (40 ft)*	12 m (40 ft)
Length Through State Urban Land	2100 m (6900 ft)	1740 m (5700 ft)	460 m (1500 ft)	0
Distance from Kamehameha School Campus	120 m (400 ft)	Abuts Northern Boundary	106 m (350 ft)	106 m (350 ft)
Distance from Kula Highway/ Haleakala Highway Intersection	0	685 m (2250 ft)	685 m (2250 ft)	1020 m (3350 ft)

Note: * Includes the 900 m (3000 ft) of roadway already constructed for Kulamalu development.

Source: Warren S. Unemori Engineering, Inc., May 1997

adverse impact to two vacant agricultural lots in the Kula Estates subdivision and an active pineapple field, and bisection of a future commercial site that is inconsistent with site's master plan.

In conclusion, U2-A and U2-B were selected as the preferred U2 option. U2-A's operational advantage (termination at an established signalized intersection) outweighed its higher right-of-way cost. U2-B was selected because of its consistency with Kulamalu development.

2.2.3 ADJUSTMENTS TO PROJECT ALTERNATIVES

The results of archaeological reconnaissance surveys (see Section 3.10.2) required the re-alignments of Segments U2-A and U3. The U2-A and U3 alignments shown on Figure 2-5 avoid direct impacts to all significant archaeological sites found during the surveys. For more information, see Section 3.10.2.

The results of the archaeological inventory survey on the preferred alternative (see Section 3.10.3) required the realignment of the highway at Waiakoa Gulch to avoid potentially affecting petroglyphs approximately 15 m (50 ft) to the west of the alignment's centerline. The alignment was shifted 45 m (150 ft) to the east.

2.2.4 SELECTION OF THE PREFERRED ALTERNATIVE

Following public release of the Draft EIS on August 8, 1999, a public and agency review period followed, which lasted to October 14, 1999. During this period, the public and government agencies provided a great deal of information on the facts and analyses presented in the Draft EIS, as well as opinions about which alternative was preferred by the commenter. The Draft EIS public and agency review process is described in more detail in Chapter 5.

The SDOT and FHWA reviewed and considered all of the information provided during the Draft EIS review period, which helped in the selection of the preferred alternative. The No Build alternative was not included in this analysis because it remains a viable alternative until

the Record of Decision is issued by FHWA. In the selection process, the following criteria were used:

- cost;
- transportation performance;
- agricultural impact; and
- consistency with community plans.

These criteria were found to be relevant and useful in discriminating among the build alternatives. This does not mean that other criteria that were considered, which are listed below, are not important. They were not selected because they did not help in drawing distinctions among the build alternatives. Chapters Three and Four include discussions of these environmental resources and potential impacts from Kihei-Upcountry Maui Highway.

- residential and business displacement
- traffic safety
- parks and recreational impacts
- threatened and endangered species impacts
- flora and habitat displacement
- energy impacts
- air quality and noise impacts
- changes to visual and aesthetic conditions
- geological and site contamination impacts
- employment and economic effects
- provision of bicycle and pedestrian facilities
- historic, archaeological, and traditional cultural properties / practices impacts

2.2.4.1 Cost Comparison

The estimated capital cost comparison of Build alternatives (right of way and construction) is reported in Sections 2.1.4. The ranking of the alternatives from least to most costly is provided below.

1. U3,K1
2. U1,K1
3. U3,K2
4. U2-B,K1
5. U2-A,K1
6. U1,K2
7. U2-B,K2
8. U2-A,K2

2.2.4.2 Transportation Performance

The transportation performance of the alternatives was determined by evaluating how well they would serve major travel markets, and their traffic impacts on the regional roadway system.

2.2.4.2a Travel Markets

The major travel markets that would be served by a Kihei-Upcountry Maui Highway include travel between:

- Upcountry - Kihei;
- Upcountry - West Maui;
- Maui R&T Park - Science City; and
- Emergency evacuation from South Maui.

Other travel markets, such as local circulation in Kihei or Upcountry, and commuter travel to Wailuku/Kahului, would not be directly served by a Kihei-Upcountry Maui Highway, although these travel markets could be indirectly affected by decreases in overall congestion and an increase in the capacity of the regional roadway system. Such indirect impacts were considered under traffic impacts.

Several assumptions were used to evaluate how well each alternative would serve these major travel markets. First, the evaluation considered the distance between the proposed termini and major residential centers and commuter destinations. For example, the U3 terminus is not near a major population center, and therefore, would not serve travel markets as effectively as the other three Upcountry termini. Second, travel between the Maui R&T Park and Science City would be most convenient via a U2-A or U2-B alignment, and moderately convenient via U1 and U3. The choice of a Kihei terminus for this travel market would not have much impact on the effectiveness of the route. Third, K2 would not serve the Upcountry

– West Maui travel market due to its location in South Kihei. On the other hand, K2 would provide a better evacuation route for South Maui because of its physical separation from the existing evacuation route through North Kihei.

The ranking of the alternatives in terms of effectiveness in serving the major travel markets (in decreasing order of effectiveness) is as follows:

1. U2-A,K1 and U2-B,K1 (tie);
2. U1,K1, U2-A,K2 and U2-B,K2 (tie);
3. U1,K2; and
4. U3,K1 and U3,K2 (tie).

The U2-A,K1 and U2-B,K1 alternatives were considered equal in terms of their effectiveness in serving the target travel markets because their Upcountry termini are relatively close to one another. Both alternatives would serve the Upcountry travel markets to and from Kihei-Makena and West Maui, and both would facilitate travel between the Maui R&T Park and Science City. However, these alternatives would only moderately improve evacuation capacity from Kihei.

The U2-A,K2 and U2-B,K2 alternatives were also considered equal in effectiveness in serving the target travel markets. Both alternatives would serve the Upcountry – Kihei travel market, and facilitate travel between the Maui R&T Park and Science City. However, these alternatives would not serve the Upcountry – West Maui travel market.

The U1,K1 alternative was evaluated as being approximately equal in effectiveness in serving travel markets to the U2-A,K2 and U2-B,K2 alternatives. It would serve the both the Upcountry travel markets to and from Kihei and West Maui, and serve moderately well travel between the Maui R&T Park and Science City, and provide some South Maui evacuation capacity.

The U3 alternatives (K1 and K2) were evaluated as being the least effective in serving the target travel markets. They would serve the Upcountry – Kihei travel market and travel between the Maui R&T Park and Science City only moderately well. The K1 alignment would serve the Upcountry – West Maui travel market only moderately well because of its Upcountry

terminus being so far from population centers. The K2 alignment would only marginally serve this market. The K2 alignment would, however, provide the better South Maui evacuation capacity because of the proximity of K1 to the existing evacuation route.

2.2.4.2b Regional Traffic Impacts

Three primary traffic impacts may result from the Kihei-Upcountry Maui Highway:

- reduction in traffic volumes on Haleakala Highway (in comparison to the No Build);
- increase in the amount of through traffic on Omaopio and Pulehu Roads; and
- increase in the amount of through traffic on local Kula residential roads.

Although many public comments stated a perception that the U2-A alternatives would adversely affect traffic operations and safety at the Haleakala Highway / Kula Highway, or "Five Trees" intersection, all proposed alternatives would provide terminus intersections with appropriate capacity and channelization for turning and through movements, signalization, sidewalks, crosswalks and other safety and pedestrian and vehicular traffic capacity features. Therefore, an adverse impact at the Five Trees intersection is not anticipated, and was not considered in the evaluation.

Public comments on the Draft EIS also indicated the mistaken belief among Pukalani residents that there would be a direct connection between the U2 (A or B) alternatives and Pukalani Terrace. These commentors were concerned about traffic passing through their neighborhood to access Kihei-Upcountry Maui Highway if a U2 alternative were selected. Since this impact would not occur under a U2 alternative, the evaluation of regional traffic impacts did not consider this issue.

The ranking of the alternatives in terms of their potential regional traffic impacts is as follows:

1. U2-A,K1, U2-A,K2, U2-B,K1 and U2-B,K2 (tie);
2. U1,K1 and U1,K2 (tie); and
3. U3,K1 and U3-K2 (tie).

The U2 (A and B) alternatives were considered to have the most favorable and least adverse regional traffic impacts. First, the U2 alignments would give Pukalani, Kulamalu, and

Makawao residents two choices for traveling between Upcountry and the coastal areas (Haleakala Highway or Kihei-Upcountry Maui Highway). Therefore, traffic volumes on Haleakala Highway would decrease, thereby improving operations on this highway. The U2 alternatives would also not affect Kula residential roads because their termini are at or near the Five Trees Intersection. However, it is anticipated that some of the motorists traveling between Kula and Kihei would use Omaopio and Pulehu Roads as an access route to the new highway, instead of traveling to either the U2-A or U2-B terminus. This was seen as the only adverse regional traffic impact of the U2 alternatives.

Like the U2 alternatives, the U1 alternatives would not affect the Kula residential roads because of the large distance between the U1 terminus and Kula. Also like the U2 alternatives, some motorists would use Omaopio and Pulehu Roads as a through route to access the new highway. More motorists would use Omaopio and Pulehu Roads as shortcuts with the U1 alternatives than under the U2 alternatives because the shortcut would save more time with the U1 alignment.

In comparison to the U2 alternatives, the U1 alternatives would not reduce the traffic volume on Haleakala Highway between Makawao Avenue and Haliimaile junction. During the morning peak period, all makai bound traffic would travel along this section of Haleakala Highway under the U1 alternatives. The U2 alternatives would remove a portion of this makai bound traffic, switching them to the less congested mauka bound direction to the U2 terminus. The opposite would occur during the afternoon peak period. Therefore, operations on Haleakala Highway would be worse with the U1 alternatives than with the U2 alternatives.

The regional traffic impacts of the U3 alternatives would include motorists using the residential roads between Haleakala Highway and Kula Highway inappropriately as a through route. Also, the U3 alternatives would only moderately reduce traffic volumes on Haleakala Highway, and not to the extent of the U2 alternatives. However, unlike the U1 and U2 alternatives, the U3 alternatives would not encourage motorists to use Omaopio and Pulehu Roads as a through route.

2.2.4.3 Agricultural Impacts

Because the potential alignments traverse agricultural areas over most of their length, and the agricultural parcels are very large, substantial adverse environmental impacts are not anticipated. None of the alternatives would bisect or pass immediately adjacent to existing residential communities, or require business or residential relocations. There are no threatened or endangered floral species along the alternative alignments. None of the alignments would traverse or be near a critical habitat, valuable water body or wetland. Archaeological sites were found within the corridors, but the alignments were modified to avoid the significant sites requiring preservation. The land uses that would sustain significant adverse impacts from the proposed highway are agricultural and ranching activities. Since the level of this impact varies by alternative, these impacts were evaluated to determine the differences between alternatives.

Total land evaluation and site assessment scores from Form AD-1006, which are calculated by the U.S. Department of Agriculture and FHWA (see Section 4.2.3), were used to assess the difference in agricultural impact between the alternatives. In accordance with the Farmland Protection Policy Act, this form is used to determine whether alternatives that avoid farmland impacts need to be considered. The threshold land evaluation and site assessment score for this determination is 160 points. None of the alternatives reached 160 points, but scores ranged between 137 and 151 points. Based on the land evaluation and site assessment scores, the alternatives were ranked in the following manner (from least adverse agricultural impact to most):

1. U3,K2: 137 points;
2. U2-B,K1 and U2-B,K2 (tie): 139 points;
3. U3,K1: 140 points;
4. U2-A,K1: 141 points;
5. U2-B-K2: 142 points;
6. U1,K2: 148 points; and
7. U1,K1: 151 points.

As shown in these rankings, the land evaluation and site assessment scores generally decrease from U1 to U3. The Kihei terminus options were not as influential in the scores. The U1 alternatives had the highest scores (most adverse impact) because they would traverse a large parcel of sugarcane land and a pineapple field. Therefore, the agricultural impacts of the U1 alternatives would be most severe.

2.2.4.4 Community Plan Preference

The Kihei-Makena and Makawao-Pukalani-Kula Community Plans provided divergent positions regarding Kihei-Upcountry Maui Highway. The Kihei-Makena Plan supported a highway providing improved access to Upcountry. While not identifying preferred locations for an Upcountry or Kihei terminus, the Plan indicated a preference for an alignment that connects major population centers and travel destinations ("trip attractors" and "trip generators"). In its assessment of a transportation link with the Upcountry area, the Kihei-Makena Plan stated "[t]he focus should be on improving transportation services for island residents and thus the chosen route should be located to minimize travel times for the maximum number of island residents." This statement was interpreted in the following manner:

- the U3 alternatives, with a terminus relatively far from the population center of Upcountry, would not fulfill this objective statement;
- the U1 and U2 alternatives are clustered in a higher population area near Pukalani, Makawao and Haliimaile; and
- although there is not much difference between the K1 and K2 alignments in terms of proximity to the center of Kihei, the K1 alignment would be favored because it would serve the West Maui region, thereby helping to decrease travel times for the greatest number of travelers.

Unlike the Kihei-Makena Plan, the Makawao-Pukalani-Kula Community Plan clearly states that the Kihei-Upcountry Maui Highway is undesirable. However, the Plan also stated that given no other recourse, a U1 terminus is preferred. A preference for the Kihei terminus was not specified. It is therefore assumed that, if constrained to select a Build alternative, a U1 alternative would be most consistent with the Makawao-Pukalani-Kula Community Plan.

In combining the preferences inferred from the two relevant community plans, the following ranking was determined (from most favored to least):

1. U1,K1;
2. U1,K2, U2-A,K1 and U2-B,K1;
3. U2-A,K2 and U2-B,K2; and
4. U3,K1 and U3,K2.

The U1,K1 alternative rated the highest in terms of community preference. First, this alternative serves population, employment and visitor centers, an objective of the Kihei-Makena Community Plan. In particular it would serve West Maui travel markets. Second, the Upcountry terminus would be at the preferred terminus stated in the Makawao-Pukalani-Kula Community Plan, U1.

The U1,K2 and U2 alternatives were all rated second and third in terms of community preference. All of these alternatives would serve population, employment and visitor centers. However, the U1,K2 alternative was marked down by having a Kihei terminus at K2, which would not serve West Maui. The U2 alternatives would have an Upcountry terminus in an area not favored in the Makawao-Pukalani-Kula Community Plan.

The U3 alternatives rated the worst in terms of community preference. Not only would these alternatives not serve population, employment and visitor centers, but the Upcountry terminus would be located in an area not favored in the Makawao-Pukalani-Kula Community Plan.

2.2.4.5 Conclusion and Selection of Preferred Alternative

The Build alternatives were compared using cost, transportation performance, agricultural impacts and community plan preference criteria. The purpose of this comparison was to help identify a preferred build alternative. The No Build alternative did not enter into this analysis because it remains a viable alternative until the Record of Decision is issued by FHWA. Other criteria were considered for the evaluation but were not used because, while important, they did not differentiate between the alternatives.

In evaluating the transportation performance of the alternatives, all the U3 and K2 alternatives were eliminated from further consideration. The U3 terminus is located about 6 km (4 miles) from the Upcountry population centers and would therefore serve the target travel markets poorly. The K2 alternatives would not serve the Upcountry – West Maui travel market, and is therefore, at a severe disadvantage to the K1 alternatives. The benefit of K2's superior evacuation potential for South Maui did not override the disadvantage of not serving the Upcountry - West Maui travel market. The U2-A and U2-B alternatives, with a slight edge to the U2-A alternatives because of their direct connection to the Five Trees intersection, were judged to be superior to the U1 alternatives in transportation performance. These alternatives would best serve the target travel markets and maximize congestion- relief on Haleakala Highway. The top-ranking alternatives from the perspective of transportation performance are: 1) U2-A, K1; 2) U2-B,K1; and 3) U1,K1. All the other alternatives were eliminated from further consideration.

The U1,K1 alternative would be the least expensive to construct among the three alternatives remaining. However, the costs of the three remaining alternatives are within 7 percent of one another, and therefore, unlike transportation performance, was only a minor factor in the decision to select the preferred alternative.

The U2-A and U2-B alternatives would have less of an adverse impact on agriculture than the U1,K1 alternative. However, Alexander & Baldwin (see Draft EIS Comments and Responses), the parent company of Hawaiian Commercial and Sugar Company, indicated a willingness to work with the SDOT on appropriate mitigation to lessen the impact to their agricultural operations. Therefore, agricultural impacts became less of a factor in the identification of the preferred alternative.

The U1,K1, U2-A,K1 and U2-B,K1 alternatives would all be consistent with the Kihei-Makena Community Plan. Therefore, this Plan does not help discriminate among the remaining alternatives. On the other hand, the Makawao-Pukalani-Kula Community Plan indicated a strong preference for a U1 alternative. This preference for U1 was repeated by several Upcountry commentors, each asking that the project respect the preference stated in their community plan. The Makawao-Pukalani-Kula Community Plan preference for a U1 alternative

was highly influential, and became the major determining factor that led SDOT and FHWA to select the U1,K1 alternative as the preferred alternative.

CHAPTER THREE

Affected Environment

CHAPTER 3
AFFECTED ENVIRONMENT

This chapter describes the existing environmental conditions in the project area. Impacts of the proposed Kihei-Upcountry Maui Highway project on these conditions are discussed in Chapter 4.

3.1 LAND USE

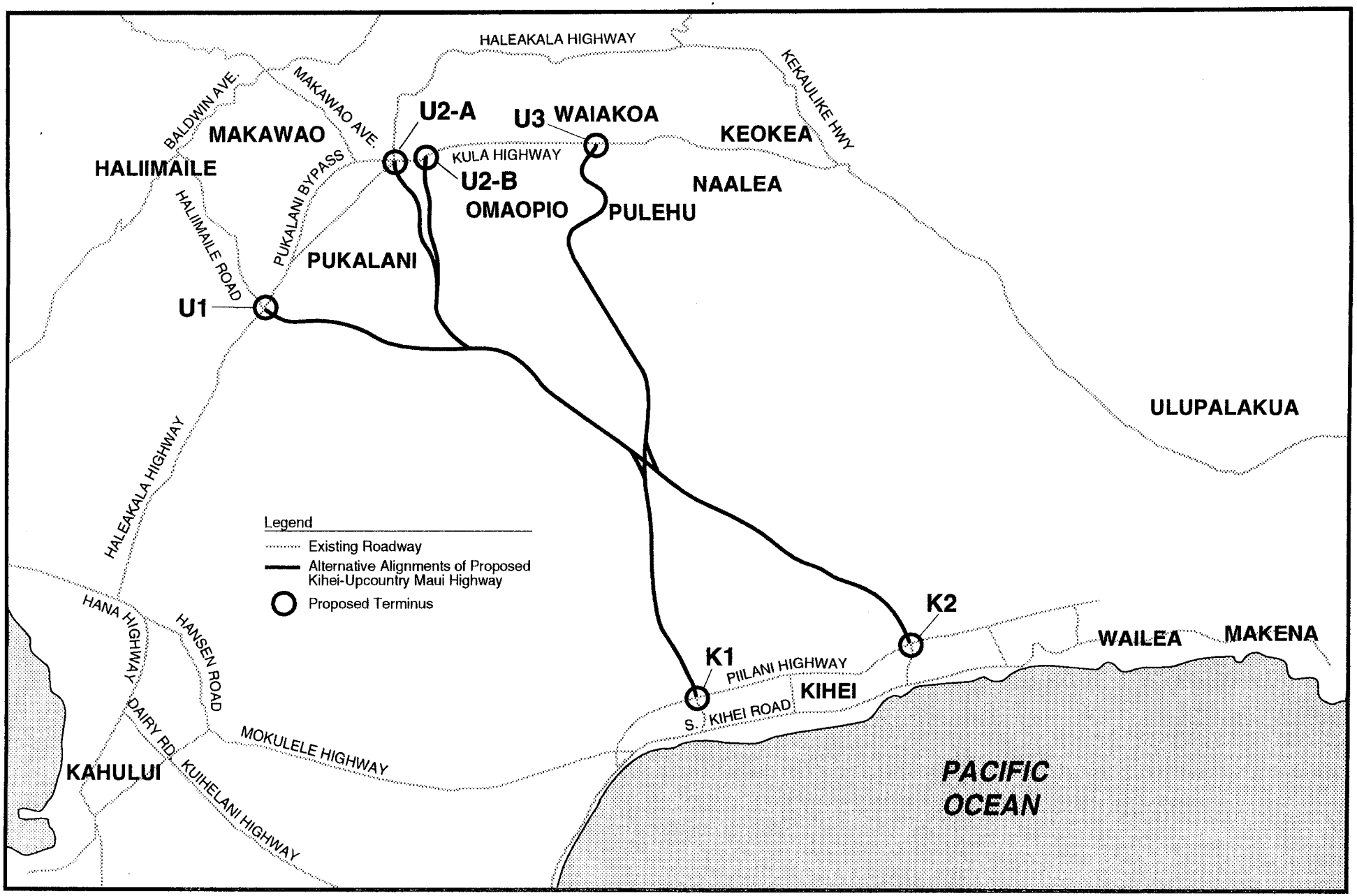
3.1.1 REGIONAL SETTING

The County of Maui consists of four major islands, Maui, Lanai, Kahoolawe, and most of Molokai (Kalawao, located on the northern side of Molokai, is officially designated a separate county). The county is the second largest in the State with a total land area on four islands of 4190 km^2 (1,160 square miles), and it ranks third in population (estimated 122,000 in 1999). Maui island is the second largest in the Hawaiian Archipelago, with an area of approximately 1890 km^2 (729 square miles).

The project would be located on Maui island between the coastal community of Kihei-Makena and an area on the western slope of Haleakala known as Upcountry Maui (see Figure 1-1). Defined neighborhoods or communities in the vicinity of the proposed project include Makena, Wailea, Kihei, Pukalani, Haliimaile, Makawao, and the Kula communities of Omaopio, Pulehu, Naalea, Waiakoa and Keokea. The locations of these neighborhoods and communities are shown on Figure 3-1.

3.1.2 EXISTING LAND USES

The Kihei-Makena region is comprised of the urban mixed-use community of Kihei and the resort land uses of Wailea and Makena. Development of the Kihei-Makena region has occurred primarily because of the phenomenal growth of Maui's visitor industry since the 1960s. Coastal communities in this region are essentially linear, extending from Kaelia Pond



Existing Neighborhoods and Communities
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-1

to Makena. This region is the second largest visitor accommodation area on Maui (behind the Kapalua-Kaanapali-Lahaina region on the western side of the island). Kihei, the largest and most populous of these coastal communities, consists of a wide mix of housing types from single-family to multi-family low to medium density units, small to medium-sized commercial malls, and small to medium sized hotels along South Kihei Road. The Wailea-Makena area is a resort community, similar in size and scale to other resort communities on Maui, such as Kapalua and Kaanapali located in West Maui. In terms of urban design and socio-economic conditions, Wailea-Makena is vastly more "upscale" than Kihei, which is a working class community. Wailea-Makena contains some of Maui's most luxurious condominiums and resort hotels, such as the Grand Wailea Resort & Spa, the Maui Inter-Continental Resort, the Four Seasons Resort, and the Maui Prince Hotel.

The Upcountry Maui communities of Makawao, Pukalani and Haliimaile are a mixture of suburban and rural, with Pukalani being the most suburban of the three. Pukalani and Makawao contain most of Upcountry's commercial land uses. Pukalani's businesses are mostly located along Haleakala Highway and are typical of a suburban community (neighborhood shopping center, convenience stores, small offices, etc.). Businesses in Makawao, centered around the intersection of Makawao and Baldwin Avenues, are generally smaller, more pedestrian-oriented, and some preserve the town's historic architecture. These businesses consist of restaurants, gift stores, and art galleries.

The Kula region contains a mixture of rural and agricultural land uses with human settlement most concentrated at Waiakoa. Single-family residences on lots up to 0.4 ha (1 acre) are generally found between Haleakala Highway/Kekaulike Avenue and Kula Highway. This area and the area west (makai) of Kula Highway are also used for small truck farms and agricultural lots. The small two to four hectare (five to ten acre) farms produce vegetables, such as the famous Maui onions, and flowers. Large-scale sugarcane and pineapple activities extend from the west slopes of Haleakala, generally west (makai) of the small truck farms, to central Maui. Cattle ranching occurs in the area east (mauka) of Haleakala Highway/Kekaulike Avenue, and on the lower west and south slopes of Haleakala. On the summit is Haleakala National Park (see Figure 1-1). The few commercial activities in Kula are primarily along the route to Haleakala National Park and in central Kula around Waiakoa.

3.1.3 PROPOSED DEVELOPMENT PROJECTS

Major proposed development projects in the study area (see Figure 3-2) include:

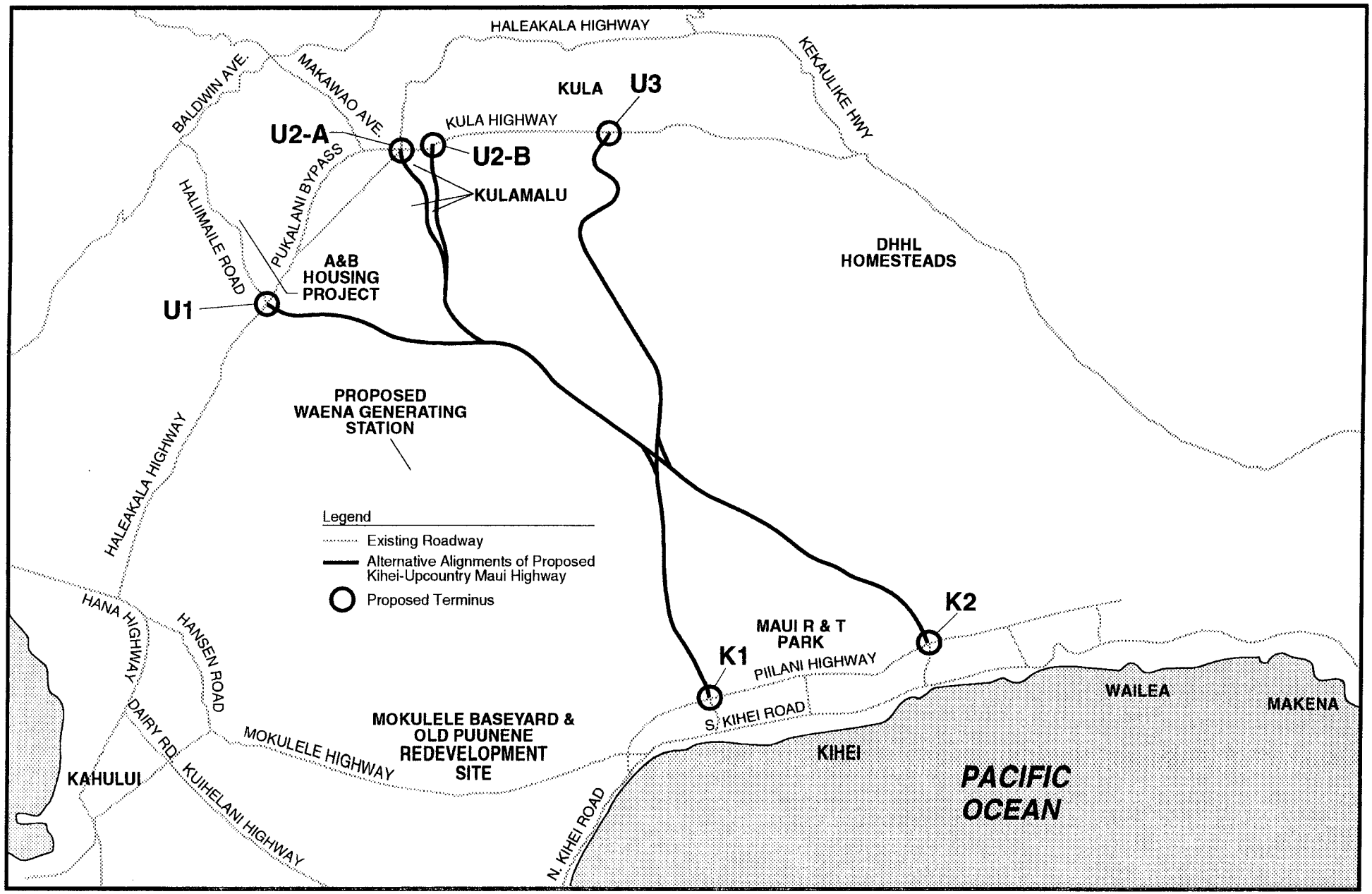
- Kulamalu;
- Alexander & Baldwin housing development in Haliimaile
- Department of Hawaiian Home Lands homesteads in Keokea;
- Maui Research and Technology Park;
- Waena Generating Station;
- Mokulele Baseyard; and
- redevelopment of the old Puunene Airport.

The Kulamalu development is proposed south (mauka) of Pukalani and would consist of 32 ha (80 acres) of single-family housing, 3 ha (7 acres) of multi-family housing, 2 ha (5 acres) of elderly housing, 8 ha (19 acres) of business and commercial uses, 2 ha (5 acres) for an amphitheater, 2 ha (5 acres) for public uses, 6 ha (15 acres) for parks, and 38 ha (94 acres) for a Kamehameha Schools campus. The commercial area would be designed in compliance with Business Country Town design guidelines (Kulamalu Project, Draft Environmental Assessment, April 1997). The U2-B alignment is consistent with the Kulamalu master plan (see Section 2.2.2).

Alexander & Baldwin (A&B) is planning to develop approximately 200 single-family housing units on 27 ha (67 acres) in Haliimaile about 1.6 km (1 mile) from the U1 terminus (intersection of Haleakala Highway and Haliimaile Road). According to A&B, the development is consistent with the Community Plan (see Section 3.4.1.2d), but needs to obtain the proper zoning (telephone conversation on January 31, 2001).

The Department of Hawaiian Home Lands (DHHL) plans to develop homesteads for qualified individuals and families in Keokea. DHHL land holdings are approximately 2450 ha (6,100 acres). Water system and other site improvements to serve a portion of this area will be built over the next two to five years (see Appendix C).

The Maui Research and Technology (R&T) Park, in Kihei east (mauka) of Piilani Highway, is the center of Maui's efforts to develop its high technology industry. Current tenants include



GRAPHIC SCALE:

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Future Development Projects
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-2

the Maui High Performance Computing Center, Boeing-Rocketdyne, Sunsource, the U.S. Air Force, the Pacific Disaster Center, Lockheed Martin, the University of Hawaii, the University of New Mexico, and a number of small companies. Currently about eight percent built-out, the R&T Park may eventually occupy a total of 168 ha (415 acres). Major new industries expected to locate in the park include bio- and medical-technology; arts and entertainment; environmental, earth and ocean sciences; information processing and exchange; defense missions; and education and international training and technology conferencing.

Maui Electric Company, Limited is planning to construct and operate a 232-megawatt electric generating station on a 65 acre parcel along Pulehu Road (see Figure 3-2). The first phase of this project, 58-MW of generating capacity, is scheduled to be completed by the year 2006. The timing of future phases would be dependent on future load growth, power availability from independent power purchase agreements and unit retirements. Site preparation for future phases would be completed in the first phase.

Two parcels on Mokulele Highway, Mokulele Baseyard and the old Puunene Airport site, are being planned for redevelopment (see Figure 3-2). The existing baseyard would be expanded for light industrial use, and the old airport site would be redeveloped for various uses, such as light industrial, a raceway park, recreational facilities, a heliport or a general aviation airport.

3.1.4 GOVERNMENTAL PLANS, POLICIES AND CONTROLS FOR THE AFFECTED ENVIRONMENT

3.1.4.1 Hawaii State Plans and Controls

3.1.4.1a Hawaii State Plan

The Hawaii State Plan (June 1991) consists of comprehensive goals, objectives, policies and priorities in all areas of government functions. These functions include the protection of the physical environment, the provision of public facilities, and the promotion and assistance of socio-cultural advancement.

3.1.4.1b Hawaii State Land Use Controls

Chapter 205, Hawaii Revised Statutes (HRS), relating to the State Land Use Commission (SLUC), regulates land use through classification of State lands into four districts: Urban, Agriculture, Conservation and Rural. The intent of the land classification is to accommodate growth and development while retaining the natural resources of the area. Each district has specific land use objectives and development constraints.

Figure 3-3 shows the State land use districts in the study area. Urban-designated land in the study area is primarily in Kihei-Makena, the Upcountry communities of Pukalani and Makawao, and in relatively small areas in Kula along Kula, Haleakala and Kekaulike Highways. Much of the built-up areas (i.e., residences) in Upcountry have a Rural designation.

The Kihei-Upcountry Highway would traverse Agricultural lands along most of its length. The U2-A and U2-B alternatives would traverse vacant Urban land south of Pukalani, which is being developed as part of the Kulamalu development (see Section 3.1.3). The K1 alternative would pass through vacant Urban land at its terminus at Piilani Highway.

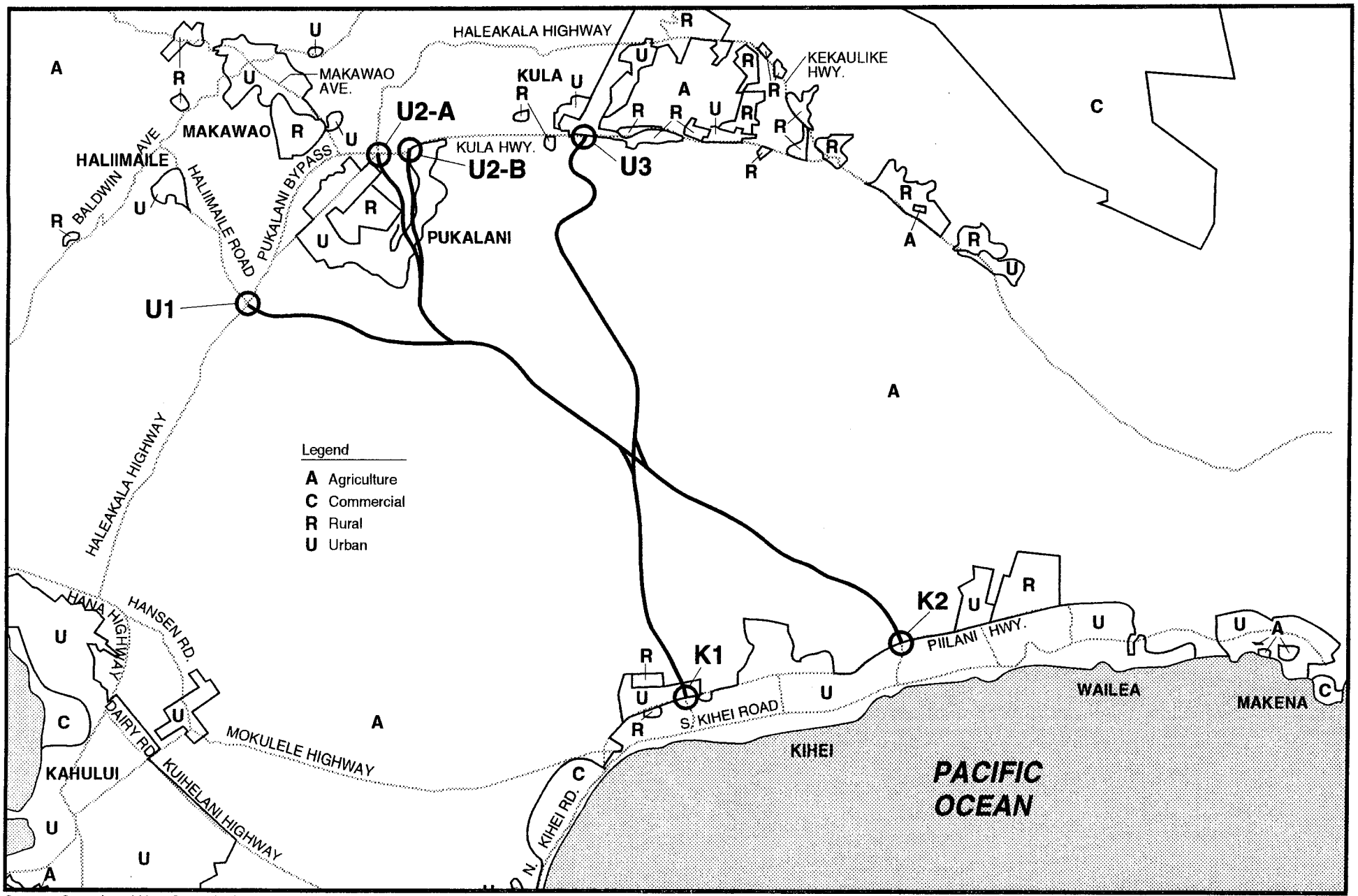
3.1.4.1c Coastal Zone Management Act (CZM) (Chapter 205A, HRS)

The Kihei-Upcountry Highway would be within the State's Coastal Zone Management (CZM) area. The objectives and policies of the Hawaii CZM Program are intended to protect and manage Hawaii's coastal resources. Federally assisted activities affecting Hawaii's coastal zone, such as the Kihei-Upcountry Highway, must be consistent with the CZM objectives and policies.

3.1.4.1d Maui Long Range Land Transportation Plan

The Maui Long Range Land Transportation Plan (February 1997) was prepared through a cooperative effort of the State Department of Transportation and the County of Maui. The Plan serves as a guide for the development of major surface transportation facilities and programs in the County of Maui. It identifies both short-range and long-range (year 2020) strategies and actions that will lead to an integrated intermodal transportation system.

A range of alternative investments in transportation infrastructure was developed to address deficiencies in the transportation system identified during the plan's development. A



Source: State Land Use Commission

GRAPHIC SCALE:

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0 1 mi. 2 mi.

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State Land Use Districts
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-3

methodology to evaluate these alternatives was developed and applied, based on the following criteria:

- congestion relief effectiveness;
- service effectiveness;
- cost effectiveness;
- planning objective effectiveness; and
- environmental impacts (land use, noise, visual, resource conservation, air quality, energy).

Following the evaluation, a list of improvements, including new highways, bypass highways (relief routes), roadway extensions, roadway widening and improvements to intersections (e.g., including signals, reconfigurations and grade separations) were recommended. Among the recommended improvements was an Upcountry-Kihei highway.

3.1.4.2 County of Maui Plans and Controls

3.1.4.2a General Plan

The County of Maui's General Plan 1990 was adopted by Ordinance No. 2039, which took effect on September 27, 1991. The General Plan consists of objectives and policies to meet Maui residents' needs and desires. The following major themes were incorporated in the General Plan: protect Maui County's agricultural land and rural identity; prepare a directed and managed growth plan; protect Maui County's shoreline and limit visitor industry growth; maintain a viable economy that offers diverse employment opportunities for residents; and provide for needed resident housing.

The General Plan's transportation objectives were the following:

1. To support an advanced and environmentally sensitive transportation system which will enable people and goods to move safely, efficiently and economically.
2. To develop a program for anticipating and enlarging the local street and highway systems in a timely response to planned growth.
3. To develop a Maui County Transportation system linked to land use planning that is less dependent on the automobile as its primary mode of moving people.

3.1.4.2b County of Maui Zoning

Zoning in the County of Maui is administered by its Planning Department. Since most of the study area is designated Agriculture by the SLUC (see Section 3.1.4.1b), the County also zones this land Agriculture. The State Urban land in Kihei-Makena is zoned for residential, business and hotel land uses. A portion of the residential land is for higher density apartment uses. In Upcountry, the State Urban lands are mostly in Pukalani and Makawao. In these areas, the County zoning is mostly residential. However, there are areas zoned "business" and "parks", including golf courses. Also, much of the built-up areas in Upcountry have a State Rural designation.

3.1.4.2c County of Maui Special Management Area

Chapter 205A outlines special controls, policies and guidelines for development within the area along the shoreline designated by the 1975 Shoreline Protection Act as the Special Management Area (SMA). This Act gave the counties authority to issue permits for development activities proposed within the SMA. In the study area, the landward limit of the SMA is Piilani Highway (see Figure 3-4).

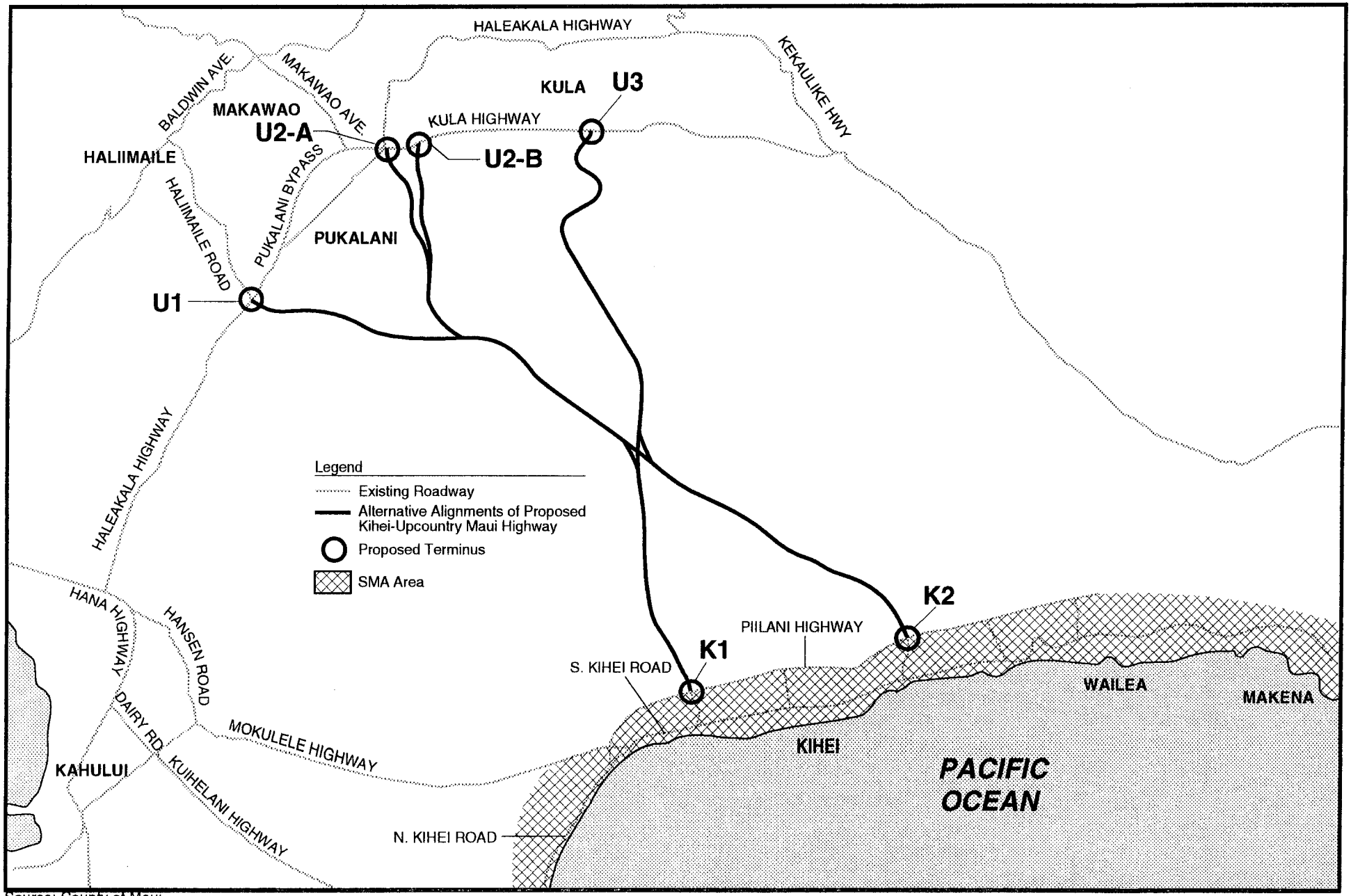
3.1.4.2d Community Plans

The County prepares nine Community Plans to help guide its decisions regarding development. Two of these plans are of relevance to the proposed project--the Kihei-Makena Community Plan (1998) and the Makawao-Pukalani-Kula Community Plan (July 1996). Their planning areas are displayed on Figure 3-5.

Kihei-Makena Community Plan

The Kihei-Makena Community Plan was approved by the County Council and Mayor in early 1998. The Kihei-Makena Plan addressed Kihei-Makena's physical and social infrastructure, emphasizing that community facilities are not keeping up with growth. Therefore, objectives were established to limit hotel and residential development until adequate public facilities and services, such as schools, are established to meet existing needs. The exception to this recommendation is encouragement of appropriate commercial and light industrial activities to diversify the region's economic base.

The Kihei-Makena Plan seeks the following land use patterns:



Source: County of Maui

GRAPHIC SCALE:

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Special Management Area
KIHEI-UPCOUNTRY MAUI HIGHWAY
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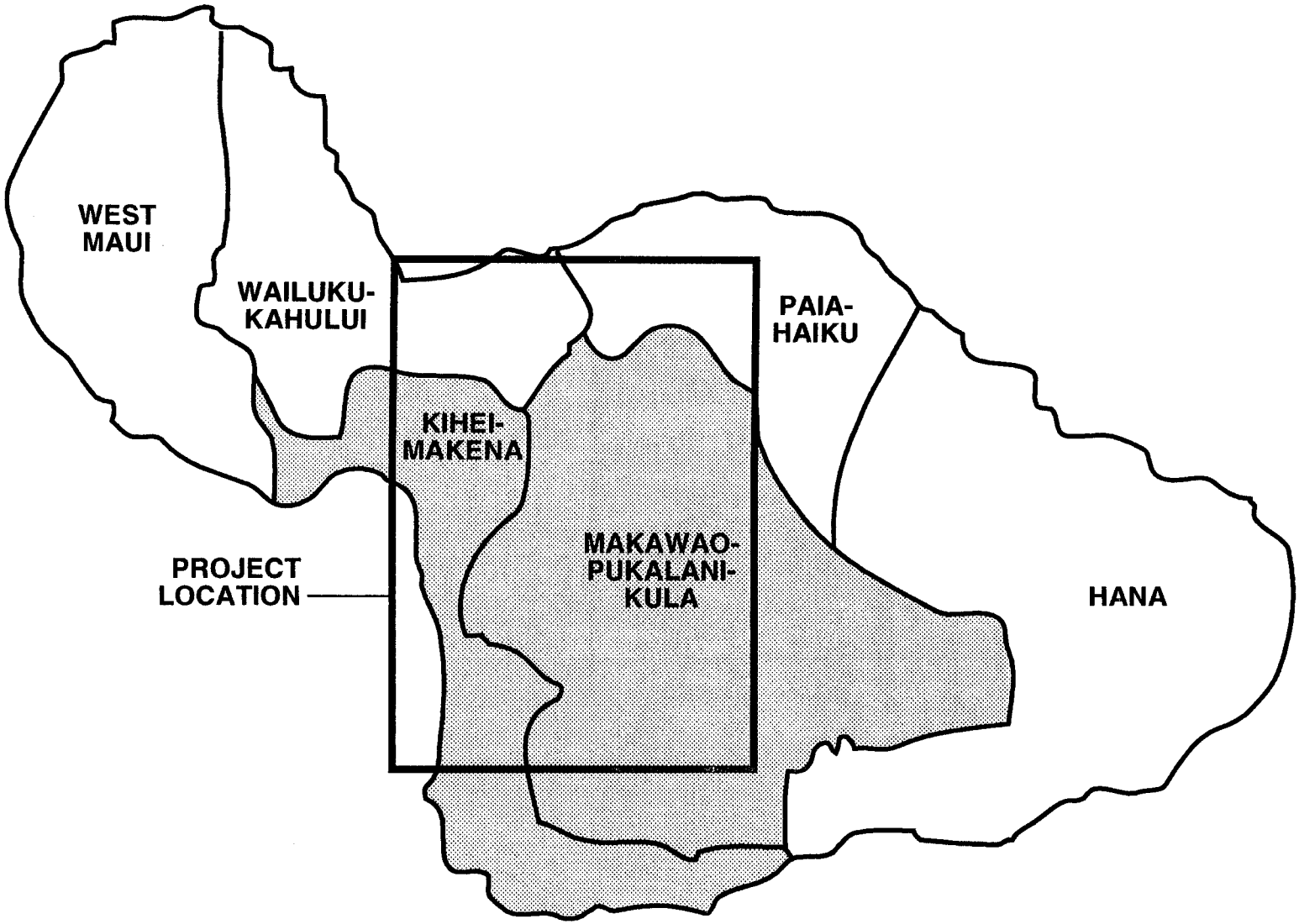
FIGURE 3-4



Note: Community Planning Areas for Molokai, Lanai and Kahoolawe not shown.

Source: County of Maui

N

GRAPHIC SCALE:

0 5 km. 10 km. 0 4 mi. 8 mi.

Community Planning Areas
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-5

- Vacant land between Piilani Highway and South Kihei Road / Kilohana Road to be developed as an urban mix, such as single-family and multi-family residences and commercial land uses (shopping centers, hotels, etc.).
- Limited commercial/light industrial development mauka of Piilani Highway, such as the Kaonoulu parcel and the build-out of the Maui R&T Park.
- Resorts and resort-related activities (some residences, retail, commercial, etc.) to continue to be developed in the resort area of Wailea and Makena.

The Kihei-Makena Plan recommended a transportation connection to the Upcountry area. This connection would save commuter time between the residential area of Upcountry and job centers within the Kihei region. In choosing the alignment for this connection, the Kihei-Makena Plan recommended that preference be given to improving transportation service for the maximum number of residents.

Makawao-Pukalani-Kula Community Plan

The Makawao-Pukalani-Kula Community Plan (July 1996) seeks to protect and enhance the unique qualities of this region through policies and recommendations to expand the region's agricultural base and enhance the rural qualities associated with Upcountry Maui. The Plan seeks to accomplish this by directing growth to already established urbanized centers. For example, Pukalani would be the region's "hub" for business, commercial and housing land uses. Makawao's and Waiakoa's unique town ambiance and Kula's rural and agricultural atmosphere would be maintained. The Community Plan seeks the following land use patterns:

- Agriculture and open space would be maintained.
- Residential growth would be directed to the established urbanized communities of Pukalani, Makawao and Haliimaile.
  - In Makawao:
    * businesses would develop around the established central core; and
    * the country town ambiance would be maintained.
  - In Pukalani:

    * residential growth would be within (in-fill) and to the north (makai) and south (mauka) of the community;
    * multi-family residences (for senior housing in the Kulamalu development) would be consistent with the community's size and character; and
    * Pukalani would be developed as Upcountry's geographic, public service and commercial hub.
  - In Haliimaile:
    * some small-scale commercial uses would serve existing and proposed residences; and
    * limited single-family residential growth would be contiguous with existing residences.
- Small-scale agriculture in Kula, particularly on the west (makai) side of Kula Highway, would be preserved.
- Waiakoa would be developed as Kula's town center:
  - some low density residential uses;
  - some small scale commercial; and
  - no urban sprawl.
- Residences in Kula would generally be allowed between Kula Highway and Haleakala Highway. Lot sizes would be no larger than 0.2 ha (1/2 acre).
- The Keokea area would be developed for homesteads by the Department of Hawaiian Home Lands (DHHL).
- No large-scale retail or heavy industrial land uses.
- Existing communities would remain separated with no in-fill development between communities.

With regards to the proposed project, the Makawao-Pukalani-Kula Community Plan stated a preference for the No Build alternative. If the road is built, however, the Plan recommended the U1 alternatives.

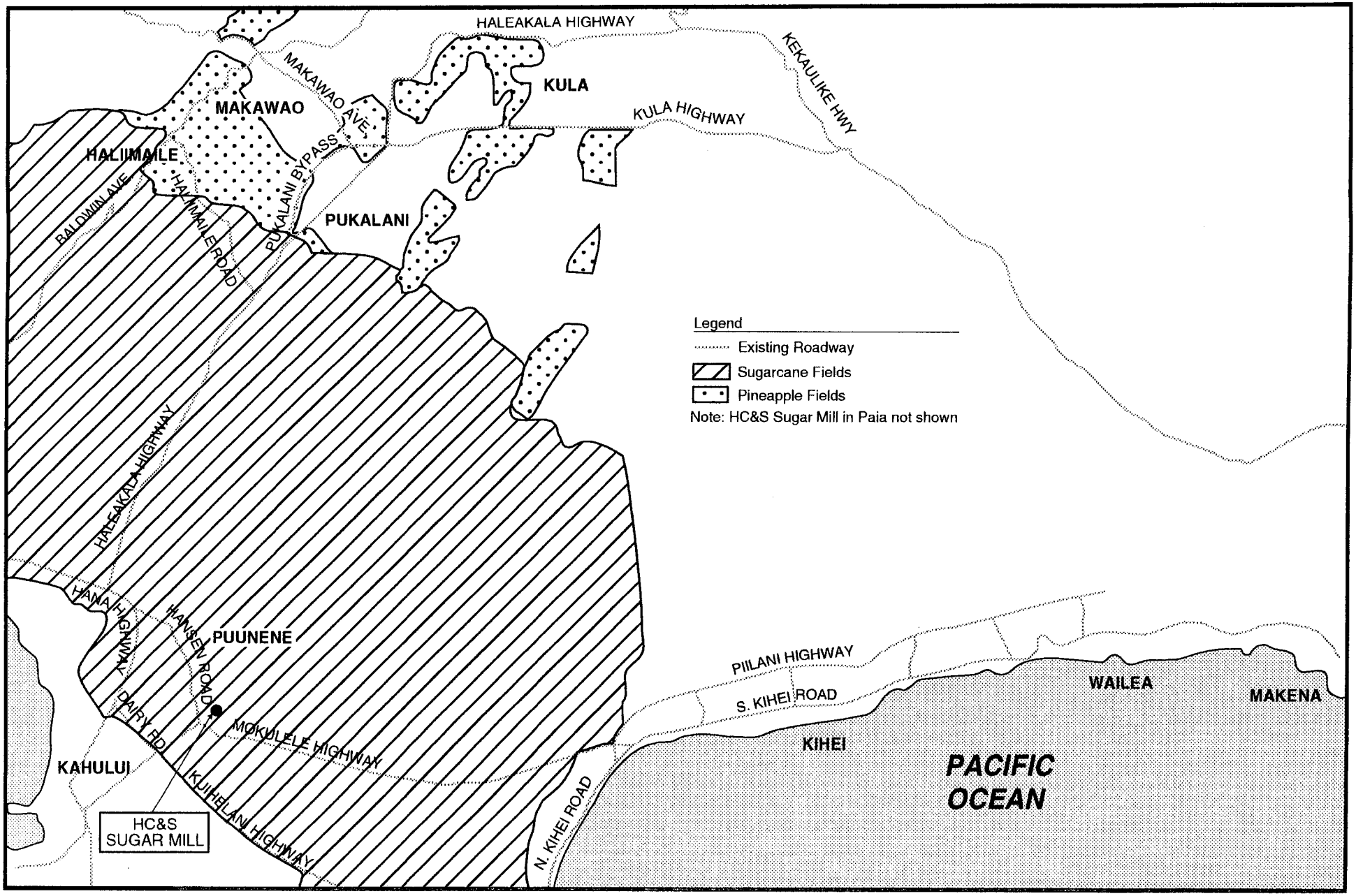
3.2 FARMLAND

Large-scale sugarcane and pineapple cultivation and cattle ranching are the major economic activities in Upcountry. Other agricultural activities include small-scale vegetable and flower production. Sugarcane and pineapple activities are located from the west slopes of Haleakala to central Maui. Cattle ranching generally occurs in the area east (mauka) of Haleakala Highway/Kekaulike Avenue and on the lower west and south slopes of Haleakala. In Kula, smaller scale agricultural crops include vegetables, such as head cabbage, lettuce and round onions; and flowers, such as carnations and protea. Unlike sugarcane and pineapple cultivation, agricultural activities in Kula are on much smaller farm lots of about two to four hectares (five to ten acres).

Hawaiian Commercial and Sugar Company (HC&S) cultivates approximately 14 000 ha (35,000 acres) of sugarcane (see Figure 3-6). HC&S operates a sugar mill in Puunene, which also exports electricity to the Maui electrical grid. HC&S's Paia mill was recently closed. Other highways, such as Haleakala and Hana Highways, already cross HC&S fields (see Figure 3-6), and these highways adversely affect productivity for several reasons. For example, only some public road-haul road intersections are signalized, and these crossings delay the transport of sugarcane to the mills. In addition, suburban encroachment interferes with certain agricultural operations, such as cane burning and aerial spraying.

The other large-scale agricultural business in the study area is Maui Land & Pineapple Company (ML&P), the last pineapple processor in the State. ML&P's pineapple fields are located around Haliimaile, Makawao and Pukalani, and in lower Kula (see Figure 3-6). ML&P selected these areas to cultivate pineapple because they have good soil conditions and access to water. Similar to HC&S, urban encroachment has adversely affected ML&P productivity.

Small farms are located in Kula around Omaopio, Pulehu, Naalea, Waiakoa, and Keokea (see Figure 3-1). As described in Section 3.1.2, these two to four hectare (five to ten acre) farms cultivate vegetables and flowers. One of these farming areas is the Kula Agricultural Park, owned by the County of Maui. The Agricultural Park leases parcels to small-scale farmers at low rents. Kula farmers face problems similar to those expressed by HC&S and ML&P: urban



Source: Warren S. Unemori Engineering, May 1997

GRAPHIC SCALE:

Sugarcane and Pineapple Fields
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-6

encroachment and periodic water use restrictions during drought conditions. Urban encroachment affects Kula farmers through speculation (increasing land values), neighbor complaints of chemical use by farmers, and increased traffic.

Cattle ranching generally occurs east (mauka) of Haleakala Highway/Kekaulike Avenue and on the lower west and south slopes of Haleakala. The ranching enterprises in the study area are the Haleakala and Kaonoulu Ranches. Similar to HC&S and ML&P, urban encroachment has adversely affected these ranches because of complaints about noise and cattle crossing public roadways.

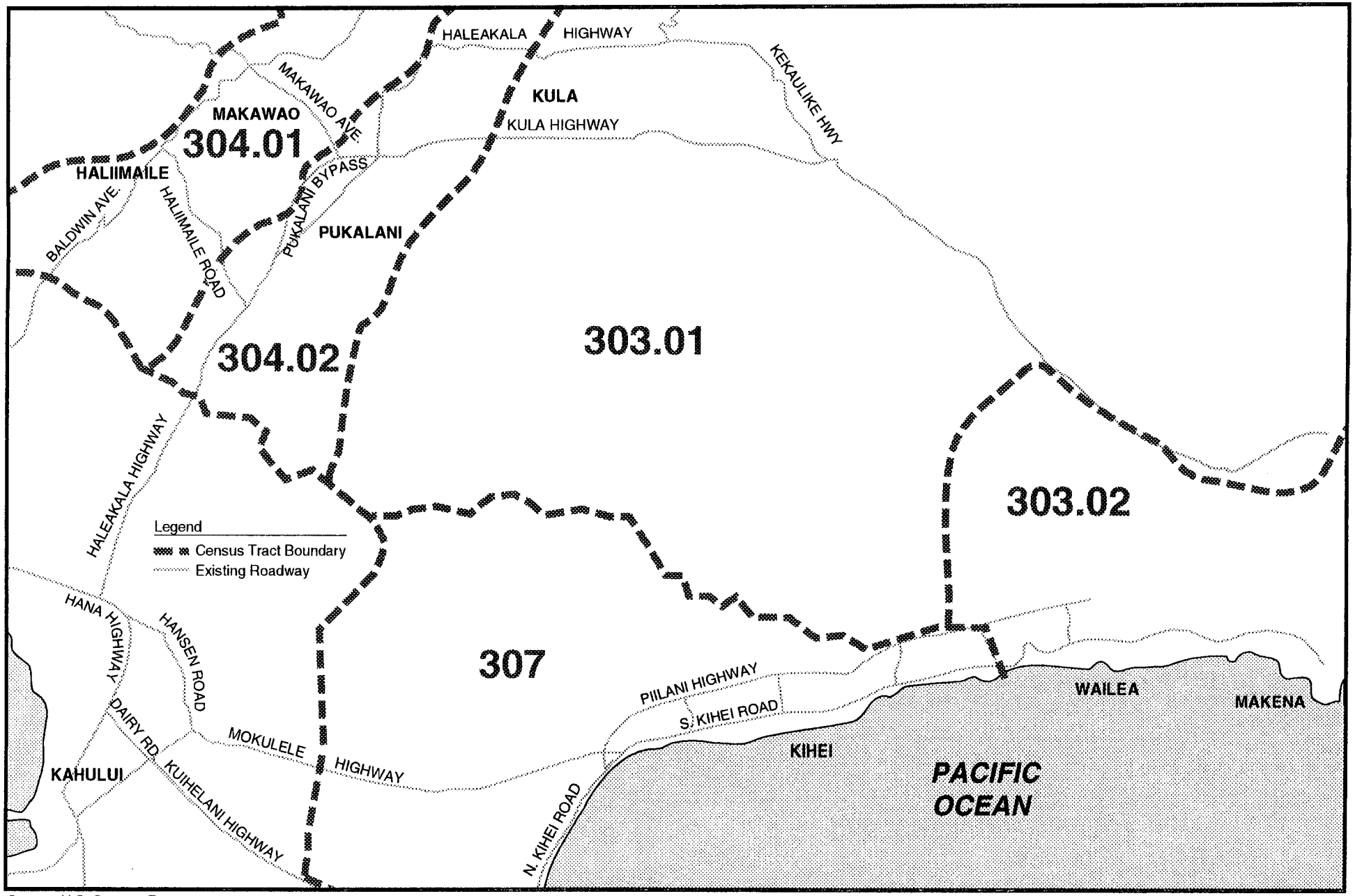
3.3 SOCIAL AND ECONOMIC ACTIVITY

As shown on Figure 3-7, U.S. census tracts (CTs) 303.01, 303.02, 304.01, 304.02, and 307 encompass the study area. CT 303.01 covers the Kula neighborhoods (see Figure 3-1); CT 303.02 includes Wailea and Makena; CT 304.01 includes Makawao and Haliimaile; CT 304.02 includes Pukalani and parts of Kula; and CT 307 includes Kihei.

3.3.1 DEMOGRAPHIC CHARACTERISTICS

Table 3-1 exhibits selected demographic characteristics of the Kihei-Upcountry Maui study area. In 1990, the population of the study area as delineated by the above CTs was 34,171, or 34 percent of the County population. Population growth in the study area was rapid during the 1980s (annual average growth of 5.6 percent). In comparison, County and State annual average population growth in the same period was 3.5 percent and 1.4 percent, respectively. The Kihei area (CT 307) experienced the greatest population increase both in absolute terms (6,863) and by percentage--an average of 7.9 percent per year. The Pukalani-Kula area (CT 304.02 -- partial) had the smallest average annual growth rate within the study area of 3.5 percent per year. Kula (CT 303.01), Wailea-Makena (CT 303.02) and Makawao-Haliimaile (CT 304.01) had annual growth rates of 3.8 percent, 7.3 percent, and 5.1 percent, respectively.

Table 3-1 also displays the number of households, families, ethnicity and age distributions for the study area in 1990. Overall whites made up 60 percent of the total population of the study



Source: U.S. Census Bureau

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Census Tracts
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-7

Table 3-1
Demographic Characteristics of Selected Kihei-Upcountry Areas, 1990

	Kula	Wailea-Makena	Halimaile-Makawao	Pukalani-Kula (Part)	Kihei	Total	Maui County
	CT 303.01	CT 303.02	CT 304.01	CT 304.02	CT 307		
Population	5,567	2,483	7,174	6,064	12,883	34,171	100,374
Sex							
Males	50%	51%	52%	51%	52%	52%	51%
Females	50%	49%	48%	49%	48%	48%	49%
Households	1,940	1,043	2,283	1,919	4,902	12,087	33,148
Families	1,439	661	1,793	1,576	3,112	8,581	23,672
Ethnicity							
White	64%	80%	54%	43%	65%	60%	40%
Chinese	3%	1%	2%	2%	2%	2%	2%
Filipino	3%	4%	11%	13%	14%	11%	21%
Japanese	18%	5%	11%	25%	5%	12%	17%
Other Asian	1%	2%	1%	1%	1%	1%	1%
Hawaiian	8%	3%	14%	14%	9%	10%	15%
Pacific Islander	0%	1%	2%	0%	1%	1%	1%
Black	0%	0%	0%	0%	1%	0%	0%
Other Race	2%	2%	3%	2%	2%	2%	2%
Age							
Less than 5 Years	10%	7%	11%	10%	9%	9%	9%
5 to 17 Years	17%	12%	20%	21%	14%	17%	17%
18 to 34 Years	20%	22%	28%	23%	31%	26%	26%
35 to 64 Years	41%	48%	34%	38%	39%	39%	36%
65 or More Years	12%	12%	7%	8%	8%	9%	11%

Note: CT: Census Tract

Source: U.S. Census Bureau, 1990 Census of Population and Housing, Hawaii

area, which is 20 percentage points greater than their county-wide proportion (see Table 3-1). Japanese, Filipinos and Hawaiians were the second, third and fourth next most common ethnic groups, respectively. Within the study area, the proportion of whites as compared to the total ranged from a high of 80 percent in the Wailea-Makena area to a low of 43 percent in the Pukalani-Kula area. The age distribution of residents in the study area does not appear to be substantially different from the age distribution of the entire county.

3.3.2 HOUSING CHARACTERISTICS

Table 3-2 exhibits certain housing characteristics of selected Kihei-Upcountry areas in 1990. Overall, 54 percent of the housing units were one-unit structures. However, this ratio varied by community within the study area. In the Upcountry areas, such as Kula (CT 303.01), Makawao-Pukalani (CT 304.01), and Pukalani-Kula (partial) (CT 304.02), one-unit housing types made up more than 90 percent of all housing units, consistent with Upcountry's suburban and rural characteristics. The coastal areas of Wailea-Makena (CT 303.02) and Kihei (CT 307) have a mix of housing types consistent with these areas' more urban characteristics.

The age ratios of structures (see Table 3-2) is a good indicator of the ages of the neighborhoods within the CTs. From the information presented in Table 3-2, Wailea-Makena (CT 303.02) and Kihei (CT 307) are relatively young communities in comparison to all communities combined on the island. Very few of the houses in these areas are older than 20 years. In terms of age of their communities, Kula (CT 303.01) and Pukalani-Kula (partial) (CT 304.02) are very similar to the island overall. The age ratios of Haliimaile-Makawao indicate that they are older communities that have recently experienced surges in residential growth.

Overall the owner versus renter occupancy ratio for the study area was 58:42 in 1990, roughly the same as the owner-renter occupancy ratio for the county. Within communities of the study area, this ratio varied from 65:35 in Makawao-Pukalani to 51:49 in Kihei. According to the Maui County Data Book (December 1994), approximately 32 percent of the housing units in the Kihei to Makena area were used for seasonal or recreational purposes in 1990. In the Upcountry areas, only two to three percent of the housing units were used for such purposes.

Table 3-2
Housing Characteristics of Selected Kihei-Upcountry Areas, 1990

	Kula	Wailea-Makena	Haliimaile-Makawao	Pukalani-Kula (Part)	Kihei	Total	Maui County
	CT 303.01	CT 303.02	CT 304.01	CT 304.02	CT 307		
Housing Units	2,189	2,207	2,345	1,995	7,902	16,638	42,060
Units in Structure							
1 Unit	96%	50%	96%	98%	41%	64%	68%
2 to 4 Units	2%	12%	2%	1%	3%	4%	4%
5 or More Units	0%	38%	0%	0%	55%	31%	27%
Mobile or Other	2%	1%	1%	1%	1%	1%	1%
Age of Structure							
1 Year	4%	11%	7%	5%	9%	8%	5%
2 to 10 Years	32%	41%	37%	35%	32%	34%	27%
11 to 20 Years	31%	43%	26%	34%	51%	42%	37%
21 Years or More	33%	5%	30%	27%	8%	16%	30%
Tenure							
Owner-Occupied	63%	53%	64%	66%	51%	58%	58%
Renter-Occupied	37%	47%	36%	34%	49%	42%	42%

Note: CT: Census Tract

Source: U.S. Census Bureau, 1990 Census of Population and Housing, Hawaii

3.3.3 INCOME AND EMPLOYMENT CHARACTERISTICS

Table 3-3 exhibits certain income characteristics for selected Kihei-Upcountry areas in 1990. Median household incomes in the study area were higher than the median for the County, which was $38,771 in 1989. Incomes varied from a low of $40,483 in Kula (CT 303.01) to a high of $45,694 in Wailea-Makena (CT 303.02). The poverty rates of residents in Kihei-Upcountry areas were slightly higher than the rate for the County. The percentage of households with incomes below the poverty level ranged from a low of six percent in Pukalani-Kula (partial) (CT 304.02) to a high of 12 percent in Wailea-Makena (CT 303.02).

From 1980 to 1993, the unemployment rate for Maui island ranged from 2.2 percent in 1989 to 7.6 percent in 1992. The average in this period was 4.9 percent. The Kihei to Makena region is one of the island's major employment centers (see Sections 1.2.2 and 3.3.4).

3.3.4 ECONOMIC CHARACTERISTICS

Maui's most important industry is tourism. From 1989 to 1993, an average of over 2.3 million visitors arrived on Maui per year. The peak for this period was 1989 when there was over 2.5 million visitors. In 1998 and 1999, the island supported 2.24 and 2.28 million visitors, respectively. Most of Maui's hotels, resorts, and visitor-related businesses are in West Maui from Lahaina to Kapalua, and in South Maui from Kihei to Makena. In the latter area, there were 84 visitor-accommodation facilities in 1993 providing a total of 7,318 visitor rental units, approximately 40 percent of all visitor-related units on Maui. In contrast, the Upcountry areas had only 63 visitor-related units. The Kihei-Makena region held about 14.6 percent of the employment on Maui, ranking third behind West Maui and Wailuku-Kahului in the number of jobs on the island.

Unlike Kihei-Makena, agriculture is Upcountry Maui's prime economic activity. Agricultural activities in Upcountry Maui include large-scale sugarcane and pineapple cultivation, ranching and small-scale farming in Kula (see Section 3.2). Upcountry Maui also has small to medium-scale (e.g., supermarket) commercial activities, mostly in Pukalani and Makawao. The medium sized commercial land uses are exclusively within Pukalani. Makawao's

Table 3-3
Income Characteristics of Selected Kihei-Upcountry Areas, 1990

	Kula	Wailea-Makena	Haliimaile-Makawao	Pukalani-Kula (Part)	Kihei	Maui County
	CT 303.01	CT 303.02	CT 304.01	CT 304.02	CT 307	
Median Household Income	$40,483	$45,694	$41,949	$43,032	$40,558	$38,771
Selected Sources of Income						
Social Security Income	24%	24%	19%	21%	19%	26%
Retirement Income	14%	15%	16%	18%	12%	18%
Public Assistance Income	3%	3%	6%	2%	4%	6%
Households Below Poverty Level	11%	12%	10%	6%	8%	8%

Note: CT: Census Tract

Source: U.S. Census Bureau, 1990 Census of Population and Housing, Hawaii

business district contains pedestrian-oriented small retail stores and restaurants. Kula has very few commercial activities.

Scientific research is becoming an increasingly important industry on Maui. This industry is centered at the Maui R&T Park in Kihei and Science City on the summit of Haleakala. Science City, a federal research campus, is used for space- and defense-related research and development. Information about the Maui R&T Park can be found in Sections 1.2.2 and 3.1.3.

3.3.5 PUBLIC FACILITIES AND SERVICES

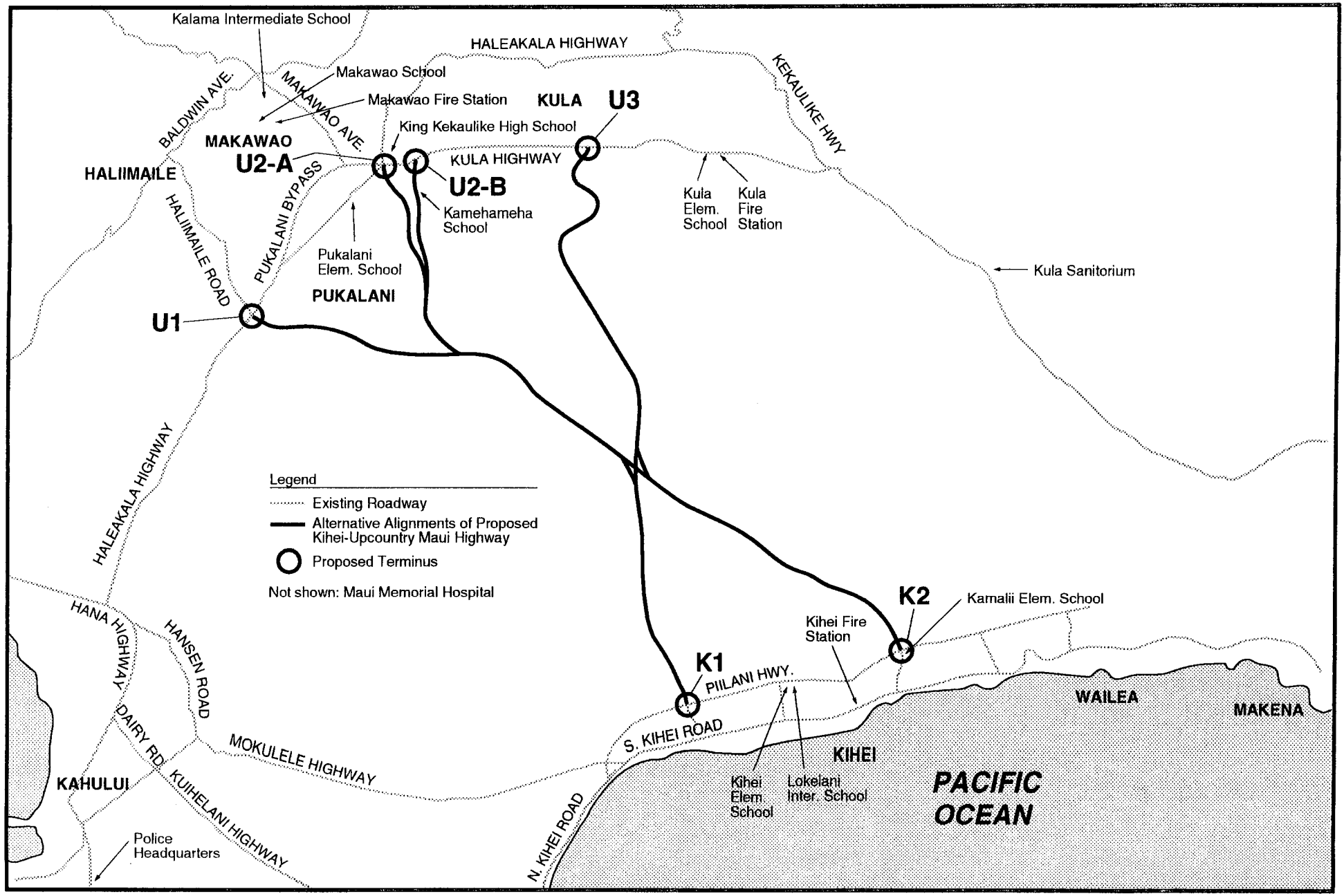
Community facilities and services in the Kihei-Upcountry Maui study area include community centers, schools, police and fire stations and medical facilities (see Figure 3-8).

There are three schools in the Kihei-Makena region: Kihei Elementary School, Lokelani Intermediate School, and the new Kamalii Elementary School. Schools in Upcountry Maui include Makawao School, Pukalani Elementary, Kula Elementary, Kalama Intermediate, Seabury Hall (private), King Kekaulike High School, and Kamehameha School, which opened in 1999.

Police patrols for Kihei-Makena and Upcountry Maui operate out of the main police headquarters in Wailuku. The Makawao Community Police Officer maintains an office in the town. There are plans to construct a police sub-station in Kihei. Fire stations are located on South Kihei Road near Kalama Park, in Makawao, and in Kula near Waiakoa.

Maui Memorial Hospital in Wailuku is the principal hospital on Maui. Smaller hospitals are in Hana and Kula (Kula Sanatorium). The Kula Sanatorium provides care for tubercular, mental and long-term patients. An ambulance stationed in Makawao provides emergency service between the Upcountry area and Maui Memorial Hospital. There is no 24-hour ambulance service in Kula. Emergency medical service in Kihei is provided by Maui Memorial Hospital.

Section 3.11 contains information about community parks and recreational facilities in the project area.



Public Facilities
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 3-8

3.3.6 CRIME

Table 3-4 exhibits the crime rates of the communities in the study area for selected offenses for the years 1993 to 1996. The table indicates that the property crime rate (e.g., burglary and theft) in the Kihei to Makena communities is two to four times the rate of Upcountry communities. The crime rate differences for other offenses, such as criminal property damage, are not as great, or the Upcountry communities have higher rates than the Kihei-Makena communities.

3.4 INFRASTRUCTURE

3.4.1 ROADWAY SYSTEM

3.4.1.1 Roadway Network

Figure 3-9 displays the major transportation facilities in Kihei-Makena and Upcountry, and the roadways that connect the two regions.

The major roadways in Kihei-Makena are South Kihei Road, Piilani Highway, Wailea Alanui and Makena Alanui (see Figure 3-9). South Kihei Road, Wailea Alanui and Makena Alanui, which are two-lane arterials running along the Kihei-Makena coastline, are County facilities. They are the main roadway spine providing access to all land uses in Kihei, Wailea and Makena. Piilani Highway is a limited-access two-lane State facility that runs parallel to and east (mauka) of South Kihei Road, beginning at its intersection with Mokulele Highway and terminating at Wailea Iki Drive in Wailea. It has paved shoulders with left- and right-turn deceleration lanes at major intersections. South Kihei Road becomes North Kihei Road north of its intersection with Mokulele Highway, providing access to West Maui.

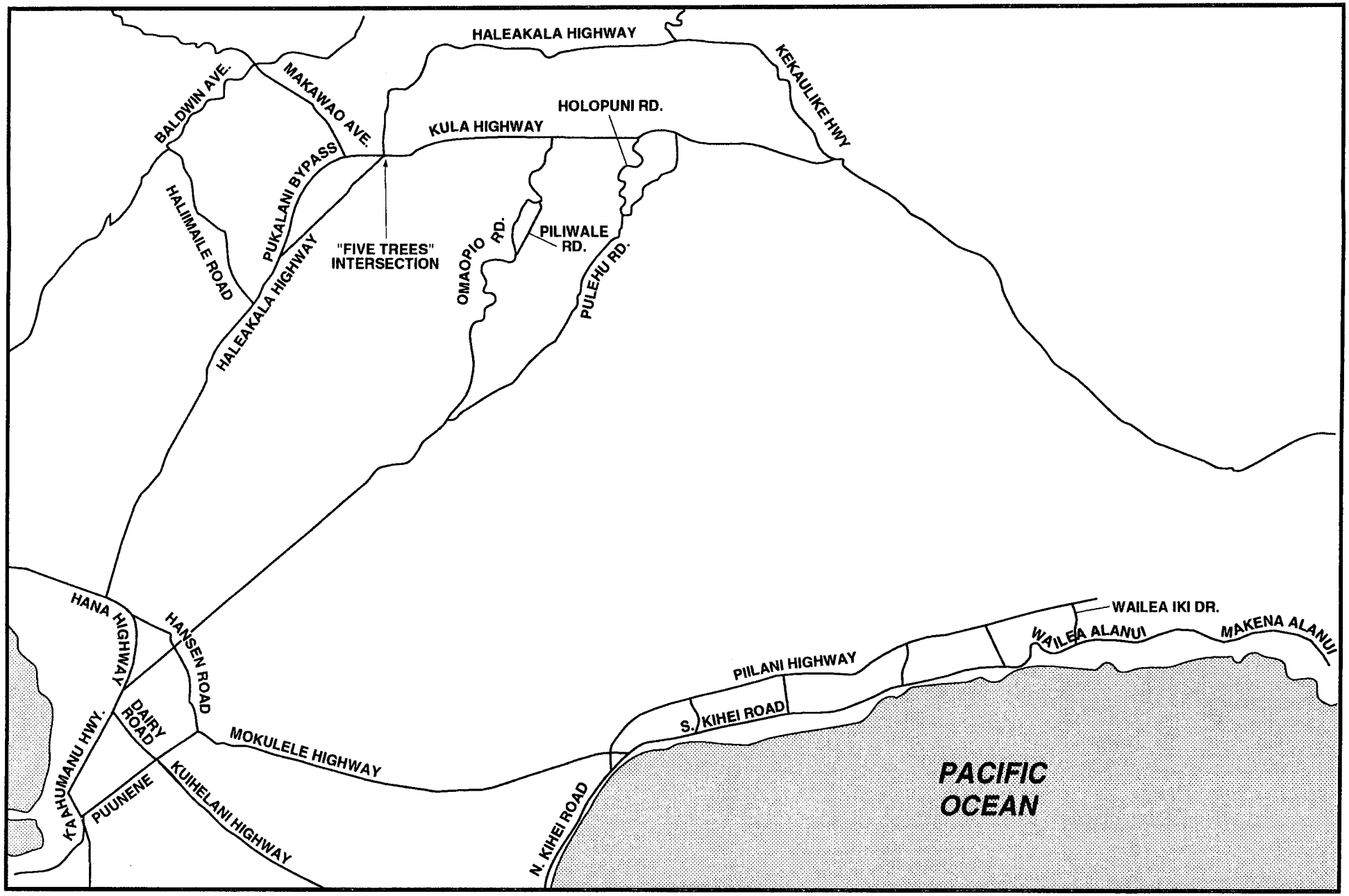
Table 3-4
Crime Rate for Selected Offenses Per 10,000 Residents

Offense/Location	Year			
	1993	1994	1995	1996
Burglary				
Haliimaile	97.61	126.45	40.98	59.88
Makawao	53.90	162.05	149.25	97.29
Pukalani	88.47	67.85	93.84	65.64
Kula	100.40	54.37	43.54	49.94
Kihei	211.12	304.89	241.38	249.24
Wailea-Makena	141.69	144.69	206.49	132.51
Theft				
Haliimaile	86.77	231.82	174.18	189.62
Makawao	297.10	342.79	264.75	282.48
Pukalani	237.47	256.33	199.41	175.51
Kula	111.92	166.29	163.27	166.46
Kihei	730.30	905.90	909.66	843.66
Wailea-Makena	631.60	618.44	814.61	766.34
Criminal Property Damage				
Haliimaile	108.46	126.45	163.93	129.74
Makawao	158.68	180.42	177.03	161.42
Pukalani	85.36	123.64	77.71	57.08
Kula	64.19	57.56	65.31	90.80
Kihei	138.01	238.65	176.96	197.89
Wailea-Makena	100.86	105.02	117.99	154.59
All Offenses*				
Haliimaile	835.14	1022.13	891.39	928.14
Makawao	1483.79	1676.23	1783.09	1587.77
Pukalani	963.84	1020.81	1036.66	927.51
Kula	515.14	580.43	738.61	776.33
Kihei	2134.23	2863.76	2784.85	2753.02
Wailea-Makena	1203.17	1155.19	1590.65	1462.01

Note: * Includes violent, drug, forgery, gambling, runaway, sex, terroristic threatening, truancy, and court order violation offenses.

Source: Police Department, County of Maui, July 14, 1997

Upcountry Maui's major highways are Haleakala Highway, Pukalani Bypass and Kula Highway (see Figure 3-9). Haleakala Highway and Pukalani Bypass are three-lane (two lanes east (mauka) and one lane west (makai) bound) limited-access facilities with paved shoulders. At the north (makai) side of Pukalani, Haleakala Highway extends into Pukalani where it becomes



N

GRAPHIC SCALE:

0 1 km 2 km 3 km 0 1 mi. 2 mi.

Major Roadways
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-9

a two-lane roadway with signalized intersections and driveway access to adjacent land uses. During the a.m. peak period, the middle south-bound (mauka) lane on Haleakala Highway/Pukalani Bypass is contra-flowed to the north-bound (makai) direction. At the "Five Trees" intersection, Haleakala Highway extends east (mauka) to the summit of Haleakala, and is the southeastern (mauka) terminus of Pukalani Bypass. The "Five Trees" intersection is the northern terminus of Kula Highway, which provides access to most of the Kula communities. This State highway terminates at Ulupalakua.

Omaopio and Pulehu Roads (see Figure 3-9) are County facilities used by Kula farmers to move equipment from field to field and transport agricultural products to Kahului Harbor. Although these roads are narrow and winding, they are used by some motorists as an alternative to Haleakala Highway to travel to Kahului or other parts of Maui.

The transportation infrastructure between the Kihei-Makena and Upcountry regions consists of Mokulele Highway, Puunene Avenue, Hansen Road, Dairy Road and Hana Highway (see Figure 3-9). Mokulele Highway and Puunene Avenue are two-lane arterials running north-south between Kahului and Kihei, and are one of the primary connections between the north and south coasts. Hana Highway begins in Kahului and runs along the north coast terminating at the southeast end of the island. Between Kahului and Haleakala Highway, it is a four-lane divided roadway. There are two alternative routes between Puunene Avenue and Hana Highway. The first and most popular route is Dairy Road, a recently widened four-lane roadway. The second is Hansen Road, a two-lane roadway with numerous curves and a low design speed.

3.4.1.2 Roadway Accidents

Table 3-5 presents information on the number of accidents on roadways between Kihei-Makena and Upcountry Maui between September 23, 1992 and June 26, 1997.

As indicated on Table 3-5, Pulehu Road, Omaopio Road, Dairy Road, Mokulele Highway and Hansen Road have experienced a high number of vehicle accidents. Pulehu, Omaopio and Hansen Roads carry much smaller volumes of traffic in comparison to Dairy Road and Mokulele Highway. Presently, Dairy Road is probably a safer facility than indicated on Table

3-5 because it has recently been widened to four lanes. Mokulele Highway is planned to be widened to four lanes, which should improve safety on this roadway.

Table 3-5
Motor Vehicle Accidents

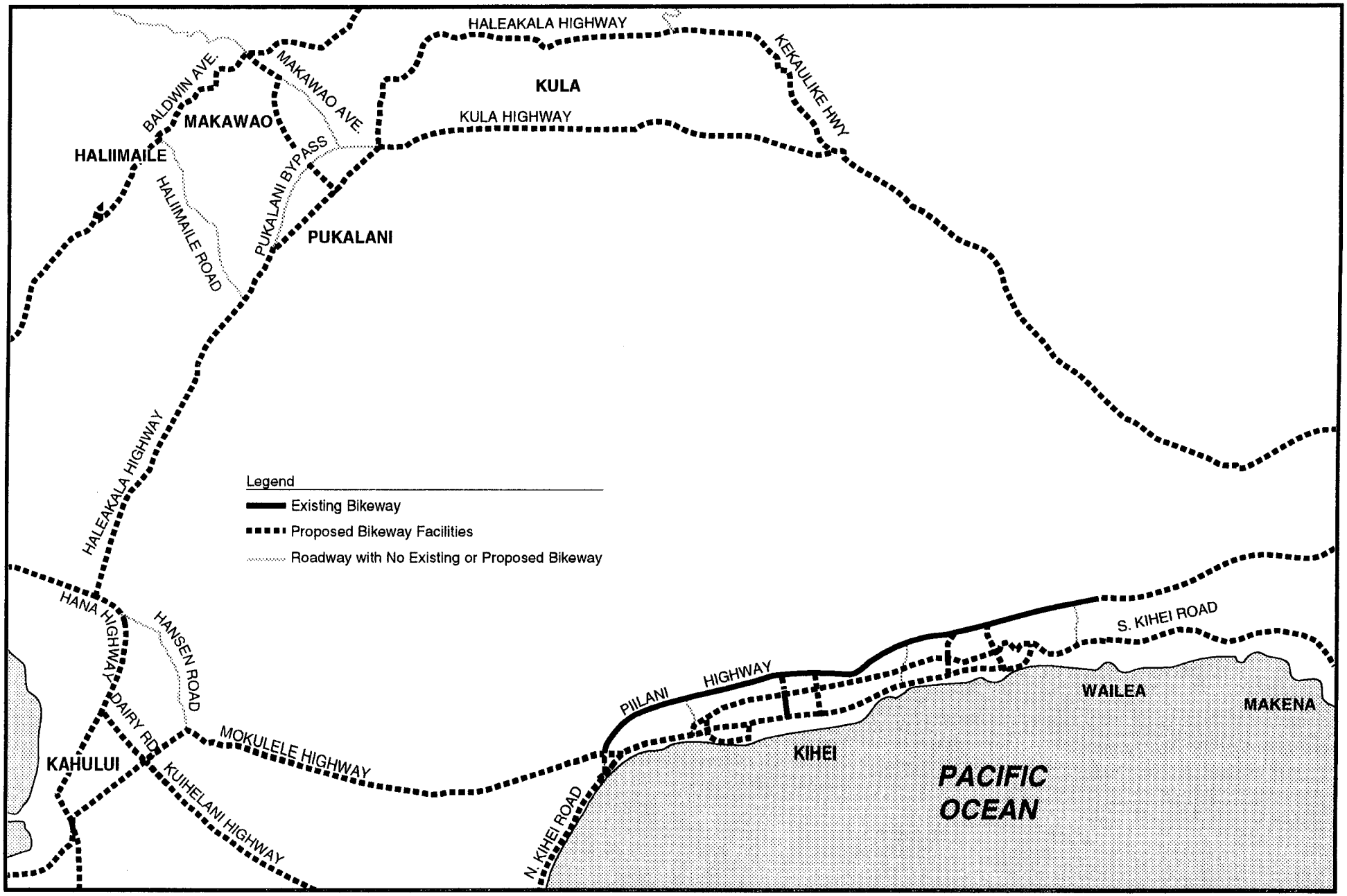
Street	Year					
	1992[1]	1993	1994	1995	1996	1997[2]
Holopuni Road	0	1	2	3	2	2
Pulehu Road	11	18	18	23	19	7
Omaopio Road	10	24	24	32	34	13
Piliwale Road	2	0	2	2	2	1
Haleakala Highway (Hana Highway to "Five Trees" intersection)	2	2	2	6	9	10
Hana Highway (Haleakala Highway to Dairy Road)	11	21	17	14	15	9
Dairy Road	37	58	60	69	81	48
Pukalani Bypass	0	0	1	7	1	3
Mokulele Highway	33	101	89	68	80	33
Hansen Road	38	56	40	67	74	32

Notes: (1) 1992 data collected from September 23 to December 31.
(2) 1997 data collected from January 1 to June 26.

Source: County of Maui, Police Department, July 14, 1997

3.4.2 BICYCLE AND PEDESTRIAN FACILITIES

The Bike Plan Hawaii: A State of Hawaii Master Plan (April 1994) recommended improvements to the State's bikeway systems. This plan serves as guidance to the SDOT and County transportation agencies when new roadway construction or improvements to existing roadways are contemplated. Within the study area, there is an existing bike route on Piilani Highway from Mokulele Highway to Wailea-Makena (see Figure 3-10). Recommended



Source: Bikeplan Hawaii, April 1994.

GRAPHIC SCALE:

N

0 1 km 2 km 3 km 0 1 mi. 2 mi.

Existing and Proposed Bikeways
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 3-10

bikeways are also shown on Figure 3-10. Recommended bikeways include facilities on South Kihei Road, Mokulele Highway, and Haleakala Highway.

Bicycle tours are a popular tourist activity on Maui. Tours normally start from the summit of Haleakala, run through Crater Road, Haleakala Highway and Baldwin Avenue, and end in Paia.

Pedestrian facilities within the Kihei area exist along South Kihei Road and the side streets, and at points where there is public access to the beaches and shoreline. Because of its rural environment, existing pedestrian facilities in Upcountry are limited to some of the residential neighborhoods.

3.4.3 WATER SUPPLY SYSTEM

Maui is served by five major water supply systems: Central Maui, Makawao, Kula, Hana, and Lahaina; and 15 individual sub-systems. The Iao Aquifer in the West Maui Mountains is the water source for Kihei-Makena and other areas. Water is transmitted from the West Maui Mountains through transmission lines running along South Kihei Road, Piilani Highway, and Wailea Alanui Drive. The Maui Board of Water Supply (BWS) is planning to develop groundwater resources in East Maui for Kihei and other areas.

Unlike Kihei-Makena, Upcountry's water supply is from surface sources along the north and east side of the island that feed into the Makawao and Kula systems. Makawao and Pukalani receive their water from the Makawao system. Surface water is treated at the Kamole Weir Water Treatment Plant near Haliimaile, and pumped up to the two communities. This system has no reservoir. The Maui BWS is planning to construct a 760 000 m^3 (200 million gallon) reservoir to support the planned developments specified in the Makawao-Pukalani-Kula Community Plan (see Section 3.1.4.2d). The East Maui groundwater resource, once developed, would be used by the Makawao system during droughts when surface water resources are dry.

The Kula system operates as two separate systems (Upper and Lower), with each having its own separate surface water intakes, treatment plant, and distribution system (lines run along

the upper portion of Haleakala Highway for the Upper system, and along Kula Highway for the Lower system). However, water can be pumped up (lower to upper) or gravity-fed (upper to lower) between the two systems, if required. Also, during droughts, water is sometimes pumped to the Kula systems from the Makawao system, and customers are required to reduce water use. The Maui BWS has recently constructed two 190 000 m^3 (50 million gallon) reservoirs in the Upper Kula System, but there are no other immediate plans for a new reservoir in this system. A reservoir similar in size to the planned Makawao system reservoir (760 000 m^3 (200 million gallon)) is being planned for the Lower Kula System. The Maui BWS is also planning to convert the Upper system to a dual system, in which non-potable water would be made available to Kula farmers in the Upper area for irrigation purposes.

The Kulamalu developer (see Section 3.1.3) drilled a well in Haiku to supply water to this development (The Maui News, September 5, 1997, correspondence from the Maui BWS, May 4, 1998, and letter from Kulamalu, Inc. dated September 20, 1999). The pump installed at this well will produce 6200 m^3 (1.64 million gallons) per day of which 45 percent, or 2800 m^3 (7.38 million gallons) per day, will be allocated to the Kulamalu project. The remaining water will not require treatment, and will remain in Haiku. Initially, this water will provide an additional supply during drought conditions, and improve the reliability of the Upcountry systems. The Kulamalu developer will provide storage tanks and new or improved mains within the development.

3.4.4 DRAINAGE

Because it is an urban community, Kihei-Makena requires drainage collection systems. The system consists of lined and unlined channels, drain lines, pipe or box culverts, and road-side ditches.

The Upcountry area contains limited drainage collection infrastructure because of its low development density, well-draining soils and its low to moderate rainfall. When it rains enough to produce overland flow, sheet flows enter the numerous gulches on the west flank of Haleakala.

3.5 CLIMATE AND AIR QUALITY

3.5.1 LOCAL METEOROLOGY

Maui's climate varies according to altitude and leeward/windward location. Lowland areas tend to have a semi-tropical climate, while higher elevations are characterized by temperate climates. Maui is cooled by northeast trade winds approximately 70 percent of the year. These winds are constant during the spring and summer months. Trade winds are affected by local topographic conditions. The northeast trade winds become northerly as they are funneled between the West Maui Mountains and Haleakala. Areas in the "wind shadows" are shielded.

The climate of Upcountry Maui is conducive to farming, being mild with warm days and cool evenings. Pukalani and Kula are relatively dry with rainfall ranging between 50 to 100 cm (20 to 40 inches) annually. The amount of rainfall increases northeastward towards Makawao and Haiku to approximately 125 to 250 cm (50 to 100 inches) annually. Temperatures range from around 15 (C) (60s (F)) during the winter to the high 20s (C) (mid 80s (F)) in the summer.

Kihei-Makena is on the south side of the island, in the rain shadow of Haleakala. The region is generally sunny, warm and dry the entire year. Temperatures range from a minimum of 17 degrees (C) (62 degrees (F)) in February to a maximum of 32 degrees (C) (90 degrees (F)) in July. Average annual precipitation is less than 38 cm (15 inches) per year. Most of this precipitation occurs during the winter months when storms are usually accompanied by south winds.

3.5.2 AMBIENT AIR QUALITY STANDARDS

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) were established by the U.S. Environmental Protection Agency (EPA) for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), particulate matter smaller than 10 microns (PM_{10}), $PM_{2.5}$ (particulate matter smaller than 2.5 microns), sulfur oxides (SO_x), and lead. Current standards for ozone and $PM_{2.5}$ were established in September 1997. The State

of Hawaii has also established its own standards for these pollutants. Both the National and State Ambient Air Quality Standards are listed in Table 3-6. The "primary" standards have been established to protect the public health with an "adequate margin of safety." The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare. The State of Hawaii issues its ambient air quality standards in terms of a single standard that is designed "to protect public health and welfare and to prevent the significant deterioration of air quality."

Table 3-6
National and State Ambient Air Quality Standards

Pollutant	Standard		
	Hawaii State	Federal Primary	Federal Secondary
Carbon Monoxide (CO)			
1 Hour	10 mg/m^3 (9 ppm)	40 mg/m^3 (35 ppm)	40 mg/m^3 (35 ppm)
8 Hour	5 mg/m^3 (4.5 ppm)	10 mg/m^3 (9 ppm)	10 mg/m^3 (9 ppm)
Nitrogen Dioxide (NO_2)			
Annual Arithmetic Mean	70 ug/m^3	100 ug/m^3 (0.053 ppm)	100 ug/m^3 (0.053 ppm)
Particulate Matter < 10 micrometers (PM_{10})			
24 Hour	150 ug/m^3	150 ug/m^3	150 ug/m^3
Annual Arithmetic Mean	50 ug/m^3	50 ug/m^3	50 ug/m^3
Particulate Matter < 2.5 micrometers ($PM_{2.5}$)			
24 Hour	--	65 ug/m^3	65 ug/m^3
Annual Arithmetic Mean	--	15 ug/m^3	15 ug/m^3
Ozone (O_3)			
1 Hour	100 ug/m^3	235 ug/m^3 (0.12 ppm)	235 ug/m^3 (0.12 ppm)
8 Hour	--	157 ug/m^3 (0.08 ppm)	157 ug/m^3 (0.08 ppm)
Sulfur Dioxide (SO_2)			
3 Hour	1300 ug/m^3	--	1300 ug/m^3 (0.5 ppm)
24 Hour	365 ug/m^3	365 ug/m^3 (0.14 ppm)	--
Annual Arithmetic Mean	80 ug/m^3	80 ug/m^3 (0.03 ppm)	--
Lead (Pb)			
Quarterly Average	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3

Source: State of Hawaii, Department of Health, Clean Air Branch.
EPA NAAQS, Updated July 1997.

3.5.3 ATTAINMENT STATUS OF STUDY AREA

Section 107 of the 1977 Clean Air Act Amendments requires the EPA to publish a list disclosing whether geographic areas are in compliance with the NAAQS. Areas not in compliance with the NAAQS are termed nonattainment areas. Areas which have insufficient data to make a determination are unclassified, and are treated as attainment areas until proven otherwise. The designation of an area is made on a pollutant-by-pollutant basis.

The State of Hawaii is designated as an attainment area for all of the applicable pollutants.

3.5.4 MONITORED AIR QUALITY

Air pollutant levels in Hawaii are monitored by a network of sampling stations under the supervision of the State of Hawaii Department of Health (SDOH). On Maui, there are only two stations. They are strategically located in Kihei and Paia to be downwind of several sugarcane fields (cane fields are burned before harvest). Established in 1996, these stations monitor sugarcane burning activities, sampling PM_{10}. Sugarcane operations also generate fugitive dust from cane haul vehicles traveling on dirt roads within the fields, and other activities. Fugitive dust can travel a few hundred meters.

Additional ambient air quality data for other pollutants was obtained from an air quality study for the proposed Kahului Airport Improvements, which obtained its data from the Maui Electric Company (MECO) (Prevention of Significant Deterioration Permit Application for Maalaea Combined Cycle Project, August 1990).

A summary of the SDOH and MECO air quality data in the study area is provided in Table 3-7. As indicated on this table, monitored levels are well below the applicable State and federal standards.

Table 3-7
Air Quality Summary for Study Area
(SDOH and MECO Monitoring Stations)

Pollutant	Location		
	Maalaea (MECO Site #233	Kihei (SDOH Site)	Paia (SDOH Site)
Carbon Monoxide (CO)			
1 Hour	14 ug/m^3 (.012 ppm)	NM	NM
8 Hour	6 ug/m^3 (.005 ppm)	NM	NM
Nitrogen Dioxide (NO_2)			
Annual Arithmetic Mean	6 ug/m^3 (.003 ppm)	NM	NM
Particulate Matter < 10 micrometers (PM_{10})			
24 Hour	56 ug/m^3	100 ug/m^3	131 ug/m^3
Annual Arithmetic Mean	14 ug/m^3	24 ug/m^3	18 ug/m^3
Particulate Matter < 2.5 micrometers ($PM_{2.5}$)			
24 Hour	--	NM	NM
Annual Arithmetic Mean	--	NM	NM
Ozone (O_3)			
1 Hour	86 ug/m^3(.044 ppm)	NM	NM
8 Hour	--	NM	NM
Sulfur Dioxide (SO_2)			
3 Hour	34 ug/m^3 (.013 ppm)	NM	NM
24 Hour	13 ug/m^3 (.005 ppm)	NM	NM
Annual Arithmetic Mean	3 ug/m^3 (.001 ppm)	NM	NM
Lead (Pb)			
Quarterly Average	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3

Note: NM – not monitored

Sources: Hawaii Air Quality Data 1999, HDOH, Clean Air Branch.
Air Quality Study for the Proposed Kahului Airport Improvements, B.D. Neal & Associates, December 1995

3.6 NOISE

3.6.1 CHARACTERISTICS AND MEASUREMENT OF SOUND

Several characteristics of sound affect its impact. These include the sound level (loudness), the frequencies involved, the period of exposure to the noise, and changes or fluctuations in the noise levels during exposure.

Loudness is measured in decibels. Since the human ear does not perceive all pitches or frequencies equally, noise levels are adjusted, or weighted, to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since dBA describes a noise level at just one moment, and very few noises are constant, ways of describing noise over extended periods are needed. One way is describing fluctuating noise heard over a period as if it were a steady, unchanging sound. This type of an average is called the equivalent sound level, L_{eq}. L_{eq} is the constant sound level that, for a given situation and time period (e.g., 1-hour, $L_{eq}(1)$; hourly, $L_{eq}(h)$; or 24 hours, $L_{eq}(24)$), conveys the same sound energy as the actual time varying sound.

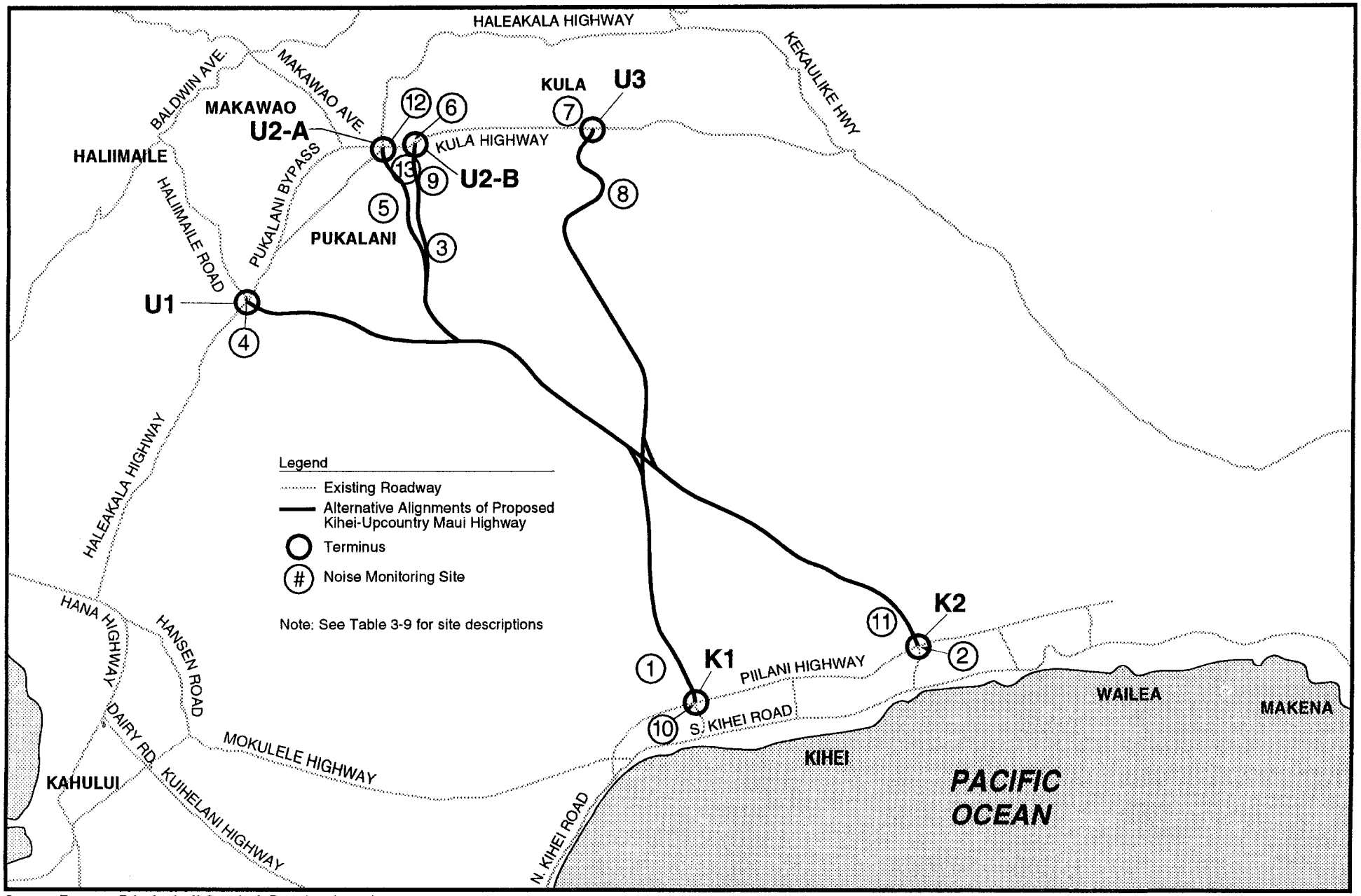
3.6.2 NOISE ABATEMENT CRITERIA

The FHWA has developed noise impact criteria, and the State of Hawaii has adopted these criteria as its standard. Table 3-8 lists the FHWA Noise Abatement Criteria (NAC). A noise impact occurs when predicted traffic noise levels approach or exceed the NAC, or when predicted traffic noise levels substantially exceed the existing noise level. The NACs set thresholds for determining when noise abatement has to be considered.

Most of the land in the study area is used for agriculture and ranching, and therefore falls under Activity Category D. Some land uses near the east (mauka) and west (makai) ends of the alternatives are residences, and therefore fall under Activity Category B.

3.6.3 MEASUREMENTS AND EXISTING CONDITIONS

Field measurements of existing noise levels were taken from June 18 to 20, 1997 at thirteen sites, as shown on Figure 3-11. These sites were considered representative of sensitive noise receptors in the area. The noise measurements were taken when traffic volumes were high, yet vehicles operated at the allowable speed limit. However, Site 1, a residential community east (mauka) of Piilani Highway near the K1 alignment, was not measured during these traffic conditions. This site was selected because of public comments made during the environmental scoping phase that noise impacts would occur at this site from early morning



Source: Parsons Brinckerhoff Quade & Douglas, Inc., June 1997

GRAPHIC SCALE:

0 1 km 2 km 3 km 0 1 mi. 2 mi.

N

Noise Monitoring Sites
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 3-11

vehicles (buses, vans, cars) traveling to the Haleakala Summit (see Section 1.2.4). Noise measurements at this site were taken at 5:00 a.m.

Table 3-8
FHWA Noise Abatement Criteria (NAC)

Activity Category	L_{eq}(h) for Noisiest Traffic Hour	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B.
D	----	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Notes: Leq(h) is the one-hour energy equivalent sound level.
Interior noise level standards apply to:
1. Indoor activities for those parcels where no exterior noise sensitive land use or activities have been identified; and
2. Situations where the exterior activities are either remote from the highway or shielded so that while the exterior activities remain undisturbed, noise nevertheless affects interior activities.

Source: Federal Aid Highway Program Manual (FHPM), 23 CFR Part 772 "Procedures for Abatement of Highway Traffic Noise," 1982.

All the sites, except Site 4, are in NAC Activity Category B areas. Site 4 is considered Activity Category D.

Noise measurements and traffic counts taken during the noise measurements were used to calibrate the computer model discussed in Section 4.6. Existing counts from the traffic analysis were then utilized in the model to determine the peak noise under current conditions. Existing peak hour L_{eq}(h) levels are reported on Table 3-9. As indicated on this table, noise levels at the receptor sites are generally below the NAC. The only site that approaches the

NAC of $L_{eq}(h)$ 67 dBA is Site 7. The high noise level at this site, and the noise level at many of the other sites, is primarily caused by traffic on nearby roadways.

Table 3-9
Existing Noise Levels

Site No.	Location	Land Use Activity	Noise Level ($L_{eq}(h)$ (dBA))
1	Ohukai community (Ohukai St.)	Residential	39
2	Kamalu Elementary School	School	58
3	Omaopio Homesteads	Residential	53
4	Haleakala Hwy. / Haliimaile Rd. Intersection	Agriculture	68
5	Pukalani community (Alani St.)	Residential	57
6	Kula 200 community	Residential	51
7	Kula residence along Kula Hwy.	Residential	66
8	Pulehu community (Holopuni Rd.)	Residential	47
9	Future Kamehameha School	School	53
10	Piilani Hwy. / Kaonoulu St. Intersection	Residential	60
11	Future Kihei Regional Park	Park	45
12	King Kekaulike High School	School	49
13	Unnamed Road off of Haleakala Hwy. near Five Trees Intersection	Residential	49

Source: Parsons Brinckerhoff Quade & Douglas, Inc., June 1997

3.7 WATER RESOURCES

3.7.1 SURFACE WATERS

Surface water resources in the study area consist primarily of intermittent streams or gulches. The more prominent gulches are:

- Kalialinui
- Kaluapulani

- Pulehu
- Kolaloa
- Keahuia Iwi
- Waiakoa
- Kulanihakoi
- Waipuilani
- Kaonoulu
- Waiohuli

These gulches collect rainfall and direct flows toward the ocean. However, the gulches are usually dry, and in many places their stream beds have eroded to bedrock. The U.S. Army Corps of Engineers has regulatory jurisdiction over the gulches since intermittent streams are technically considered "waters of the U.S".

3.7.2 GROUNDWATER

Maui has four principal types of groundwater reserves: fresh basal water, brackish basal water, dike-confined water, and perched water. Most of Maui's groundwater extraction infrastructure is at lower elevations where groundwater resources are more accessible and abundant. Dike complex formations in the Upcountry area may also contain abundant groundwater. However, Upcountry groundwater resources are largely unexploited because of exploring, drilling and operating costs. There is no U.S. Environmental Protection Agency-designated principal or sole-source aquifer in the project area (under the provisions of the Safe Drinking Water Act).

3.7.3 WETLANDS

As defined by 40 CFR 230.41(a)(1), wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. According to U.S. Fish and Wildlife Service National Wetlands Inventory Maps, wetlands near the project area occur at Kealia Pond on the south coast of the central Maui valley, and along the Kihei-Makena coast. These wetlands are not within the project area. The Inventory Map identifies wetlands within some of the gulches crossed by the proposed alignments. However, botanical surveys conducted for the project (see Section 3.8.1 and Appendix J) found no evidence (vegetation, soils or hydrology) of wetlands in any

of the gulches where they would be crossed by the alternatives. Therefore, field observations indicate that there are no wetlands within the study area, even though wetlands are identified on the Inventory Map.

3.7.4 FLOODPLAINS

According to Flood Insurance Rate Maps (FIRM), the project area is contained within Zone C, indicating that the land is prone to minimal flooding.

3.8 ECOSYSTEMS

3.8.1 FLORA

The alternatives pass through actively cultivated lands at higher elevations and uncultivated lands at lower elevations. Botanical field surveys were conducted in January, February and September, 1997 to assess the botanical resources along the alternative alignments (see Appendix J). An area 60 m (200 ft) wide (30 m (100 ft) on each side of the centerline) was surveyed along each alignment. Where the alignments cross large gulches, the survey corridor was widened to 150 m (500 ft) because remnant populations of native plants are more likely to occur on steep, inaccessible areas such as gulch walls and rocky outcroppings, away from agricultural or animal grazing disturbances.

Sugarcane fields and their associated networks of cane haul roads and irrigation systems are found along the U1 alignment.

The U2-A alignment crosses three vegetational types:

- abandoned pineapple fields characterized by scattered remnant patches of pineapple (*Ananas comosus*) in overgrown fields of Rhodes grass (*Chloris gayana*) and other weedy species;
- Christmas berry/mixed shrub land; and
- actively cultivated pineapple fields.

The U2-B alignment crosses three vegetational types: Kikuyu/mixed grass pasture land, gulch vegetation, and cultivated lands. The vegetational types found along both U2-A and U2-B alignments are dominated by introduced species.

The U3 and U1/U2-A,-B alignments both cross pineapple fields and uncultivated lands. A portion of the U3 alignment crosses the Kula Agricultural Park.

The uncultivated lands are covered primarily by kiawe/buffelgrass association. Kiawe trees (*Prosposis pallida*), native to tropical America, and buffelgrass (*Cenchrus ciliaris*), native to Africa and tropical Asia, are the dominant components of this vegetational type. The kiawe/buffelgrass association occurs along the K1 and K2 alignments, most of the U3 alignment, and portions of the U1/U2-A alignment. The remaining smaller sections of uncultivated land support Kikuyu (*Pennisetum clandestinum*), mixed grass pasture land along the U2-A,-B and U3 alignments, and gulch vegetation along all the segments crossing large, steep-walled gulches, such as Waiakoa, Pulehu, and Kalialinui Gulches. Most of the uncultivated lands are used for grazing cattle and horses.

Three small clusters of the endangered Ko'oloa'ula (*Abutilon menziesii*), a member of the mallow or hibiscus family, were found between the 210 m and 230 m (690 foot and 750 foot) elevation within Kalialinui Gulch, nearest to the U1 alignment. The clusters are estimated to be between 820 m (2700 ft) to 1100 m (3600 ft) from the U1 alignment, which is at the 255 m (840 foot) elevation at the Kalialinui Gulch crossing.

The vegetation along the alignments is dominated by introduced or alien plant species. Very few native species were identified along the alignments, and most were found in or adjacent to the gulches.

None of the plant species found within the 60 m (200 feet) wide corridors are listed, proposed, or candidate threatened and endangered species; nor is any plant a species of concern. There are no areas on or adjacent to the termini or alignments that support sensitive native plant-dominated communities.

Appendix J contains the botanical survey reports prepared for this project.

3.8.2 FAUNA

Faunal species in the study area consists of introduced species that are common throughout the Hawaiian islands, such as rats, mice, bats, goats, mongoose, cats, and dogs (Final Environmental Impact Statement for the Site Selection for the New Kihei Public Library, Kihei, Maui, June 1991; Site Selection Study and Final Environmental Impact Statement New Kihei Elementary School, Kihei, Maui, April 1992; and Site Selection Report and Final Environmental Impact Statement for the Proposed Upcountry Maui High School, December 1991).

The project area also contains a relatively large axis deer population. Figure 3-12 illustrates the density of the deer population in the project area. The deer tend to prefer dry kiawe forest areas, such as in Ulupalakua, and are less abundant in the agricultural areas (e.g., sugarcane and pineapple fields), such as Pukalani and Haiku.

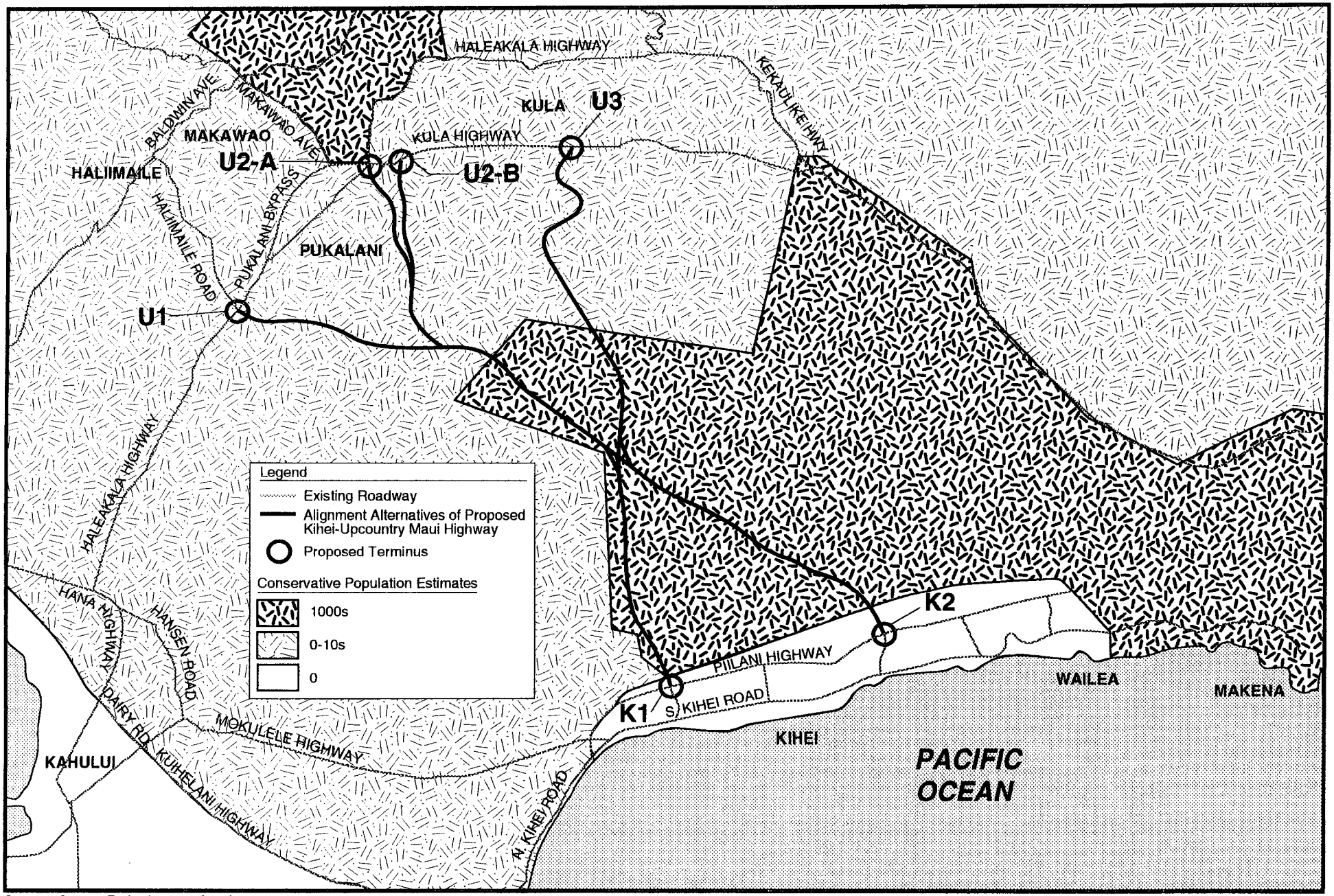
Birds found in the study area include the cardinal, barred dove, spotted dove, mockingbird, ricebird, white eye, myna, house sparrow, and two native species, the Hawaiian pueo and the golden plover (same sources as above).

3.8.3 ENDANGERED AND THREATENED SPECIES

Consultation with the U.S. Fish and Wildlife Service (Service) and the Department of Natural Resources (DLNR), Division of Forestry and Wildlife was initiated per requirements of the federal Endangered Species Act of 1973 (16 U.S.C. 1531-1543) and State law. Copies of the correspondence are located in Appendix C.

"Endangered" species are those that are in danger of extinction throughout all or a significant part of their ranges. A "threatened" species is one which is likely to become an endangered species in the foreseeable future. "Candidate 1" species are those for which the Service has evidence of vulnerability, but there are not enough data to support formal proposal as an endangered or threatened species.

In a letter dated January 8, 1997, the Service stated that alternatives that use the K2 segment pass within 1.5 km (1 mile) of Puu o Kali. This puu supports one of the few remaining examples of dry land forest in the State, and may contain three federally endangered plants



Source: Steven B. Anderson, October 19, 1999.

GRAPHIC SCALE:

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0 1 km 2 km 3 km

0 1 mi. 2 mi.

Axis Deer Population Density

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FIGURE 3-12

(*Abutilon menziesii, Hibiscus brakenridgei spp. brackenridgei,* and *Bonamia menziesii*) and rare plant species (*Acacia koaia, Achyranthes spendens var. splendens, Canavalia pubescens,* and *Nesoluma polynesicum*). The Service also reported that the alternatives that use the U2-A,-B segment pass near a reservoir which may be used by migratory or endangered waterbirds. The federally listed endangered Hawaiian coot *(Fulica americana alai*) was seen in this reservoir in 1986.

3.9 GEOLOGY, PHYSIOGRAPHY, SITE CONTAMINATION AND NATURAL HAZARDS

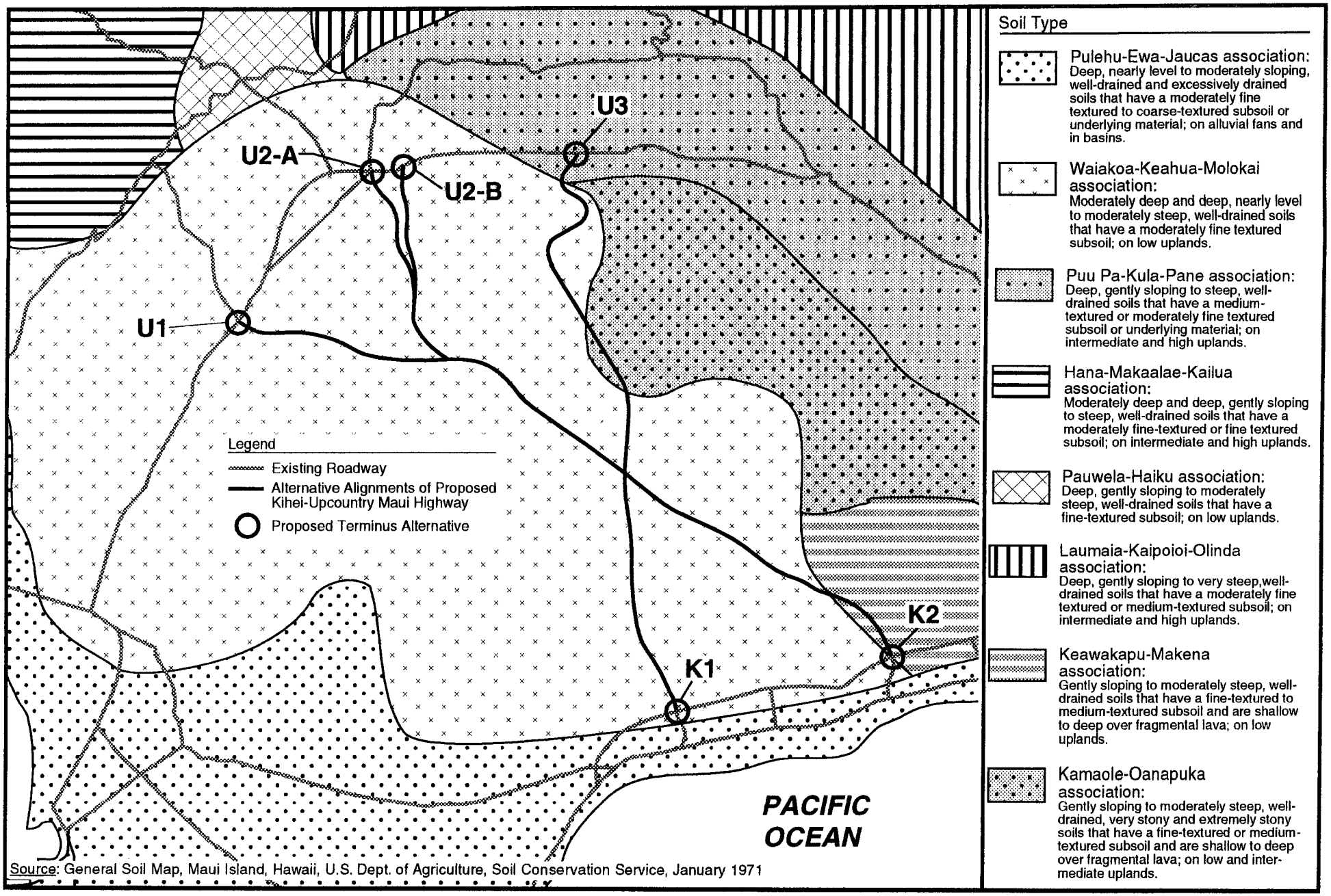
3.9.1 PHYSIOGRAPHY AND GEOLOGICAL SETTING

Maui consists of two major volcanoes, the West Maui Mountains and Haleakala. The older volcano, the West Maui Mountains, may be extinct. It consists of steep valleys and peaks carved by numerous streams. The younger volcano is Haleakala. Unlike the West Maui Mountains, Haleakala is a classic rounded dome typical of a shield volcano. Kihei-Upcountry Maui Highway would be located on Haleakala's western flank. The broad gently sloping plain connecting the two volcanoes, the Maui Isthmus, was formed when lava from Haleakala banked against the already existing West Maui volcano. Haleakala last erupted almost two centuries ago and is considered dormant. The potential for future eruptions exists.

Figure 3-13 displays the soil types in the project area. The alignments mostly traverse the Waiakoa-Keahua-Molokai association. This soil is characterized as nearly level to moderately steep, well-drained, and moderately fine textured. Portions of Segment U3 traverse the Puu Pa-Kula-Pane and Kamaole-Oanapuka associations.

3.9.2 HAZARDOUS WASTE SITES

Although the project area is largely undeveloped, a database search was conducted to investigate the potential occurrence of hazardous material sites along the proposed alignments (see Appendix K). The database search included federal and State environmental



Soil Types in Project Area
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FIGURE 3-13

databases, in accordance with the American Society for Testing and Materials (ASTM) standards for environmental site assessments (E1527-93). No hazardous materials sites were identified in the database search that would be likely to pose a threat to public safety.

3.9.3 NATURAL HAZARDS

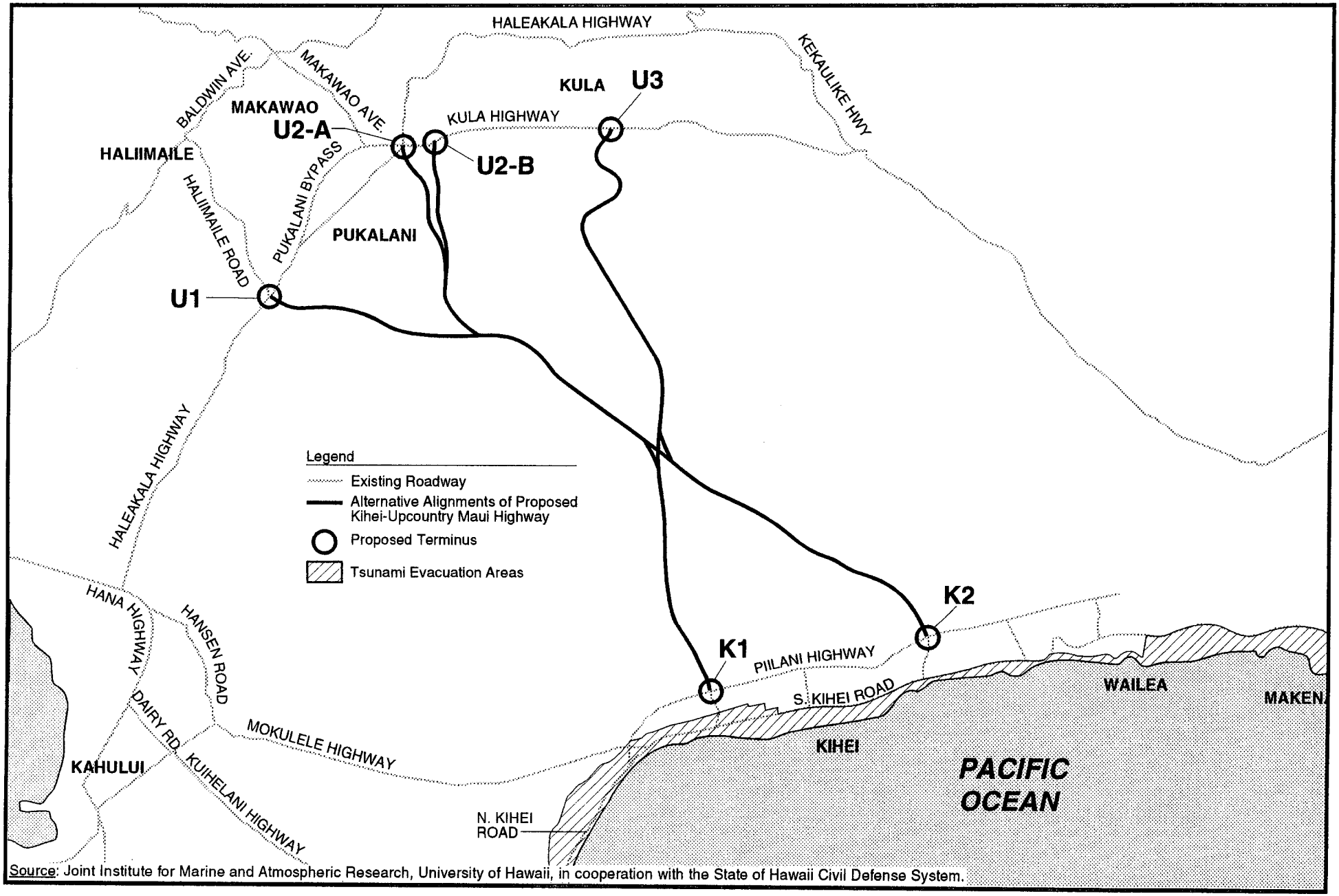
Maui's last major earthquake occurred in 1938, damaging roads and buildings on Maui and Molokai and causing minor damage in Honolulu. Its epicenter was about 40 km (25 miles) north of Puawela Point on the north coast of Maui. Most major earthquakes in Hawaii occur on the island of Hawaii, where earthquake epicenters are concentrated in the southern half of the island.

Tsunamis are usually generated when the ocean floor is deformed abruptly during an earthquake. Tsunami reaching Hawaii are generated by earthquakes occurring in such places as Chile, Japan, the Aleutian Islands, Alaska and Hawaii. Based on historical records, the areas most vulnerable to tsunamis are Hilo and the North shores of all the islands. Although the project area is not susceptible to tsunami, much of Kihei-Makena is within a tsunami evacuation area (see Figure 3-14).

Hawaii's heaviest rains are brought by winter storms from October to April. These storms can bring three or more inches of rain in a single hour. Lowland leeward areas, such as Kihei-Makena, obtain their rainfall chiefly from a few winter storms, and therefore, their rainfall is strongly seasonal. Hurricanes can also bring heavy rain and wind and cause damage. However hurricanes on Maui are infrequent.

3.10 HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

This section documents activities to identify and evaluate historic and archaeological resources, and traditional cultural properties or practices (TCP) in the project area in accordance with the requirements of the Code of Federal Regulations (CFR) pertaining to the Protection of Historic Properties (36 CFR 800).



Source: Joint Institute for Marine and Atmospheric Research, University of Hawaii, in cooperation with the State of Hawaii Civil Defense System.

GRAPHIC SCALE:
0 1 km 2 km 3 km
0 1 mi. 2 mi.

N

Tsunami Evacuation Areas
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FIGURE 3-14

3.10.1 EARLY AGENCY COORDINATION

Coordination with the DLNR, State Historic Preservation Division (SHPD) was initiated during project scoping to achieve consensus on meeting the requirements of 36 CFR 800.4, Identifying Historic Properties. SHPD suggested that a reconnaissance-level survey be conducted on alignments considered in the Draft EIS because of the high cost of conducting an inventory-level survey of multiple alignments up to 17.5 km (10.9 miles) in length. This suggestion was followed as described below. SHPD also suggested that an inventory-level survey be conducted on the preferred alternative, which would be identified after public distribution of and comment on the Draft EIS. This suggestion was also followed as described below.

3.10.2 RECONNAISSANCE SURVEY

3.10.2.1 Methodology

Cultural Surveys Hawaii (CSH) performed an archaeological reconnaissance from February 18 through March 6, 1997 along six alternative alignments (U1,K1; U1,K2; U2,K1; U2,K2; U3,K1; and U3,K2; see Section 2.2.1.4). The reconnaissance survey extended 60 m (200 ft) from the alignment center line (120 m (400 ft) total width). In total, 36 930 linear meters (121,160 ft of roadway centerline) or 450.3 ha (1113 acres) were surveyed. The reconnaissance survey report (Cultural Surveys Hawaii, December 9, 1997) included a field survey to assess archaeological sites, archival research of historical documents and maps, and a review of previous archaeological research by others.

Following the reconnaissance survey, two new alternatives were developed to replace the eastern (mauka) portion of Segment U2 because the U2 alignment would cross a future Kamehameha School campus, and would potentially affect archaeological sites likely to be important for preservation (see Section 2.2.2, and below). A reconnaissance survey was conducted of the U2-A (two versions; see below) (Cultural Surveys Hawaii, November 14, 1997 and July 1998) and U2-B alignments (Cultural Surveys Hawaii, November 14, 1997).

Cultural Surveys Hawaii prepared a single report that includes the results of all four reconnaissance surveys (see Appendix I).

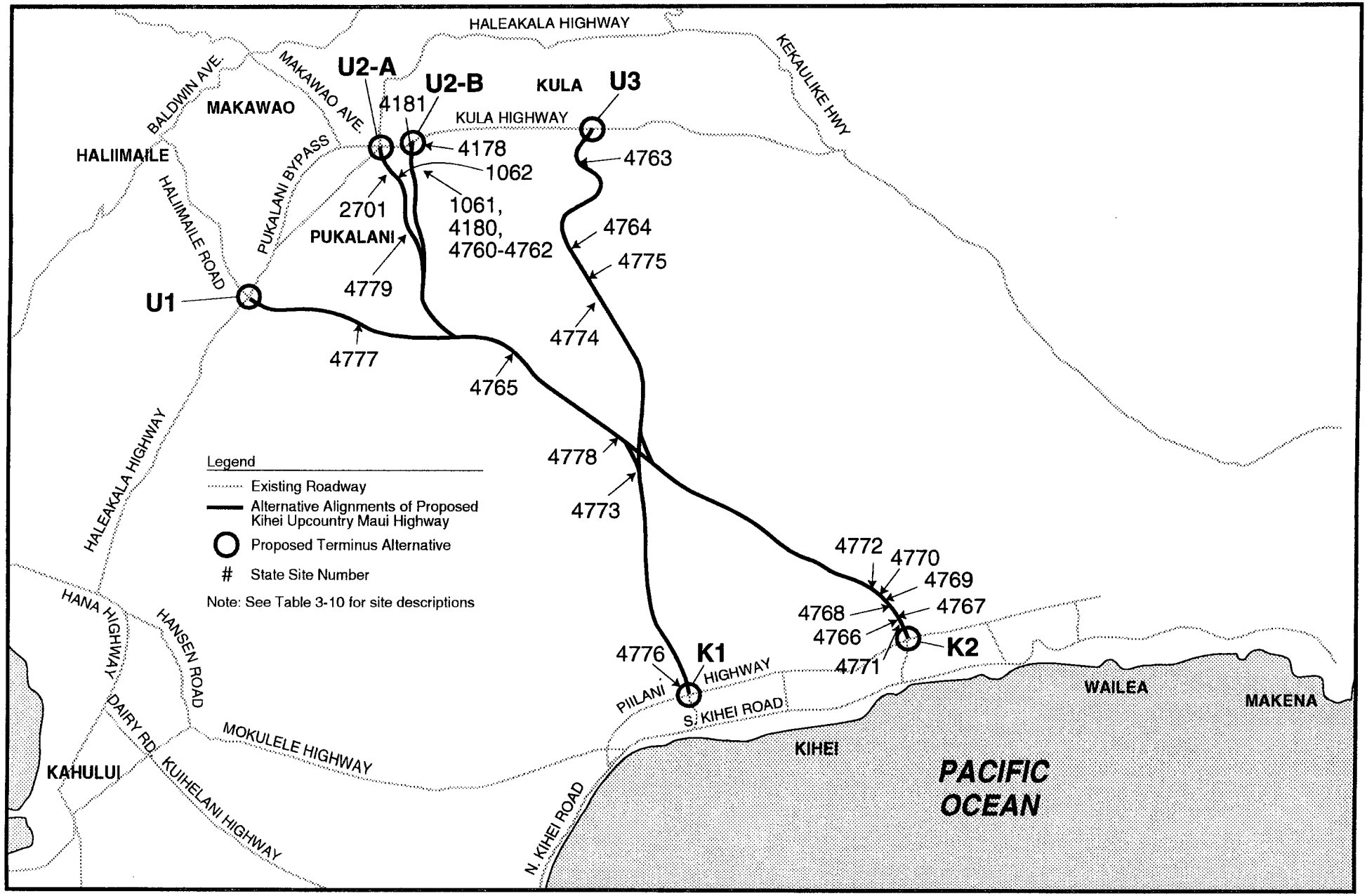
3.10.2.2 Survey Results

A total of twenty-five sites were identified within the 120 m (400 ft) study corridor (see Figure 3-15 and Table 3-10). Twenty of these sites are newly discovered, and five sites were previously recorded from other surveys. As indicated in Section 3.10.5, the sites listed on Table 3-10 are eligible for the National Register of Historic Places.

The sites listed on Table 3-10 fall into two general categories: (1) prehistoric (or possibly early post-contact); and (2) post contact archaeological remains. The presumed prehistoric archaeological remains include simple shelter structures and petroglyphs. The post-contact sites include wall sections, various water control features, and clearing mounds associated with sugarcane irrigation and cattle ranching. Military features in the form of enclosures were also observed. The "barren" zone between the more environmentally favorable inland (mauka) and coastal (makai) habitation and agricultural zones contained very few sites, which is consistent with previous archaeological studies and the archival research on human settlement patterns for this area.

The first reconnaissance survey (U1, U2, U3, K1 and K2) identified three sites that would likely require preservation, State Sites 50-50-10-1061, 4178 and 4764 (see Section 3.10.5). The U2 alignment was modified to the U2-A and U2-B alignments, in part because of its potential affect on Sites 1061 and 4178. In addition, the U3 alignment was shifted northeast to avoid impacts to Site 4764. It is undetermined whether this U3 shift would adversely affect other archaeological sites. However, this information would be developed for U3 should it have been identified as the preferred alternative, because an inventory survey was conducted on the Preferred Alternative (see Section 3.10.3).

Reconnaissance surveys of the original U2-A alignment (see Section 2.2.2) identified two sites, one site in Kaluapulani Gulch (Site 1062) and the other in Kalialinui Gulch (Site 4779), within the alignment (see Figure 3-15 and Table 3-10). The sites appear to be significant (see Section 3.10.5), and would require preservation. These discoveries resulted in further



Source: Cultural Surveys Hawaii, December 1997

GRAPHIC SCALE:

0 1 km 2 km 3 km 0 1 mi. 2 mi.

N

Historic and Archaeological Sites Found During the Reconnaissance Surveys

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FIGURE 3-15

Table 3-10
Sites Located During Reconnaissance Surveys

State Site #[1]	Description	Comments	Affected Alignment
1061[2,3]	Complex (cliff overhang shelter and panels with petroglyphs)	2 features; 60+ petroglyph figures, including poss. boxers and canoes	U2 (old)
1062[2,3]	Petroglyph friezes	Located in Kaluapulani Gulch; +/- 50 figures including overhang shelter and stone wall	U2-A (Original)
4178[2,3]	Petroglyphs on north wall of gulch	Located in Kaluapulani Gulch; +/- 15 figures	U2 (old)
4180[2,3]	Wall	Identified by Wulzen (1996); related to pineapple cultivation and cattle control	U2 (old)
4181[2]	Complex of two agricultural mounds; two stone alignments	Historic agriculture function; site already excavated for its information	U2-B
4760[3]	Modified outcrop	Cattle trail bisects site	U2 (old)
4761[3]	Oval enclosure	Recurrent habitation	U2 (old)
4762[3]	Square enclosure	Permanent habitation	U2 (old)
4763	Wall (enclosure segment)	Cattle wall	U3
4764[3]	Cliff overhang shelter with petroglyphs	15 pecked and incised figures	U3 (old)
4765	Mounds, road berm and irrigation ditch	3 features; ditch, clearing mounds, and berm segment	U1;U2-A,-B
4766	Area of sites	+/- 30 associated features (enclosures, alignments, and mounds)	K2
4767	Circular enclosure	Agriculture	K2
4768	Wall	Possibly a cattle wall	K2
4769	Wall and cairn	2 features; wall and ahu	K2
4770	Enclosure and cairn	2 features; enclosure and ahu	K2
4771	Mound	Possibly a clearing mound	K2
4772	Boundary wall	Site extends across entire corridor	K2
4773	Complex of 2 enclosures and 7 enclosures	Contain live small arms ammunition	U1;U2-A,-B; K1,K2
4774	Wall	Cattle	U3
4775	Wall	Cattle	U3

Table 3-10
Sites Located During Reconnaissance Surveys
(Continued)

State Site #[1]	Description	Comments	Affected Alignment
4776	Midden and lithic scatter, and mound	Previous test units observed in surrounding area (association undetermined)	K1
4777	Wall	Cattle, above power line at bottom of gulch	U1
4778	Enclosure	Undetermined	U1;U2-A,-B
4779	Shelter-cave	Located in Kalialinui Gulch; recurrent habitation	U2-A (Original)

Notes: [1] All numbers preceded by "50-50-10-."
[2] Site identified from previous research.
[3] Site no longer affected because of modifications to alternatives.
See Figure 3-15 for the locations of the sites.

Source: Cultural Surveys Hawaii, Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole *Ahupua'a* (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui, June 1999

refinement of the U2-A alignment to avoid the sites. The second version of U2-A would avoid Site 1062 by shifting the original alignment north at Kaluapulani Gulch. It would avoid Site 4779 by shifting the original alignment south at Kalialinui Gulch.

A reconnaissance survey of the second version of U2-A found that it would indirectly affect a heiau (State Site 50-50-10-2701). This heiau appears to be significant under Criteria D and E (see Section 3.10.5). The alignment would pass on the south (makai) side of the heiau. It would obstruct the view plane from the heiau (see Figure 3-15 and Table 3-10), even though Site 2701 is not within the 120 m (400 ft) study area. CSH noted that an alignment on the north (mauka) side of the heiau, such as the original U2-A, would not present such an effect. Potential impacts to the heiau resulted in another redefinition of the U2-A alignment, as a combination of the original and second version of U2-A. This third version of U2-A avoids Sites 1062 and 4779 (second version of U2-A), and shifts the alignment south (mauka) of the heiau (original U2-A), avoiding visual affects. Since the third version of U2-A embodies the

alignments of both the original and second version of U2-A, an additional reconnaissance survey was not necessary.

The reconnaissance survey of U2-B was prepared using an existing archaeological reconnaissance survey report (Archaeological Inventory Survey, 44-Acre Pukalani Terrace Subdivision III, Land of Aapueo, Makawao District, Island of Maui, 1996) prepared for the area surrounding the eastern (mauka) portion of U2-B. Field work was conducted on the western (makai) end of U2-B (Kalialinui Gulch to Omaopio). The Pukulani Inventory Survey identified State Site 50-50-10-4181 within the U2-B alignment. However, the site was excavated for the information that attributed significance to the site, and is no longer considered significant as an historic property. The field work found no other sites.

3.10.3 INVENTORY SURVEY

Following the identification of the preferred alternative (U1,K1), an archaeological inventory survey with limited subsurface testing was conducted on this alignment (Cultural Surveys Hawaii, Archaeological Inventory Survey of the Proposed Kihei to Kula Road Corridor, Kailua to Ka`ono`ulu Ahupua`a (TMK 2-05-001: por. 001, 002, 003, 009 2-05-002: por. 001, 002, 005, 015, 016, and 3-09-001: por. 016), Makawao and Wailuku Districts, Island of Maui, December 2000).

3.10.3.1 Methodology

CSH performed an archaeological inventory survey of the U1,K1 alignment from August 28, 2000 to October 3, 2000. Like the reconnaissance survey, the inventory survey area extended 60 m (200 ft) on both sides of the centerline, a total width of 120 m (400 ft). However, different methods were utilized during the course of the survey. Along those sections in active sugar cane fields, the surveying was conducted by two archaeologists in a vehicle. The active cane fields were not surveyed by foot. Along those sections in active pineapple fields, the surveying was conducted by four archaeologists on foot following existing pineapple roads. All clearing mounds in the pineapple fields within the survey area were inspected. All other sections, including gulches, valleys and ravines even within active agricultural areas, were surveyed by four archaeologists spaced 1 m (3 ft) to 15 m (50 ft)

apart. Generally, the four archaeologists were spaced 1 m (3 ft) to 3 m (10 ft) apart when surveying within gulches, valleys and ravines because petroglyphs are known to exist in these types of places in the study area. The archaeologists were spaced 5 m (16 ft) to 15 (50 ft) apart when surveying open savannah with scattered kiawe.

3.10.3.2 Survey Results

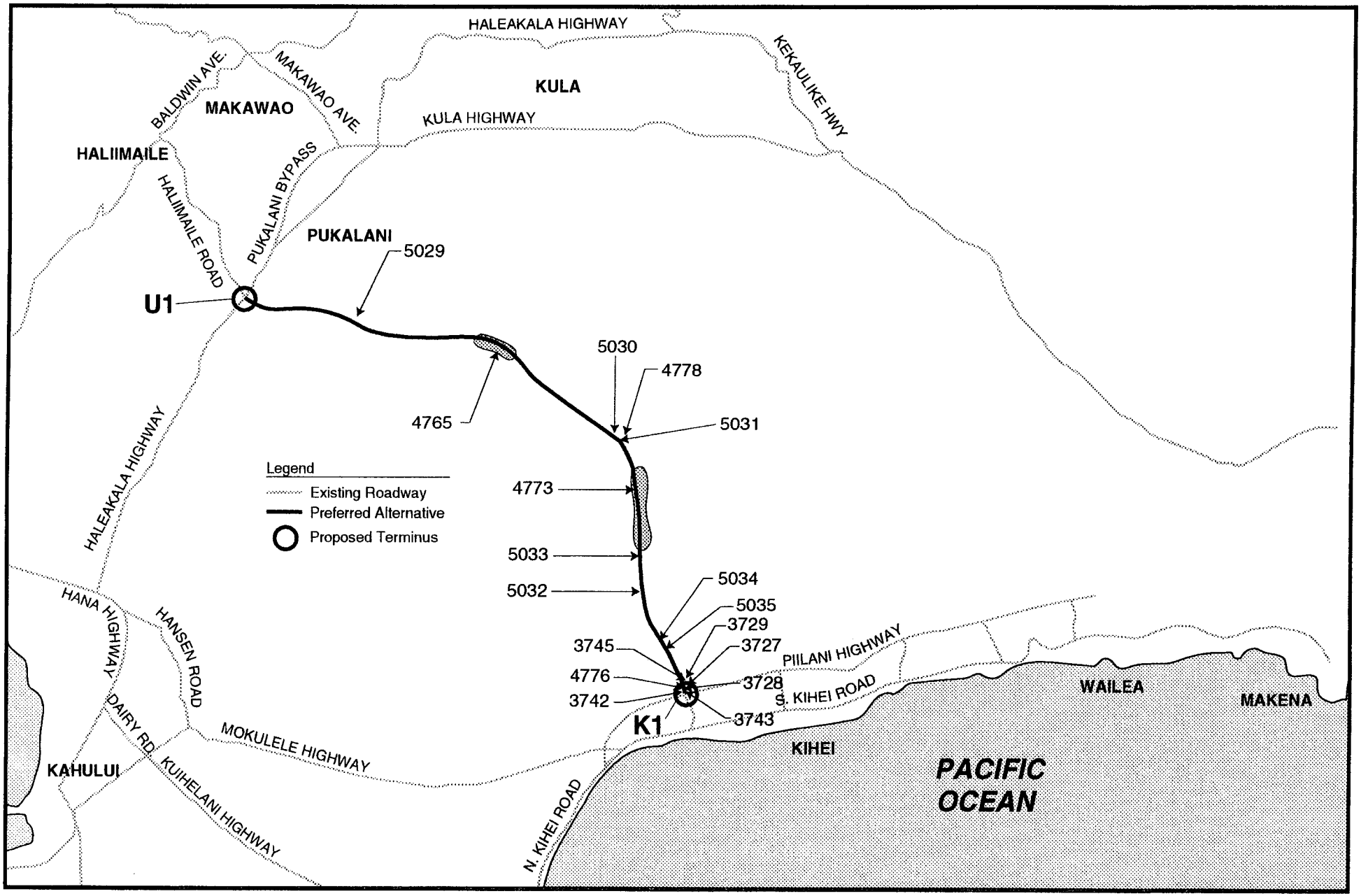
A total of 126 structural and nonstructural features were identified along the 120 m (400 ft) wide study corridor of the U1,K1 alignment. These features are organized into 17 distinct sites that are associated with a variety of functions, including traditional Hawaiian temporary habitation, agricultural, symbolic (petroglyph sites), animal husbandry, a marker and historic military training activities. Table 3-11 provides a listing of the sites identified along the U1,K1 alignment, and the locations of these sites are shown on Figure 3-16.

Hawaiian Temporary Habitation Sites

The seven temporary habitation sites (State Sites 3742, 3743, 3745, 5032, 5033, 5034 and 5035) identified along the U1,K1 alignment are grouped at the lower portion of the alignment, roughly between the elevations of 14 m (45 ft) and 140 m (460 ft) (see Figure 3-16). Sites 3742, 3743 and 3745 were identified in a previous survey and cultural materials from these sites were collected at that time. Therefore, these sites were not re-evaluated.

Site 5032 consists of a series of boulder alignments and was determined to be a temporary habitation site based on the presence of cultural material observed on the surface that included a basalt net sinker stone, a basalt adz preform or core, and a single piece of marine shell midden. These items are typically associated with pre-contact Hawaiian culture. The construction style of the Site 5032 is similar to military sites found along the project corridor rather than the other temporary habitation sites. The size of the site is unique in that it is considerably longer.

Site 5033 is a rectangular enclosure that appears to be a traditional Hawaiian temporary habitation site that was later modified either by the military or by hunters. No cultural materials were observed on the surface, but 29.8 g (1.02 oz) of marine shell midden was encountered during excavation of the site.



Source: Cultural Surveys Hawaii, December 2000

GRAPHIC SCALE:

0 1 km 2 km 3 km 0 1 mi. 2 mi.

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Historic and Archaeological Sites Found During the Inventory Survey of Alternative U1,K1

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FIGURE 3-16

Table 3-11
Summary of Inventory Survey of the U1,K1 Alignment

State Site #[1]	Site Type	Function	Distance / Orientation from Center Line	Age
3727[2]	Stone Piles	Agriculture	15 m (50 ft) / South	Intermediate
3728[2]	Stone Piles	Agriculture	45 m (150 ft) / South	Intermediate
3729[2]	Stone Cairn	Marker	50 m (165 ft) / South	Intermediate
3742[2]	Surface Scatter	Temporary Habitation	On Center Line	Intermediate
3743[2]	Surface Scatter	Temporary Habitation	60 m (200 ft) / South	Pre-Contact
3745[2]	Surface Scatter	Temporary Habitation	40 m (130 ft) / South	Pre-Contract
4765	Irrigation Ditches, and Mounds	Agriculture	Crosses Center Line	Historic
4773	Military Complex	Military	Encompasses Corridor Section	Historic
4776	Oval Enclosure	Military	15 m (50 ft) / North	Historic
4778	L-Shape Enclosure	Military	23 m (75 ft) / East	Historic
5029	Petroglyphs	Symbolic	60 m (200 ft) / East	Historic
5030	Walls	Animal Husbandry	On Center Line	Historic
5031	Petroglyphs	Symbolic	60 m (200 ft) / West	Pre-Contract
5032	Alignments	Temporary Habitation	58 m (190 ft) / North	Pre-Contract
5033	Rectangular Enclosure	Temporary Habitation and Military	45 m (150 ft) / North	Pre-Contract and Historic
5034	Square Enclosure	Temporary Habitation	23 m (75 ft) / South	Pre-Contract
5035	C-Shape Enclosure	Temporary Habitation	15 m (50 ft) / North	Intermediate

Notes: [1] All numbers preceded by "50-50-10-."
[2] Site identified from previous research.
See Figure 3-16 for the locations of the sites.

Source: Cultural Surveys Hawaii, Archaeological Inventory Survey of the Proposed Kihei to Kula Road Corridor, Kailua to Ka`ono`ulu Ahupua`a (TMK 2-05-001: por. 001, 002, 003, 009 2-05-002: por. 001, 002, 005, 015, 016, and 3-09-001: por. 016), Makawao and Wailuku Districts, Island of Maui, December 2000, June 1999

Site 5034 is a square enclosure that appears to have been bulldozed, damaging the west and north walls of the enclosure. A sparse amount of marine shell midden was encountered during excavation of the site.

Site 5035 is a C-shaped enclosure. No cultural materials were observed on the surface or during excavation. However, a darker stained layer similar to the cultural layers found at Sites 5033 and 5034 was encountered, which suggests that the site contains cultural material.

Petroglyph Sites

Two petroglyph sites were found in Kalialinui (Site 5029) and Waiakoa (Site 5031) Gulches. Site 5029 consists of a panel of three historic petroglyphs pecked into the northern cliff face. Site 5031 consists of at least three traditional petroglyphs of anthropomorphic figures located on the southern side of the gulch. Both petroglyph sites are located about 60 m (200 ft) from the alignment center line. Site 5031 was originally only 15 m (50 ft) from the center line, but the alignment was adjusted 45 m (150 ft) to the east to avoid the site. Therefore, both petroglyh sites are outside of the project's Area of Potential Effect (APE) because they are 60 m (200 ft) from the centerline and because both gulches will be crossed by bridge.

Agriculture and Marker Sites

Three sites consisting of stone piles and cairns (Sites 3727, 3728 and 3729), which were identified in a previous study, are functionally associated with agriculture and a marker. All three sites were completed excavated during the previous study.

Military Sites

Site 4773 is large historic military site consisting of 102 features that include enclosures of various shapes. The U1,K1 alignment passes directly through the site at an elevation between 150 m (500 ft) and 225 m (740 ft) (see Figure 3-16). No cultural material was observed on the surface, and none of the test probes or excavations encountered cultural material.

Site 4776 is a small oval and isolated enclosure. The site was interpreted as a military site based on its construction style, size, location and lack of traditional cultural materials. There may have been more sites or features surrounding Site 4776 because there is evidence of considerable bulldozing in the area.

Site 4778 is a small L-shaped enclosure, and is similar to Site 4776 in that it is isolated with no observable cultural materials. The site was interpreted as a military site based on its construction style, size, location and lack of traditional cultural materials.

Historic Sugar Cane Agricultural Site

Site 4765 consists of remnants of historic sugar cane cultivation infrastructure in the section of the corridor between Pulehu and Omaopio Roads. The U1,K1 alignment passes directly through this site. Recorded features include clearing mounds associated with historic sugar cane cultivation and five inactive earthen irrigation ditches with each having two to three small bridges constructed of concrete and lumber. The bridges are in poor condition.

Cattle Wall Site

Site 5030 consists of sections of cattle walls along the north side of Waiakoa Gulch. The walls were used to prevent cattle from entering or exiting the gulch.

3.10.4 TRADITIONAL CULTURAL PROPERTIES / PRACTICES

According to draft Procedures for Ethnographic Surveys (SHPO, 1999), a Traditional Cultural Property (TCP) is defined as:

> "Any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions (are) founded in a community's history and contribute to maintaining the community's cultural identity. (They) *demonstrate a continuity of practice or belief until present or documented in historical source materials, or both.* These properties include, but are not limited to, some types of archaeological sites." (italics added)

According to the National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (1994), a TCP is defined generally as a resource that is eligible for the NRHP because of its association with the cultural practices or beliefs of a living community that are rooted in that community's history, and are important in maintaining the continuing cultural identity of the community.

TCPs differ from archaeological or historic sites in that they are sites or resources that are currently in use by a particular ethnic group. Examples of TCPs that may be in the study area include ancient fishing *ko`a*, coastal zones providing edible shell fish and seaweed, land areas harvested for culturally significant plants, and structures associated with ceremonies conducted for graduates of *hula halau*.

3.10.4.1 Methodology

Scientific Consultant Services (SCS) conducted archival research and oral history interviews with long-time local residents of the Kihei-Upcountry region to determine whether there may be cultural resources in the project area. The oral interviews attempted to identify cultural properties in the study area, as well as defining their characteristics and associated cultural activities. These resources were evaluated in terms of their physical relationship with the alternatives. The SCS report is included as Appendix I to this FEIS.

More than 50 people were contacted and interviewed. They included several people associated ranching activities and those previously living in plantation camps. In addition, a descendant of a Land Commission Award recipient whose family had remained in the area was also interviewed.

3.10.4.2 Results of Study

No TCPs, based on definitions contained in draft Procedures for Ethnographic Surveys and National Register Bulletin 38, were identified in the project area. However, numerous culturally-significant sites and features in the general vicinity of the project area were identified through the oral histories, such as religious sites, ancient trails, petroglyphs, fishponds, and burial caves. Topographic anomalies associated with pre-contact events, individuals, or recorded in legends and stories were also noted. In addition, the reconnaissance and inventory surveys (see Sections 3.10.2 and 3.10.3) identified culturally-important archaeological sites (i.e., Criterion E for significance; see Section 3.10.5).

The following culturally-significant sites or resources in and surrounding the project area were identified through oral histories:

- Puu Pane, located outside the project area on the crest of a hill east of Haleakala Highway, which was declared sacred by the paramount chief Kihapi`ilani (c., A.D. 1500-1600s) and was used as a *heiau* for the high chiefs of Maui from ancient times to Kihapi`ilani;
- several old trails, including a trail near Puu o Kali, the ancient *alanui* coastal trail, and Waiakoa Trail, of which only portions remain or are visible;
- petroglyphs in the vicinity of Puu o Kali;
- fishponds, such as Kalepolepo, along the coast outside the project area; and
- *heiau* (site 2701; see Section 3.10.2) and *makahiki* sites near the U2-A alignment.

With the possible exception of the two *heiau*, one of the above potentially culturally-significant sites or resources are presently being used in a manner that would make them a TCP. The current uses of site 2701 and Puu Pane, if any, are unknown.

3.10.5 SIGNIFICANCE EVALUATION

CSH conducted significance evaluations of the sites identified during the reconnaissance surveys and the 17 sites found during the inventory survey of the preferred alternative. The evaluations were based on criteria established for the National and Hawaii Registers of Historic Places.

A resource may be considered eligible for the National Register if it has "integrity of location, design, setting, materials workmanship, feeling, and association," and meets any one of the following criteria:

A: associated with events that have made a significant contribution to the broad patterns of our history;
B: associated with the lives of persons significant in our past;
C: embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
D: yielded, or may likely yield, information important in prehistory or history.

The Hawaii Register includes another criterion:

E: site that has cultural significance, such as religious structures (shrines, *heiau*), or human burial locations.

The purpose of conducting a significance evaluation is to determine whether a site is a "historic property," which is defined as being on or eligible for the National Register. Federal actions that affect "historic properties" are required to comply with Section 106 of the National Historic Preservation Act.

State Sites 50-50-10-1061, 1062, 4178 and 4764 appear to be significant under Criteria C, D and E. These findings led to the modifications of Alternatives U2-A and U3 to avoid these sites. These sites are likely to yield information important to history and prehistory, are considered excellent for their site types, and are culturally significant.

Sites 4762, 4779, 5029 and 5031 appear to be significant under Criteria C and D because they are excellent examples of their type, and may yield varying types of scientific data. After refinement of the alignments, none of these sites is within the path of any alternative, including Sites 5029 and 5031, which were identified during inventory survey.

Site 2701 appears to be significant under Criteria D and E because of its information content and its cultural significance as a traditional Hawaiian religious structure.

All the other sites, including the 15 sites identified during the inventory survey within the project's APE, were evaluated by CSH as significant under Criterion D. CSH did not believe the value of these sites warranted modifications or realignments of any of the alternatives. CSH found that data recovery at each of the sites affected by the project would be appropriate. Data recovery of many of the sites, such as Sites 4181, 3727, 3728, 3729, 3742, 3743 and 3745, was completed by others. Similarly, CSH recommended that no further work is needed for Sites 4765, 4773, 4776, 4778, 5030 and 5034 because the inventory survey documented their locations, types, age and functions sufficiently that no further research on these sites appears warranted. However, CSH did recommend that data recovery be conducted on sites 5032, 5033 and 5035.

In a letter dated June 21, 1999, the Deputy State Historic Preservation Officer (SHPO) concurred that the sites identified in the reconnaissance surveys are eligible for the National Register of Historic Places (see Appendix C). Following completion of the inventory survey and cultural impact reports, they were distributed to organizations recommended by the SHPD for consultation. In a letter dated May 10, 2001, the SHPD communicated agreement with the mitigation proposals contained in the inventory survey report, but asked that significance evaluations of Sites 5029 and 5031 be changed from "D" only to "C" and "D" (see Appendix C). The survey report was revised as recommended by SHPD (see Appendix I).

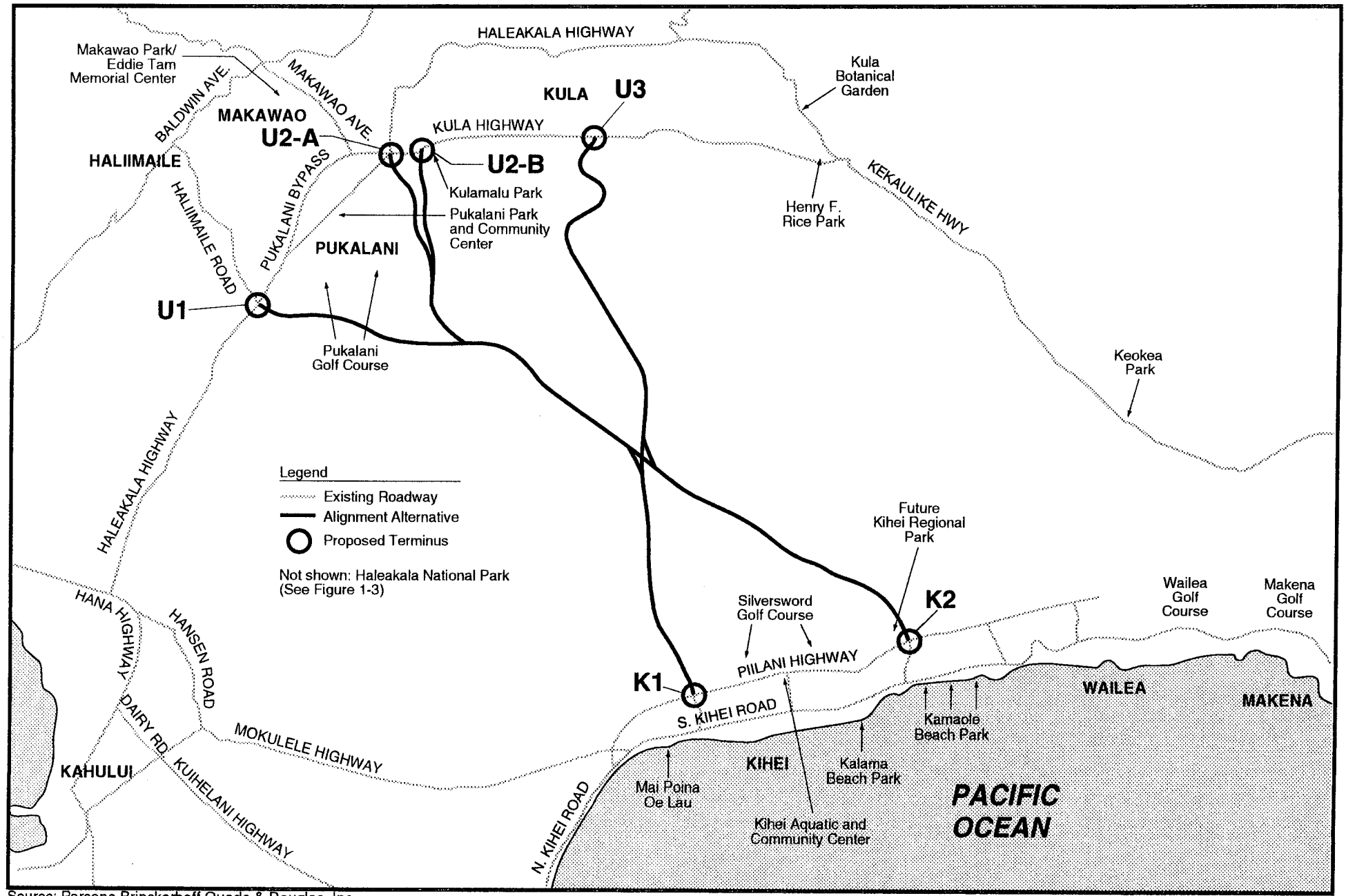
3.11 PARKS AND RECREATION

Parks and recreational resources in the project area are shown on Figure 3-17.

The Kihei-Makena region contains three major beach parks (Kalama, Kamaole I, II and III and Mai Poina Oe Lau), and other smaller beach parks along the Kihei to Makena coastline. This region also features the recently completed Kihei Aquatic and Community Center, Silversword Golf Course, and two private golf courses in Wailea. The Kihei District Regional Park is being planned for the area east (mauka) of Piilani Highway, near its intersection with Ke Alii Alanui Street. According to the County of Maui Department of Parks and Recreation, development of the park has been delayed partly because of the recent completion of the Kihei Aquatic and Community Center. The master plan for the regional park includes football, baseball, softball and soccer fields, basketball courts, nature trails and an amphitheater.

Parks and recreation facilities in Upcountry Maui include the Makawao Park/Mayor Eddie Tam Memorial Center in Makawao; the Upcountry Youth Center, Pukalani Park and Community Center, Pukalani Country Club Golf Course in Pukalani; Kula Botanical Garden, Harold F. Rice Park, Keokea Par, and a new park in Kulamalu.

At the summit of Haleakala is Haleakala National Park. The National Park extends from the higher elevations on the western flank of the volcano across the crater, to the eastern coastline at Kipahulu. According to a Park official, approximately a million people visit the summit and about one half million visit the Kipahulu side of the Park annually (telephone conversation,



Source: Parsons Brinckerhoff Quade & Douglas, Inc.

GRAPHIC SCALE:

N

0 1 km 2 km 3 km 0 1 mi. 2 mi.

Parks and Recreational Areas
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 3-17

December 8, 1997). In a one-year period between 1999 and 2000, about two millions people visited the national park ("Haleakala Park Visits Reach Record-High", Honolulu Advertiser, February 25, 2001). Based on Maui Visitor Bureau estimates, a little more than half the number of park visitors went to the summit, which is consistent with the park official estimate. Approximately a third of the summit visitors watch Haleakala's famous sunrise. The summit is also used as a starting point for bike tours down the volcano (see Section 3.4.3). It was estimated that about 86,000 people bike down from the summit in 2000, up from 74,000 the year before (Honolulu Advertiser, February 25, 2001)

3.12 VISUAL AND AESTHETIC RESOURCES

Identifying viewsheds is an important step to assess a project's potential visual affects. A viewshed can be described as all surface areas visible from an observer's viewpoint. The following are general viewsheds of the study area:

Ocean and Shoreline Views

The ocean and shoreline views, including views of Kahoolawe, Lanai, and Molokini Islands, are spectacular scenic viewsheds from both Upcountry and Kihei.

Haleakala

The dry vegetated slopes of Haleakala are a backdrop to the dominant eastern (mauka) viewshed from Kihei.

West Maui Mountains

The West Maui Mountains, a rugged and majestic physical landmark, can be seen from both Upcountry and Kihei.

Central Maui.

From Upcountry looking down hill, the Central Maui area is primarily open agricultural land.

These viewsheds have visual quality according to FHWA's guidance document on visual impacts (Visual Impact Assessment For Highway Projects Publication No. FHWA-HI-88-054) because they have a high level of vividness (memorability of landscape), some intactness

(extent to which the landscape is free from visual encroachment) and some unity (the degree to which the landscape joins together to form a coherent, harmonious visual pattern).

The viewsheds from Upcountry have visual quality because of the panoramic views of Central Maui, the West Maui Mountains, and the ocean. However, Kihei, Kahului and Wailuku degrade the intactness and unity of the Upcountry viewsheds.

The makai viewshed from Kihei offers near sea level views of the ocean and coastline. However, since this viewshed has visual obstructions because of Kihei's low elevation, its visual quality is not as high as the same viewshed from Upcountry. Kihei's uphill views of Haleakala and distant vistas of the West Maui Mountains have high visual quality because they have few visual disruptions.

CHAPTER FOUR

Environmental Consequences

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental and social impacts of the proposed Kihei-Upcountry Maui Highway. The No Build alternative is used as the basis against which to evaluate the potential impacts of the preferred alternative (U1,K1) and the other build alternatives. Mitigation measures are also presented in this chapter. Many of the impacts and mitigation measures are attributed to a particular alternative, group of alternatives (e.g. the U3 alternatives), segment (e.g., Segment U1) or terminus (e.g., Terminus K2). In these instances, the particular section of the alternative is identified. When a particular impact or mitigation measure is attributable to the project regardless of the alternative selected, "Kihei-Upcountry Maui Highway" is often used.

4.1 LAND USE

4.1.1 LAND USE IMPACTS

Construction of the Kihei-Upcountry Maui Highway will introduce a roadway into areas presently used for agriculture and ranching. Therefore, Kihei-Upcountry Maui Highway will cause an irrevocable loss of agricultural- and pasture-related open space (see Section 4.8.1). These areas contain few manmade structures, other than those related to agricultural / ranching activities and infrastructure.

Highway projects can remove impediments to development by enhancing access to vacant land or increasing transportation capacity. To evaluate the potential land use impacts of a highway project, one compares the proposed transportation project to the planned growth within the project area. The potential growth impacts of the proposed roadway is based on an assessment of whether the transportation infrastructure will facilitate planned growth, or induce unplanned growth. The pattern of planned growth is described in the Kihei-Makena Community Plan (1998) and the Makawao-Pukalani-Kula Community Plan (July 1996) (see Section 3.1.4.2d).

All the alternatives will support planned growth because they will improve transportation between Kihei and Upcountry by reducing travel time (see Section 1.2.1). Furthermore, the proposed project is intended to meet existing and future travel demand resulting from implementation of the study area's land use plans. The issue of whether Kihei-Upcountry Maui Highway would induce unplanned growth is addressed below.

4.1.1.1 Kihei-Makena

Development in Kihei-Makena has historically correlated with the health of Maui's visitor industry. Support of growth would be beneficial in Kihei-Makena where there is ample room between Piilani Highway and South Kihei Road. Additional development would conform to Kihei's visitor-based urban environment. Factors, such as future hotel and resort development and the pace of development of Maui's "high-technology" industry (see Section 1.2.2) are expected to determine the speed and extent of growth in Kihei more than the Kihei-Upcountry Maui Highway.

As indicated in the Kihei-Makena Community Plan, only limited commercial and business development would be allowed east (mauka) of Piilani Highway, most of which consists primarily of the continued development of the Maui Research and Technology (R&T) Park. State and county zoning east (mauka) of Piilani Highway will remain in agriculture. Therefore, neither K1 or K2 segments will facilitate development in areas east (mauka) of Piilani Highway. If Kihei-Upcountry Maui Highway facilitates in-fill development between Piilani Highway and South Kihei Road, this would be considered a positive impact consistent with the Kihei-Makena Community Plan.

4.1.1.2 Upcountry

The Makawao-Pukalani-Kula Community Plan (July 1996) describes preservation of low densities, open space, and agricultural activities in Upcountry's rural communities. Because of the strong concern about potential impacts of the proposed project on the "quality of life" in Upcountry, stated repeatedly during project scoping activities (see Chapter 5), a Community Impact Assessment report was prepared for this project (see Appendix H). The findings of this report are summarized below and elsewhere in Chapter 4.

In scoping activities and interviews conducted for this EIS, many "key informants" stated a broad concern about the proposed highway facilitating urban development and increasing traffic volumes in Upcountry, elements that are inconsistent with the vision articulated for the area in the Makawao-Pukalani-Kula Community Plan. However, it is appropriate to look beyond these concerns to other factors that could affect land use trends in Upcountry, and to the relative differences among the alignment alternatives.

The project could facilitate planned residential and commercial developments in Upcountry because it will provide a transportation link between the Kihei-Makena employment center and the popular Upcountry Maui residential area. However, regardless of whether areas are available to be developed (i.e., have appropriate zoning or are identified for growth in official County land use plans), the greatest obstacle to further development in Upcountry is water availability, which has historically constrained urban growth. According to the Maui Board of Water Supply (BWS), there is currently barely enough capacity to serve current Upcountry customers. Under drought conditions, customers are required to reduce water use, and the reservoirs quickly empty.

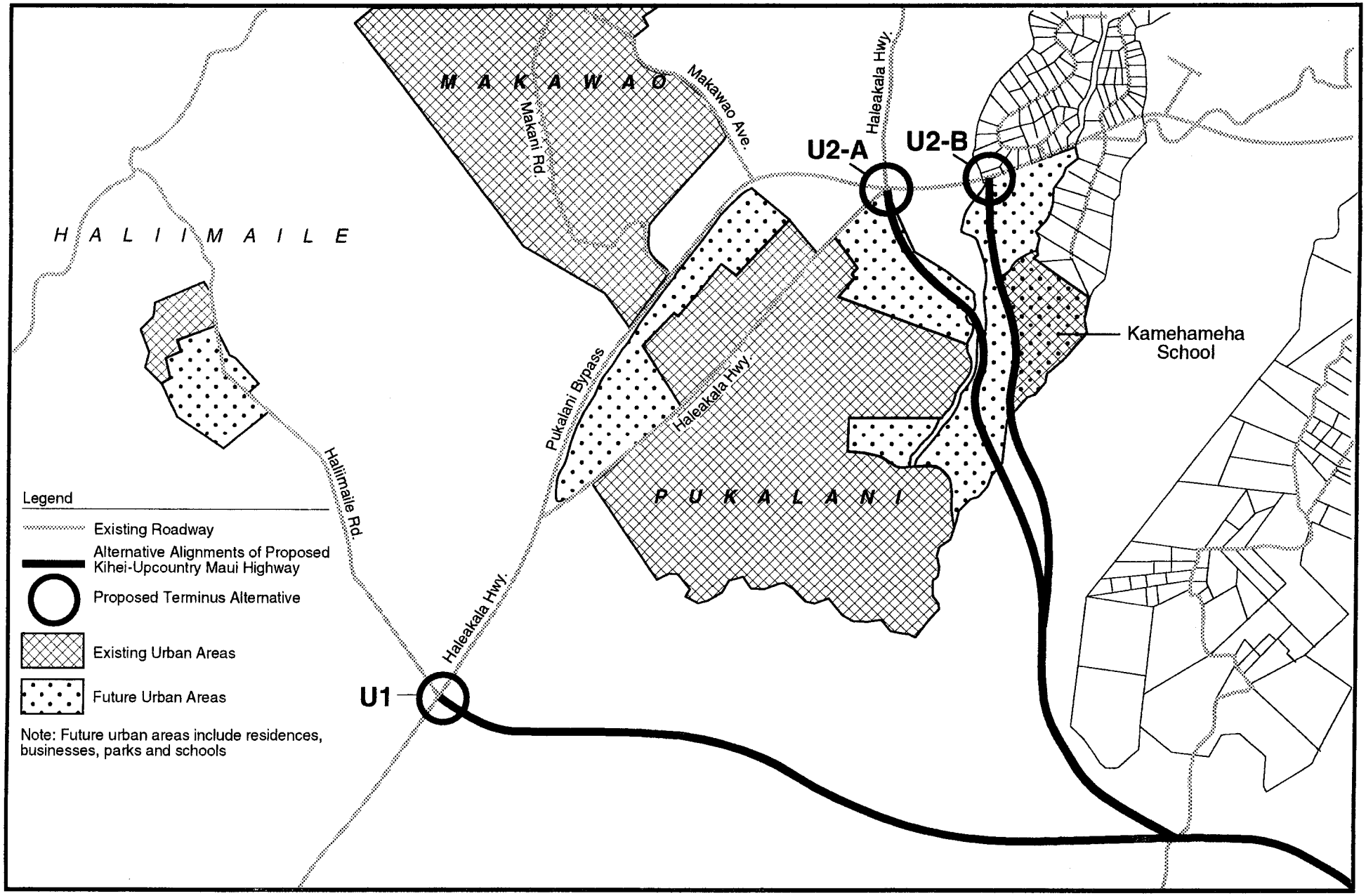
The Maui BWS uses the Community Plans in planning new water systems and/or increasing the capacity of existing systems. As described in Section 3.4.3, the Maui BWS is planning improvements to the Makawao system in response to the Makawao-Pukalani-Kula Community Plan (see Section 3.1.4.2d), and has allowed the private drilling of a well in Haiku to free water in the Makawao system for the Kulamalu development (see Section 3.1.3). These projects in the Upper and Lower Kula systems (see Section 3.4.3) are intended to improve service to current customers. With these improvements, the Maui BWS should not have to implement water use restrictions as frequently as in the past during drought conditions (telephone conversation with Maui BWS, May 5, 1998).

Providing the additional amount of water to the Kula systems that would be sufficient to support unplanned development in Upcountry, particularly Kula, is unlikely, mainly because the system relies on surface water. Surface water resources are vulnerable to drought conditions, whereas groundwater resources are a more stable source even during a year or two of limited rainfall. According to the Maui BWS, the high cost and substantial risk of developing alternative sources of water (i.e., wells) has stopped and constrained many

development proposals in Upcountry. The Kulamalu developer was able to assume the high cost and risk of drilling a well in Haiku only because of the large size and scale of the development, which is not expected to be typical for Upcountry because of land use controls (telephone conversation with Maui BWS, May 5, 1998). Therefore, water supply limitation is likely to constrain development in Upcountry in the future, despite the efforts of the Maui BWS to improve the Upcountry systems, and despite the construction of the Kihei-Upcountry Maui Highway.

Since the Maui BWS is planning to accommodate development in Pukalani, which is part of the Makawao system, the U1 alternatives could facilitate Pukalani's growth westward (makai) toward the proposed highway. This growth inducement will be partially consistent with the Makawao-Pukalani-Kula Community Plan because there are parcels on the west (makai) side of Pukalani designated for residential growth (see Figure 4-1). The U1 alternatives, including the preferred alternative, could facilitate development beyond Pukalani's urban growth boundary if the landowner, Alexander and Baldwin (A&B), chooses to develop its land north (makai) of Pukalani and Makawao. Similarly, the U1 alternatives may induce development in Haliimaile beyond what is designated in the Makawao-Pukalani-Kula Community Plan (see Figure 4-1).

The U2-A and U2-B alignments may have very little influence in the area south (mauka) of Pukalani. As described in Section 3.1.3, the area south (mauka) of Pukalani is planned for development to create Kulamalu, and its developer will be making substantial improvements to the water supply infrastructure (see Section 3.4.3). Since parcels for this project already have State urban classification, the County has approved zoning and Community Plan amendments supporting the project (Maui News, December 2, 1997). With water availability not being a constraint, Kulamalu will be developed with or without Kihei-Upcountry Maui Highway. However, the U2-A and U2-B alternatives would support this development to a greater degree than the U1 or U3 alternatives by providing additional transportation infrastructure directly to the site (i.e., Kulamalu residents would not have to use Haleakala or Kula Highways to travel to Kihei). The U2-B alignment came from the Kulamalu Master Plan, and therefore, is the alignment most consistent with this development.



Source: County of Maui, Makawao-Pukalani Community Plan, July 23, 1996, Kulamalu, Inc.

GRAPHIC SCALE:

0 .5 km 1 km 0 .25 mi. .5 mi.

Existing and Future Urban Areas in Pukalani-Makawao

KIHEI-UPCOUNTRY MAUI HIGHWAY

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FIGURE 4-1

The U2-A and U2-B alignments may facilitate in-fill development along Pukalani's southern (mauka) side. According to the Community Plan, some of Pukalani's growth is directed toward this area (see Figure 4-1).

Segment U3 is located approximately 5 km (3 miles) south (mauka) of Upcountry's "urban" areas of Pukalani and Makawao, in an area where the Community Plan designates very little additional growth. The developments that are planned include small scale commercial land uses in Waiakoa and rural residences. These uses, particularly the residences, are not dependent on the highway because of Kula's attractiveness as a residential area. However, these developments will have to receive other governmental approvals (e.g., zoning, subdivision, etc.) and obtain water meters. The latter could be difficult (see above discussion on U1, U2-A and U2-B). In summary, U3 would facilitate planned growth, but not induce unplanned growth.

4.1.2 RELATIONSHIP OF THE PROPOSED ACTION TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

4.1.2.1 Hawaii State Plans and Controls

4.1.2.1a Hawaii State Plan

The No Build alternative does not support the objectives and policies of the Hawaii State Plan (June 1991) that seek to enhance the public welfare and economic development by providing needed infrastructure. Although the No Build alternative does not support these State Plan objectives and policies, it is not necessarily inconsistent with the State Plan.

The Kihei-Upcountry Maui Highway will support those objectives and policies of the Hawaii State Plan dealing with economic, physical and natural environment, and transportation objectives and policies.

In accordance with the Plan's economic objectives and policies, Kihei-Upcountry Maui Highway will facilitate commerce through an improved transportation network. It will contribute to the economy of Maui County and the State by providing largely federally funded

construction jobs. The State and federal government will spend roughly $80 million to construct Kihei-Upcountry Maui Highway.

The proposed highway will support both the State's established visitor industry and its growing high technology industry by providing a transportation link between Haleakala / Science City and Kihei-Makena / West Maui. Kihei is also home to the growing Maui Research and Technology (R&T) Park. Because of its 3050 m (10,000 ft) elevation, the Haleakala summit is used for science and defense-related research located in Science City.

The Plan has objectives and policies promoting the viability of sugar, pineapple and diversified agriculture. The proposed highway will serve all three of these agricultural activities (see Section 4.2.1). Although certain proposed roadway segments will cross agricultural fields, mitigation measures will be implemented to minimize adverse impacts on these fields (see Section 4.2.4). No small privately-owned farm will be directly affected by any alternative.

In accordance with the objectives and policies for the physical and natural environment, the proposed Kihei-Upcountry Maui Highway will minimize impacts to the existing environment, and where unacceptable environmental impacts might occur, mitigation measures will be implemented. Since the proposed work will be located east (mauka) of Piilani Highway, it will not adversely affect the shoreline area. The proposed highway will also not affect the spectacular panoramic views from Upcountry of the West Maui Mountains, Central Maui and the ocean. Impacts on the physical and natural environment are discussed in more detail in other sections of this chapter.

Kihei-Upcountry Maui Highway will accommodate the transportation needs of both residents and visitors. For visitors, the highway will improve transportation between Maui's hotels and resorts along the coasts, and tourist-related activities in high elevation areas of Upcountry and Haleakala. The proposed highway will contribute to residents' quality of life by improving transportation between popular residential areas in Upcountry, and employment centers and recreational attractions in Kihei-Makena and West Maui. Since the improvement in transportation will result in substantial travel time savings, the highway will provide up to 50 percent savings in vehicle fuel consumption for certain alignment alternatives and/or trips.

4.1.2.1b Coastal Zone Management (CZM)

The following describes the Kihei-Upcountry Maui Highway's consistency with the objectives and policies of the State's Coastal Zone Management (CZM) Program. This assessment was reviewed by the Department of Business, Economic Development and Tourism (DBEDT), the agency administering the State's CZM program. DBEDT deferred its consistency determination pending completion of the Final EIS so that further information can be obtained about potential impacts to scenic and open space resources, public participation and historic resources (see letter dated March 30, 2001 in Appendix C).

Recreation Resources

Kihei-Upcountry Maui Highway will not adversely affect any park or recreational resource in the project area. The K2 alternatives (with the Kihei terminus at the Ke Alii Alanui Street/Piilani Highway intersection) would facilitate access to the future Kihei Regional Park for Upcountry residents.

Historic Resources

Compliance with Section 106 of the National Historic Preservation Act and Section 6E of the Hawaii Revised Statutes (the State's historic resources law) is required for this project. Archaeological reconnaissance surveys of the alternatives identified 25 sites potentially eligible for the National and State Registers of Historic Places. The archaeological inventory survey of the preferred alternative identified 17 significant sites, an increase from five sites identified during the reconnaissance survey of this alignment. As described in Section 4.10, only three of these sites will be adversely affected by the preferred alternative because the other sites have either been avoided, or the sites have been recorded with sufficient documentation so that no further archival work is needed.

Impacts sites eligible for the National and Hawaii Registers of Historic Places, and recommended for preservation-in-place, were avoided by modifying the alignment of the appropriate alternative. These sites include petroglyphs located in the gulches crossed by some of the alternative alignments, and one heiau in the vicinity of the U2-A alignment. Alignments were not adjusted to avoid affected sites not recommended for preservation, such

as temporary habitation sites, agricultural sites and military sites (see Section 4.10 for further details).

Scenic And Open Space Resources

Panoramic vistas of Central Maui, the West Maui Mountains, and the ocean can be seen from Upcountry Maui. Vistas from Kihei consist of near sea level views of the ocean and coastline, uphill views of Haleakala, and distant views of the West Maui Mountains. Kihei-Upcountry Maui Highway will not disrupt views from Upcountry because the terrain drops away towards Central Maui and the ocean. The proposed highway will, however, change the eastern (mauka) view of Haleakala from Kihei by introducing a paved roadway into the present visual backdrop of agriculture and pasture land.

Coastal Ecosystems

Since Kihei-Upcountry Maui Highway will not be within the Shoreline Setback Area or Special Management Area, the alternatives will not directly affect coastal habitats, wetlands or ecosystems. Roadway drainage and runoff from construction areas will also not affect coastal areas because of natural conditions and measures to minimize off-site discharges and sedimentation.

Economic Uses

The proposed highway will support both the State's established visitor industry and its growing high technology industry by improving transportation between Kihei-Makena (and West Maui) and Upcountry Maui, including Haleakala and Science City. Kihei-Makena is Maui's second largest visitor accommodation region, the third largest employment center and home to the growing Maui R&T Park. Upcountry Maui is a popular residential area, with some tourist activities including Haleakala National Park. Science City at the Haleakala summit is the site of science and defense-related research.

Depending on the alternative, Upcountry's sugarcane and pineapple cropland will be adversely affected to varying degrees (see Section 4.2).

Coastal Hazards

Kihei-Upcountry Maui Highway will facilitate evacuation from Kihei-Makena in the event of coastal emergency, such as a tsunami. The K2 alternatives, with a more southern Kihei terminus, would facilitate evacuation better than the K1 alternatives, with a terminus in north Kihei close to the existing exit from South Maui. A more southern Kihei terminus would provide a more geographic separation between the exits from South Maui, allowing for a more orderly evacuation if needed.

Managing Development

The proposed roadway will require State and County permits. The permitting processes include provisions for public participation important for the protection of coastal resources.

Public Participation

The project included numerous scoping and coordination meetings with government agencies, elected officials, and the general public, as described in detail in Chapter 5. In addition, three public hearings were held during the public comment period on the Draft EIS. Over 400 oral and written statements about the project were received during this period.

Beach Protection

Kihei-Upcountry Maui Highway will not affect the shoreline setback area nor have an impact on coastal erosion because it will not be adjacent to or abutting the shoreline.

Marine Resources

Kihei-Upcountry Maui Highway will not directly affect marine and coastal resources. Kihei-Upcountry Maui Highway will improve access to coastal areas, especially from the Upcountry region.

Some indirect impacts are possible, such as erosion during construction, and roadway runoff during extreme storm events. However, a NPDES permit will be obtained, which will specify Best Management Practices (BMPs) to minimize erosion. As described in Section 4.7, Kihei-Upcountry Maui Highway will lead to a reduction of pollutant loading of coastal waters when compared to the future no-build condition.

4.1.2.1c Island of Maui Long Range Land Transportation Plan

The No Build alternative assumes the construction of the transportation system that is recommended in the Maui Long Range Land Transportation Plan (February 1996), except for the Kihei-Upcountry Maui Highway. Therefore, the No Build alternative is consistent with the Long Range Plan, with the exception of providing the Kihei-Upcountry highway link.

Kihei-Upcountry Maui Highway will be consistent with the Long Range Plan because it is an element of the Long Range Plan.

4.1.2.2 County of Maui Plans and Controls

4.1.2.2a Maui County General Plan

The No Build alternative would be consistent with the General Plan because of roadway improvements described in Section 2.1.1, provided that these improvements are implemented in a manner sensitive to Maui's environmental and social conditions.

Kihei-Upcountry Maui Highway will be consistent with the County of Maui's General Plan 1990 dealing with economic, environmental, and transportation objectives and policies. First, the proposed highway will support both Maui's visitor and high technology industries. The highway will improve Maui's highway network by shortening the length and duration of certain trips made by visitors, visitor industry employees and those traveling between the Maui R&T Park and Science City. Second, the project will minimize impacts to the existing environment, and will not affect vistas from Upcountry. Third, Kihei-Upcountry Maui Highway will provide a piece of transportation infrastructure that will enable people and goods to move safely, efficiently and economically between Kihei and Upcountry. In addition, the highway will be supportive of desired urban development objectives of the County of Maui (see Section 4.1.1), and therefore, will be responsive to planned growth.

The General Plan advocates land use planning that will promote a transportation system less reliant on the automobile as the primary transportation mode (see Section 3.1.2.2a). Kihei-Upcountry Maui Highway will not help achieve this objective without new transportation options becoming available. Furthermore, land use planning is not within the authority of the SDOT.

4.1.2.2b Maui County Special Management Area

There are projects under the No Build alternative that would occur in the County's Special Management Area (SMA). Construction of each of those individual projects in the SMA would require an SMA use permit.

Since no portion of Kihei-Upcountry Maui Highway will be within the SMA, the project will not require an SMA permit from Maui County.

4.1.2.2c Community Plans

Consistency of the project with the Kihei-Makena Community Plan (1998) and the Makawao-Pukalani-Kula Community Plan (July 1996) land use objectives are discussed in Section 4.1.1, Land Use Impacts. As described in Sections 3.1.2.2c, Kihei-Upcountry Maui Highway is consistent with the Kihei-Makena Community Plan because it includes a roadway between Kihei and Upcountry. However, Kihei-Upcountry Maui Highway is not consistent with the Makawao-Pukalani-Kula Community Plan because it does not include a roadway.

4.1.3 RELOCATION IMPACTS

Depending on the alternative, Kihei-Upcountry Maui Highway will require right-of-way from the land owners listed below. The existing uses on these lands are also provided:

- Alexander & Baldwin (Hawaiian Commercial and Sugar Company (HC&S)): sugarcane cultivation (U1, U2-A and U2-B alternatives);
- County of Maui (Kula Agricultural Park): leased diversified agriculture (U3 alternatives);
- Dowling Company: Kamehameha Schools campus, mostly inactive, but with planned future housing and commercial development (U2-A and U2-B alternatives);
- Haleakala Ranch: pasture land and pineapple cultivation (all alternatives);
- Kaonoulu Ranch: pasture land (K1 and K2 alternatives)
- Malama Mohala Corp.: inactive, but future urban uses (U2-A alternatives)
- Maui Land & Pineapple Company: pineapple cultivation (U2-A, U2-B and U3 alternatives)
- Von Tempsky Trust: pasture land (U3 alternatives);

- Others (see Table 2-1 for a list of land owners): inactive with some planned future urban uses (U2-A alternatives); and existing pasture (U3 alternatives)

None of these land owners or uses will need to be relocated. All of the enterprises listed above could continue operation at their present locations after acquisition of roadway right-of-way. Mitigation measures to lessen the adverse impact on agricultural and ranching activities will be provided (see Section 4.2.4).

No alternative will require the displacement of any residence.

4.1.4 MITIGATION MEASURES

4.1.4.1 Land Use

Mitigation for potential land use impacts is not necessary because Kihei-Upcountry Maui Highway is intended to meet existing and projected traffic demand derived from existing land use planning objectives. The roadway is not anticipated to induce unplanned land use development in the study area. As described in Section 4.1.1, the health of the visitor industry determines the size, rate and location of development in Kihei-Makena. In Upcountry, water supply restrictions, and other factors such as State and County land use controls, determine the size, rate and location of development.

4.1.4.2 Relocation

Since no residence, tenant or business will be displaced by Kihei-Upcountry Maui Highway, relocation assistance will not be necessary. However, land owners affected by right-of-way acquisition will be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. In addition, farmers (owners and leaseholders) will be compensated for crop damage and lease losses, if necessary (see Section 4.17.6).

4.2 FARMLAND

4.2.1 CROPLAND IMPACTS

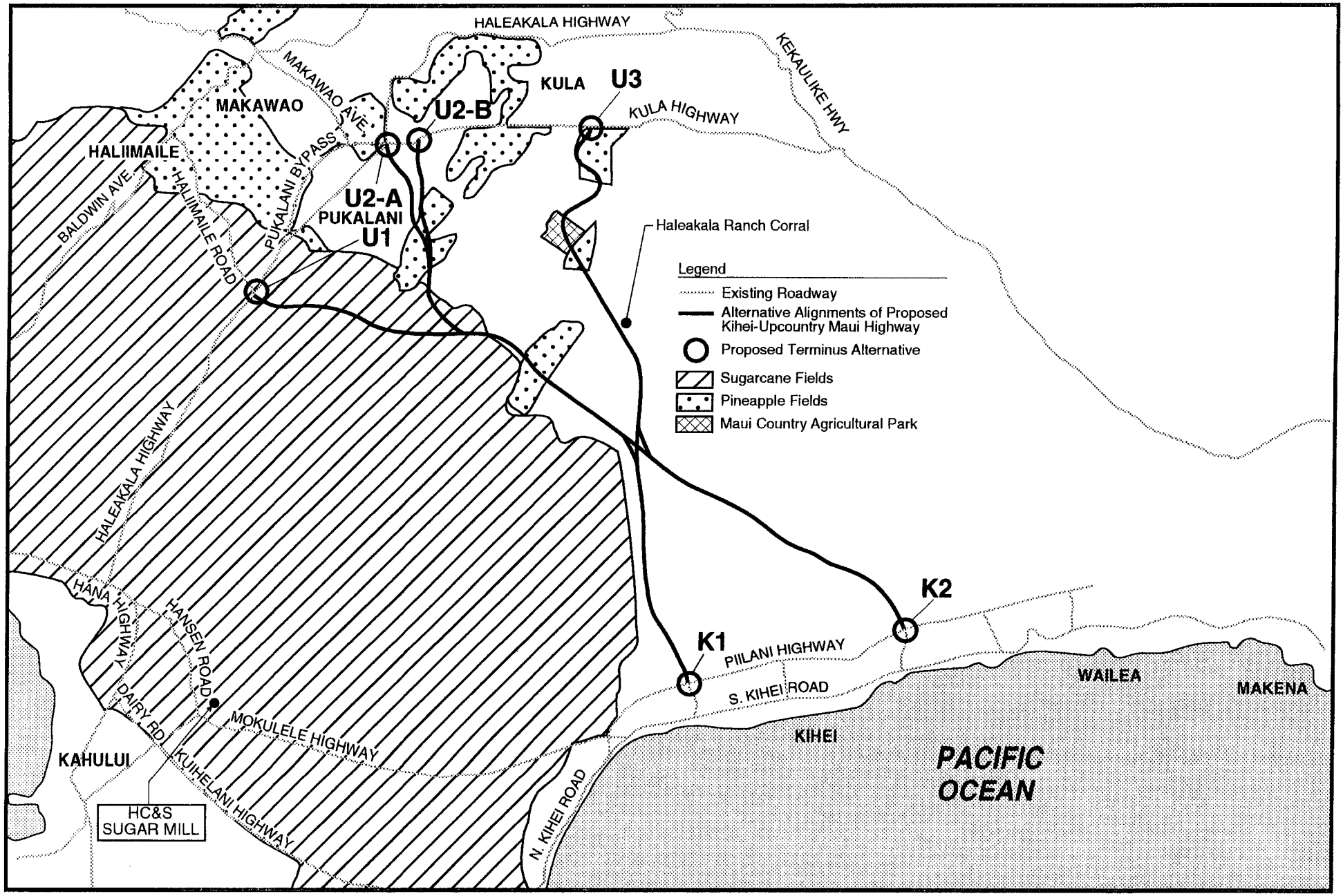
Kihei-Upcountry Maui Highway will cross agricultural land and convert the roadway right-of-way to transportation use (see Figure 4-2). Most of the agricultural impacts will occur on existing sugarcane and pineapple fields (see below). As indicated on Table 4-1, the degree of impact will depend on the alignment selected. The U1 alternatives, including the preferred alternative, would displace the greatest amount of active farmland (approximately 48 ha (120 acres). Table 4-1 also shows the estimated amount of agriculturally-productive soil that will be permanently displaced by Kihei-Upcountry Maui Highway.

Table 4-1
Estimated Displacement of Farmlands

Alternative	Est. Displacement	Land Owner
U1,K1	48.3 ha (119.4 acres)	Alexander & Baldwin; Haleakala Ranch
U1,K2	48.3 ha (119.4 acres)	Alexander & Baldwin; Haleakala Ranch
U2-A,K1	35.3 ha (87.2 acres)	Maui Land & Pineapple; Alexander & Baldwin; Haleakala Ranch
U2-A,K2	35.3 ha (87.2 acres)	Maui Land & Pineapple; Alexander & Baldwin; Haleakala Ranch
U2-B,K1	31.5 ha (77.8 acres)	Maui Land & Pineapple; Alexander & Baldwin; Haleakala Ranch
U2-B,K2	31.5 ha (77.8 acres)	Maui Land & Pineapple; Alexander & Baldwin; Haleakala Ranch
U3,K1	21.8 ha (53.8 acres)	Maui Land & Pineapple; County of Maui
U3,K2	21.8 ha (53.8 acres)	Maui Land & Pineapple; County of Maui

Source: Warren S. Unemori Engineering, Inc., September 1998

Kihei-Upcountry Maui Highway will not directly affect any privately-owned Kula small-scale farm, although leased fields located in the Kula Agricultural Park owned by Maui County would be affected by the U3 alternatives (see below). Also, some of the alternatives could



Source: Warren S. Unemori Engineering, Inc., May 1997

GRAPHIC SCALE:

0 1 km 2 km 3 km 0 1 mi. 2 mi.

N

Impacts to Croplands

KIHEI-UPCOUNTRY MAUI HIGHWAY

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FIGURE 4-2

modify travel patterns in a way that may adversely affect certain Kula farms. This issue is discussed in Section 4.4.1.1, "Traffic Patterns."

All alternatives will adversely affect agricultural operations, such as planting, aerial spraying, irrigation, drainage and harvesting, for several reasons. For example, the highway will cross agricultural infrastructure, such as existing service roads and irrigation and drainage systems. In addition, the roadway could isolate portions of fields, making them inaccessible and unworkable for cultivation. However, in most cases, this project will not create unworkable remnant parcels because mitigation measures to maintain the productivity and workability of the affected fields will be implemented (see Section 4.2.4).

The impacts of alternative alignments are described below:

- Segment U1 crosses sugarcane fields owned by Hawaiian Commercial and Sugar Company (HC&S) west (makai) of Pukalani (see Figure 4-2). The alignment will separate approximately 400 ha (1000 acres) of sugarcane land from larger fields, and cross existing cane haul roads and irrigation and drainage systems. The isolated parcel will remain productive because mitigation measures, as described in Section 4.2.4, will be implemented if a U1 alternative were constructed.

- Segment U1/U2-A crosses a Maui Land and Pineapple Company (ML&P) pineapple field along Pulehu Road, affecting internal roadways, water conveyance infrastructure and drainage patterns (see Figure 4-2). The two newly created parcels will remain productive because mitigation measures, as described in Section 4.2.4, will be implemented if either a U1 or U2-A alternative were constructed.

- Segments U2-A and U2-B separate approximately 25 ha (60 acres) of HC&S sugarcane land from a larger field (see Figure 4-2). It will also cross two major water ditches, the Hamakua Ditch and the Reservoir 40 ditch. The U2-A alignment also crosses a ML&P pineapple field south (mauka) of Pukalani, separating two parcels from a larger field. These affected fields would remain productive because mitigation measures, as described in Section 4.2.4, would be implemented if a U2-A or U2-B alternative were constructed.

- The re-aligned Haleakala Highway, under the U2-A alternatives, crosses a ML&P pineapple field on the southeast (mauka) side of Pukalani. The field would remain productive because mitigation measures, as described in Section 4.2.4, would be implemented if a U2-A alternative were constructed.

- Segment U3 crosses two ML&P fields along Pulehu Road (see Figure 4-2). The western (makai) field would be divided into two field. However, both fields would remain productive because mitigation measures, as described in Section 4.2.4, would be implemented if a U3 alternative is constructed. Unworkable remnant parcels would be created at the eastern (mauka) field because of the small size of the isolated field. The U3 alignment would also cross the Kula Agricultural Park owned by Maui County (see Figure 4-2). The Agricultural Park leases low-rent parcels to small-scale farmers. Some of the parcels would be converted to the roadway. The remaining parcels and parcels modified by the roadway alignment would remain productive because mitigation measures, as described in Section 4.2.4, would be implemented if a U3 alternative were constructed.

Segments K1 and would not affect existing cropland.

4.2.2 RANCHING IMPACTS

Kihei-Upcountry Maui Highway crosses land used for cattle ranching and grazing. All proposed alternatives traverse cattle ranching and pasture land located toward the southern portion of the study area, south of the sugarcane fields and west (makai) of the small Kula farms. While reducing the acreage of pasture lands, Kihei-Upcountry Maui Highway increases accessibility to such land.

The U3 alignment would be approximately 90 m (300 ft) from a working corral and water system (tank and troughs) (see Figure 4-2). The owner of the corral, Haleakala Ranch, has indicated a preference that the highway not be within visual distance of the corral to prevent highway users from interfering with cattle operations. The U3 alignment would therefore interfere with corral operations.

Haleakala Ranch also stated that they will have to herd cattle across the K1 alignment several times a year. Herds may reach 1,500 cows, and take about 10 to 15 minutes for the animals to cross the highway. However, impacts are not anticipated because mitigation measures will be provided as described in Section 4.2.4.

4.2.3 FARMLAND PROTECTION POLICY ACT

Under the Farmland Protection Policy Act (FPPA), federal agencies must identify and consider the adverse effects of their programs on the preservation of farmland; consider alternative actions that could lessen adverse effects; and ensure that their programs, to the extent practicable, are compatible with State, local government and private programs and policies to protect farmland. Agricultural areas that will be affected by Kihei-Upcountry Maui Highway (see Section 4.2.1) are considered prime, unique, statewide or locally important according to the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). Therefore, the proposed project is subject to FPPA.

Per 7 CFR 658.4(a), a Form AD-1006, "Farmland Conversion Impact Rating," was submitted to the NRCS for a "relative value of farmland to be converted" score for each alternative alignment. The Federal Highway Administration (FHWA) completed the Form AD-1006 by providing site assessment scores per 7 CFR 658.5. Combined Land Evaluation and Site Assessment scores are shown on Table 4-2. The completed Form AD-1006 is provided in Appendix C.

If an alternative receives a total score equal to or greater than 160 points, alternatives that avoid farmland impacts must be evaluated. However, as indicated on Table 4-2, none of the alternatives has a score equal to or greater than 160 points.

4.2.4 MITIGATION MEASURES

Affected agricultural areas will require mitigation measures to maintain their productivity. These measures will include haul road crossings (U1 includes two undercrossings; see Figure 2-3), and the modification and reconstruction of existing irrigation and drainage systems. Access provisions for farm equipment to reach isolated fields will be made. If U2-A or U2-B

were selected, Hamakua and Reservoir 40 Ditches would be protected and remain operative during and following construction. If U3 were selected, SDOT would purchase any unworkable remnant ML&P land based on guidelines of the Uniform Relocation Assistance and Real Property Acquisition Policies Act; and would work with Maui County to modify the Kula Agricultural Park. The details of the above mitigation measures will be specified in a "Maintenance of Agricultural and Ranching Activities Plan," which will be prepared during the design phase.

Table 4-2
Land Evaluation and Site Assessment Scores from Form AD-1006

Alternative	Score		
	Part V[1]	Part VI[2]	Total[3]
U1,K1	66	85	151
U1,K2	63	85	148
U2-A,K1	61	80	141
U2-A,K2	62	80	142
U2-B,K1	59	80	139
U2-B,K2	59	80	139
U3,K1	60	80	140
U3,K2	57	80	137

Notes: [1] Part V of AD-1006: "Relative value of farmland to be converted." Score calculated by NRCS.
[2] Part VI of Form AD-1006: "Total site assessment points." Calculated by FHWA.
[3] Land evaluation and site assessment score calculated by combining Parts V and VI of Form AD-1006

Source: Form AD-1006, completed by U.S. Department of Agriculture, Natural Resources Conservation Service and the U.S. Department of Transportation, Federal Highway Administration, October 1997

To minimize impacts to ranching activities, stock-proof fencing will be erected along both sides of the highway where there is cattle grazing. The details of this fencing (type and location) will be determined during the design phase. Existing stock-proof fencing in the project area consists of hog wire with barb wire along the top and bottom of the fence. Also, provisions will be made at various bridge crossings and other locations as appropriate so that

cattle may be herded between pastures without disrupting traffic. Cattle will be herded underneath the bridges at certain gulches. If U3 were selected, SDOT would work with Haleakala Ranch to find a suitable location to relocate the cattle corral based on guidelines of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. The locations of the cattle crossing areas, and the relocated corral (if a U3 alternative were constructed) will be determined during the design phase.

4.3 SOCIOECONOMIC

A detailed discussion of the socioeconomic impacts of the proposed project is found in Appendix H, Kihei-Upcountry Maui Highway, Community Impact Assessment (October 1998). Most of the following information is based on that report.

4.3.1 NEIGHBORHOODS

Figure 3-1 identifies the neighborhoods and communities in the study area. None of the alternatives will split any existing neighborhood or isolate parts of neighborhoods from the greater community. Therefore, Kihei-Upcountry Maui Highway will not adversely affect community cohesion. The No Build alternative would also not affect community cohesion.

Although Kihei-Upcountry Maui Highway will not in itself change land use patterns in Upcountry in a manner different from the future development described in the community plan (see Section 4.1.1), implementation of the community plan may affect the rural country lifestyle of Upcountry by increasing the population and density, increasing traffic and associated roadway noise, and encroaching on agricultural land.

Some of the alignment alternatives have the potential to change existing travel patterns in a way that could adversely affect certain existing neighborhoods. These potential impacts are discussed in Section 4.4.1.

4.3.2 ECONOMIC ACTIVITIES

The No Build alternative would not affect property values or property tax revenues collected by Maui County. Its impact on existing agricultural activities in Upcountry would be less than any build alternative. However, the No Build alternative would not support Maui's visitor and high technology industries to the degree of any build alternative.

Property values could increase over the long term for lands adjacent to the proposed highway, particularly at the termini. Increased values would result in increased property tax revenues for Maui County. None of the alignment alternatives would decrease property values on adjacent parcels because the market value of these properties (see Table 2-1) are based on other factors unrelated to the proposed highway, such as market demand for housing and agricultural produce.

Because of the conversion of private taxable real estate into a public right-of-way, Maui County's property tax collections would decrease by an estimated $13,000 to $17,000 per year (1997 dollars) under the U1 or U3 alternatives. Property tax revenues would decrease by approximately $44,000 to $46,000 per year (1997 dollars) under the U2-A or U2-B alternatives. This higher impact for the U2 alternatives is attributable to the conversion of urban-designated land into roadway right-of-way. The U1 and U3 alternatives will convert almost exclusively lands designated agricultural, which have much lower property values.

The proposed project will infuse federal funds into the local economy, which will increase short-term employment and the purchase of local goods and services. However, Kihei-Upcountry Maui Highway will have little influence on long-term employment opportunities because there will be little difference in future employment-producing development (e.g. commercial) between the No Build and build conditions (see Section 4.1.1). For example, the Kulamalu development (see Section 3.1.3) includes business development that will occur with or without the project (see Section 4.1.1). However, a U2-A or U2-B alternative will better support the Kulamalu development as a business district because of improved accessibility. The U2-B alignment was derived from the Kulamalu master plan.

Existing commercial districts in Upcountry are in Pukalani and Makawao (see Section 3.3.4). Kihei also supports commercial districts along South Kihei Road and at a parcel in North Kihei, west (mauka) of Piilani Highway. Regardless of the alternative chosen, the Kihei-Upcountry Maui Highway is generally not expected to adversely affect these districts because the roadway will not function as a commercial district bypass, except for Kahului. However, a Kulamalu shopping center is planned adjacent to the U2-B alignment. Depending on the tenants at the shopping center, a U2-B alternative would shift a portion of visitor spending to this shopping center, away from the visitor-oriented shops in Makawao. This shift may occur to lesser extent with a U2-A or U3 alternative. This effect would also occur with residents commuting between Upcountry and Kihei or West Maui.

Although Kihei-Upcountry Maui Highway will enable many motorists to bypass Kahului, economic impacts to Kahului businesses are not expected because residents will continue to travel to Kahului regardless of the proposed project because of Kahului's attractiveness as the island's principal commercial center, featuring Kaahumanu Shopping Center, K-Mart, and Costco, among others.

All the build alternatives will enhance access to tourist destinations in Upcountry and Haleakala National Park, and therefore will have a positive effect on the visitor industry. However, the proposed project is not expected to facilitate visitor-related economic activities in Kihei or Upcountry (see Section 4.1.1).

Impacts on agricultural activities are discussed in Section 4.2.

The proposed project will support Maui's efforts to develop high technology industry (see Section 3.1.3). The roadway will provide increased synergism between Science City on the summit of Haleakala Crater and the R&T Park in Kihei.

4.3.3 PUBLIC FACILITIES AND SERVICES

None of the alternatives will directly affect (through right-of-way impacts) existing public facilities described in Section 3.3.5. However, access to these facilities and services will be

enhanced by any of the build alternatives because of the decreased travel time between Kihei and Upcountry.

Many people who commented on the Draft EIS expressed concerns about the safety of students driving or walking to King Kekaulike High School and the new Kamehameha Schools campus, especially with regards to the U2 alternatives (A and B) because these alignments would be near or adjacent to these schools. King Kekaulike High School is on Kula Highway near the Five Trees intersection (the U2-A terminus) and the Kamehameha Schools campus is next to the U2-B alignment within Kulamalu (see Figure 3-8).

The amount of traffic passing the school on Kula and Haleakala Highway would be the same under the No Build, U1 or U2-A alternative, disregarding the effects of Omaopio and Pulehu Roads in diverting traffic. These alternatives would not change the routes of travel markets so that those routes that do not presently pass the school would not pass the school in the future. On the other hand, a U2-B or U3 alternative would increase traffic volumes passing by the high school. These alternatives would change the routes of some of the major travel markets, such as the Makawao-Pukalani / Kihei-Makena and the drive to/from the summit, to routes that pass by the high school. However, the highways (Kula and Haleakala) fronting the school are subject to lower speed limits during school hours.

The installation of signalized crosswalks and sidewalks can prevent students walking to and from the schools being placed in danger from vehicles using the highways (see Section 4.4.4). For example, under the U2-A alternative, the Pukalani leg of Haleakala Highway would be converted to a pedestrian walkway and sidewalks would be installed along Kula Highway near the high school. Under the U2-B alternative, an urban design that includes sidewalks would be used in the section of the highway adjacent to the Kamehameha Schools campus.

Scoping activities and interviews conducted for this Final EIS indicated a strong belief among some Upcountry residents that Kihei-Upcountry Maui Highway will increase the crime rate in Upcountry because criminals based in Kihei will have more convenient access to Upcountry. The Makawao and Kula community police officers (see Appendix H) could not speculate on whether the highway will increase the crime rate in Upcountry, although both officers were in

agreement that the proposed highway will facilitate better police response through additional highway infrastructure.

4.3.4 ENVIRONMENTAL JUSTICE (EXECUTIVE ORDER 12898)

Executive Order (EO) 12898, signed on February 11, 1994, requires federal agencies to take appropriate and necessary steps to identify and avoid disproportionately high and adverse effects of federal projects on the health and environment of minority and low-income populations. Because of the expected federal participation in the construction funding for this project, the project must comply with EO 12898. This section has been prepared in accordance with FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (December 2, 1998).

Figure 3-1 identifies the residential areas in the study area. The Upcountry communities are clustered along Haleakala and Kula Highways. As described in Section 3.1, Pukalani, Makawao and Haliimaile are mostly suburban. The Kula communities are of lower density, and many are typical of a rural setting (i.e., small truck farms). The Kihei-Makena communities are mostly located west (makai) of Piilani Highway. The area midway between Upcountry and Kihei, or the area that will be used for the proposed highway, is owned by a few large land owners, such as Alexander & Baldwin and Haleakala Ranch, and are used for large-scale agricultural activities. Near Haleakala, Kula and Piilani highways, where the residential communities are clustered, the alternatives have the following physical relationships with these residential areas:

- Segment U1 is located approximately 1200 to 1400 m (4000 - 4500 ft) west to northwest (makai) of Pukalani.

- At its closest point, Segment U2-A is located approximately 150 m (500 ft) south of Pukalani and approximately 300 m (1000 ft) north of a few Omaopio homesteads.

- Segment U2-B is located approximately 275 m (900 ft) south of Pukalani and approximately 240 m (800 ft) north of the Omaopio homesteads. The lower part of a

- residential subdivision, Kula 200, is directly east (mauka) of the U2-B/Kula Highway intersection. However, this subdivision is upslope from the terminus.

- Segment U3 is located approximately 240 to 700 m (800 to 2300 ft) north of residences along Pulehu Road. U3's intersection with Kula Highway is approximately 500 m (1600 ft) southwest of the Kula Kai Subdivision, which is located east (mauka) of Lower Kula Road. However, the U3 alignment would displace portions of Kula Agricultural Park (see Section 5.2.1), which is used by minority farmers, but not as residences. Although impacts would be mitigated if a U3 alignment were selected as the preferred alternative, minority farmers would be at least temporarily be affected by the project.

- Segment K1 is located approximately 500 m (1600 ft) south of a residential subdivision located east (mauka) of Piilani Highway. Kaonoulu Estate is the nearest residential subdivision, located west (makai) of the K1/Piilani Highway intersection.

- The nearest residential area to Segment K2 is approximately 500 m (1600 ft) north of the K2/Piilani Highway intersection, across Piilani Highway.

Based on the information above, no alternative will cut through a neighborhood (see Section 4.3.1) or displace any residence or business (see Section 4.1.3). In addition, proximity impacts to these communities, such as high noise levels or degraded air quality, are not anticipated. Therefore, other than minority farmers using the Kula Agricultural Park who would be temporarily affected by the U3 alternative, there are no minority or low-income populations that will be adversely affected by the proposed project, which is the finding required by EO 12898 regarding Environmental Justice.

4.3.5 MITIGATION MEASURES

Potential adverse social impacts could occur through travel pattern impacts and the location of Kihei-Upcountry Maui Highway near existing schools. Mitigation measures to minimize this impact are discussed in Section 4.4.4.

4.4 INFRASTRUCTURE

4.4.1 TRANSPORTATION

4.4.1.1 Traffic Patterns

Table 4-3 summarizes the discussion in this section.

Under the future No Build condition, major traffic pattern changes are not anticipated because no new major roadway, other than Kihei-Upcountry Maui Highway, is planned for the project area. No Build transportation improvements, as described in Section 2.1.1, consist of capacity enhancements of existing roadways. Therefore, although capacity enhancements would improve the operations of the roadways identified in Section 2.1.1, changes in traffic patterns would not occur.

Kihei-Upcountry Maui Highway, on the other hand, will cause major changes to existing traffic patterns in the project area. The proposed project will divert most trips between Kihei-Makena and Upcountry onto the new highway and off of Haleakala Highway, Hana Highway, Dairy or Hansen Roads, Puunene Avenue and Mokulele Highway, the Kihei and Upcountry, and the route that would persist under the No Build alternative. If a K1 alternative were selected, some of the travel demand between Upcountry and West Maui will also be diverted onto the new highway. Kihei-Upcountry trip lengths could be cut by half, depending on the alternative, trip origin and trip destination. Therefore, Kihei-Upcountry Maui Highway will substantially reduce total regional vehicle-miles-traveled (VMT), fuel consumption, air pollutant emissions and travel time for a large number of trips in comparison to the No Build condition. Under the No Build alternative, regional VMT would increase as population and subsequent travel demand increase on Maui. However, overall travel time may be slightly reduced under the No Build alternative in comparison to the present condition because of better roadway operations from capacity enhancements.

The diversion of trips by the proposed highway will reduce traffic volumes on the existing Kihei to Upcountry route, and therefore improve operations along this route for the remaining traffic in comparison to the No Build alternative. However, the K1 alternatives will increase

Table 4-3
Comparison of Traffic Pattern Impacts by Alternative

Alternative	Relief of Upcountry to Kihei Traffic Congestion	Relief of Upcountry to West Maui Traffic Congestion	Enhance Contra-Flow of Morning Peak Directional Traffic in Upcountry	Adverse Effect on Omaopio and Pulehu Roads	Adverse Effect on Local Roads Between Kula and Haleakala Highways
No Build	No	No	No	No	No
U1,K1	Yes	Yes	No	Yes	No
U1,K2	Yes	Some	No	Yes	No
U2-A,K1	Yes	Yes	Yes	Yes	No
U2-A,K2	Yes	Some	Yes	Yes	No
U2-B,K1	Yes	Yes	Yes	Yes	No
U2-B,K2	Yes	Some	Yes	Yes	No
U3,K1	Yes	Yes	Yes	No	Yes
U3,K2	Yes	Some	Yes	No	Yes

Note: Indicates an adverse impact

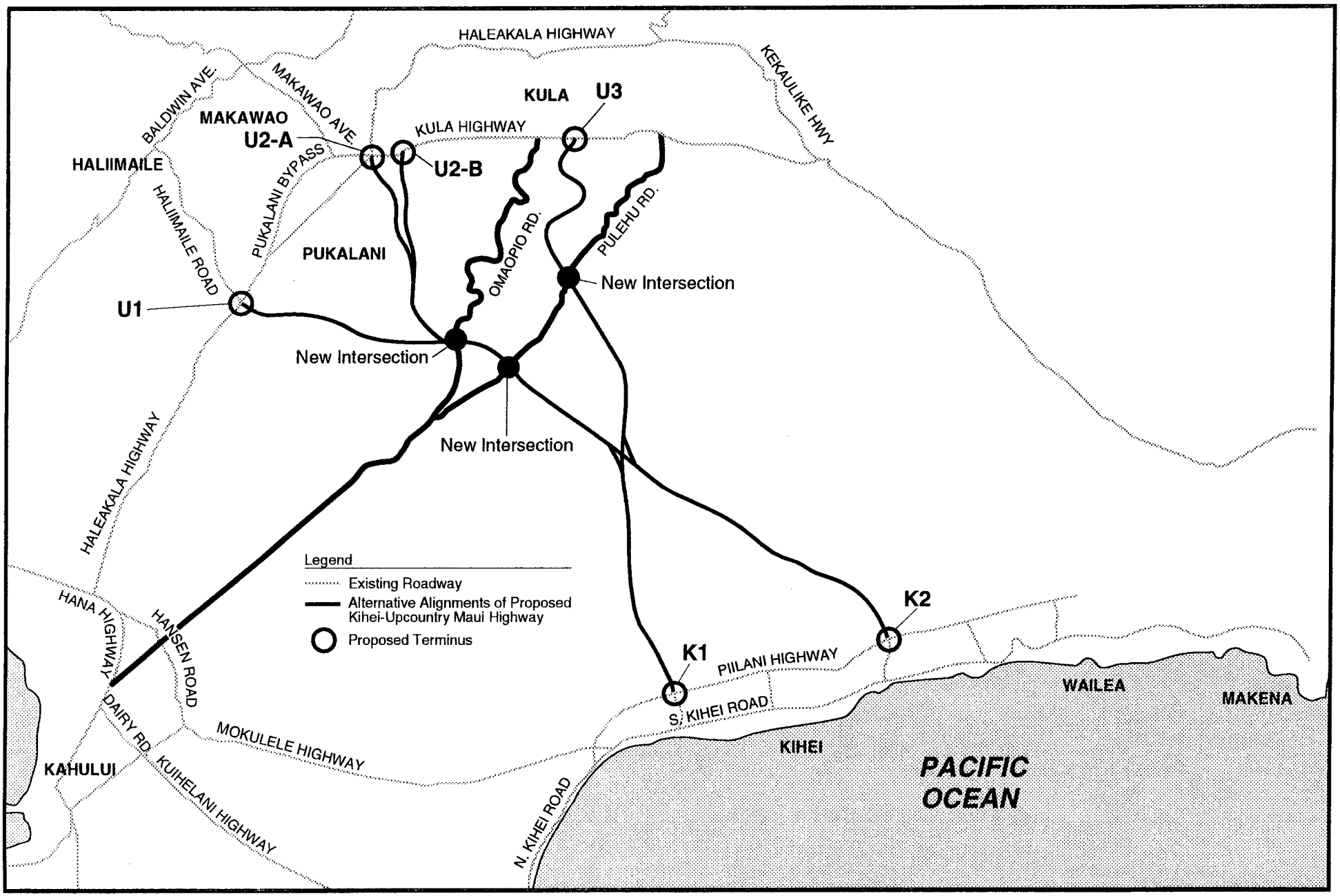
Source: Parsons Brinckerhoff Quade & Douglas, Inc., October 1997

traffic volumes on Piilani Highway, north of the K1 terminus, and North Kihei Road, as traffic is diverted off the above roadways and Kuihelani Highway (Upcountry-West Maui trips). The traffic diversion impacts on Piilani Highway and North Kihei Road will not be substantial under the K2 alternatives (see above).

The U2-A, U2-B and U3 alternatives would create a redistribution of morning peak directional traffic on Haleakala Highway, Pukalani Bypass and Kula Highway. As described in Section 3.4.1, the middle south (mauka) bound lane on Pukalani Bypass and Haleakala Highway is presently contra-flowed to the northwest (makai) bound direction in the morning peak period because most home-based work trips originating in Upcountry use these roadways to travel to Maui's major employment centers at Kahului-Wailuku, Kihei-Makena and West Maui. This redistribution would consist of Makawao and Pukalani commuters, and Kula commuters under the U3 alternatives, traveling southeast / south (mauka) bound against peak directional traffic to access either the U2-A, U2-B or U3 alignments. With the K1 terminus option, many of these commuters would include those traveling to West Maui. By contrast, under the U1 alternatives, Upcountry morning commuters would continue to travel in the north / northwest (makai) bound direction on Kula Highway, Pukalani Bypass and Haleakala Highway, as they currently do, until the U1 terminus at Haliimaile Road. At that point, many of the commuters would turn onto the proposed roadway.

The U1, U2-A and U2-B alternatives intersect both Omaopio and Pulehu Roads (see Figure 4-3), which would cause an increase in through traffic on these agricultural roads (see Section 3.4.1). The traffic on these roads will be higher under the preferred alternative, as well as the U1,K2 alternative because the U1 terminus is farther from Kula than the U2-A and U2-B termini. By increasing the use of Omaopio and Pulehu Roads as through routes, impacts from the inappropriate use of these roads is expected (see Sections 3.4.1.1 and 3.4.1.2). These impacts include interference with farm equipment movements, increased traffic noise and lower traffic safety through excessive speeds on inappropriate roadways. However, the County is planning to improve Omaopio and Pulehu Roads, which should improve safety.

In addition, the U1/U2-A,B crossings will have a slight adverse effect on farm product transportation from Kula to Kahului because delivery trucks will cross the new highway. However, the highway will enhance product transportation to Kihei-Makena. Safety at the at-



Possible Intersections with Omaopio and Pulehu Roads
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 4-3

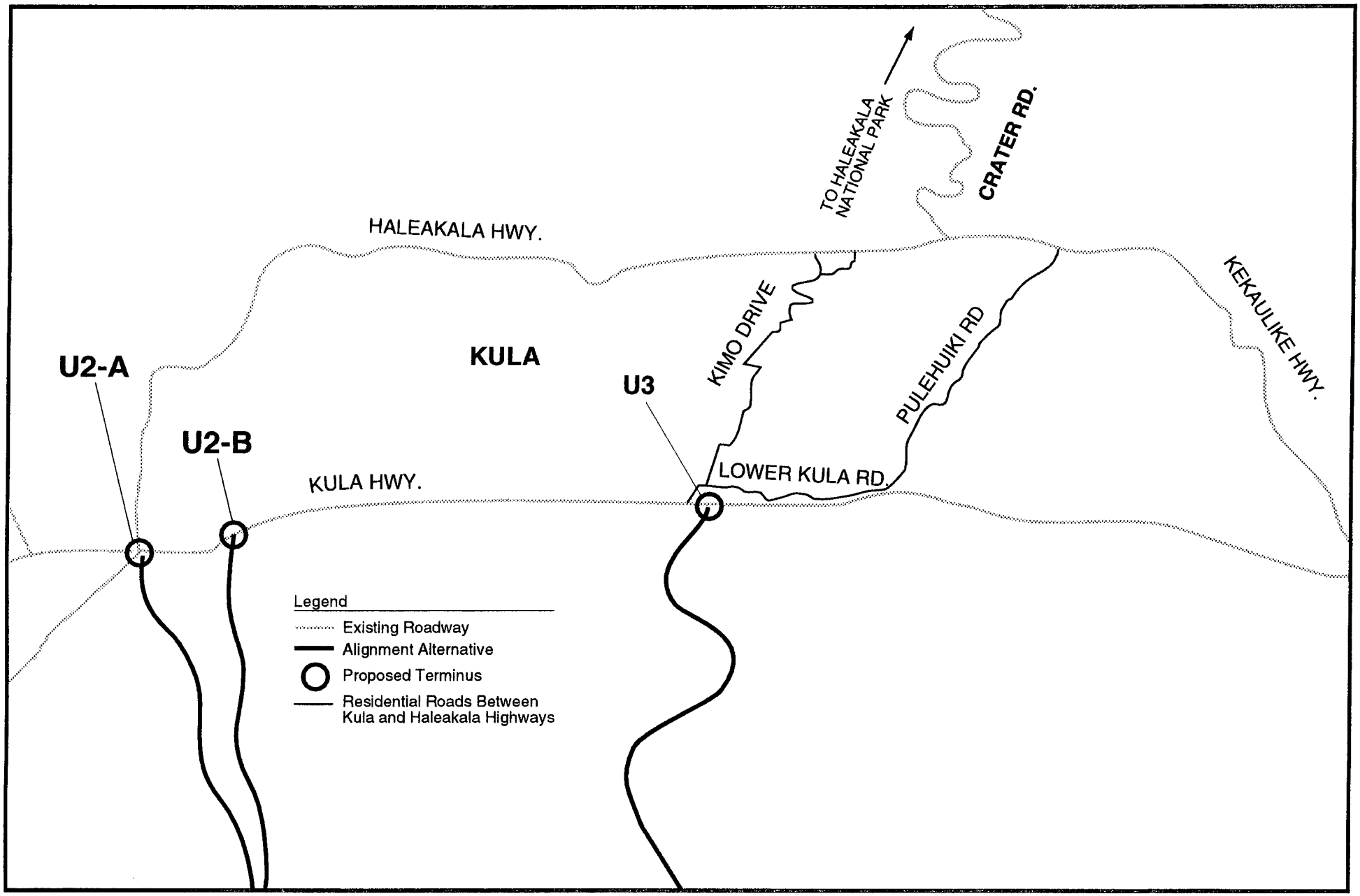
grade crossing of the new highway with Omaopio and Pulehu Roads will be maintained through mitigation measures (see Section 4.4.4). Farm vehicles will use the new highway.

The U3 alternatives intersect Pulehu Road (see Figure 4-3). Since the U3 terminus is a short distance away from the Pulehu Road/Kula Highway intersection, traffic diversion similar to the impacts described above on Pulehu Road would not be expected. However, U3 alternatives may encourage travelers to and from the Haleakala summit to use local residential roads between Kula Highway and Haleakala Highway because it would appear to a visitor reading a map that this is a shorter route to the summit (see Figure 4-4). The preferred route for this trip is for motorists to stay on Kula and Haleakala Highways. Increasing traffic volumes on local residential roads that are not designed for through traffic would adversely affect the adjacent neighborhoods through increased traffic noise (including travel to the summit early in the morning to watch the sunrise), and the increased potential for accidents on roadways not designed for heavy volumes. The potential use of local roads between Kula and Haleakala Highways would be mitigated as described in Section 4.4.4 if a U3 alternative were selected as the preferred alternative.

4.4.1.2 Future Traffic Operations

Year 2020 traffic volume projections were analyzed using methods described in the 1994 Highway Capacity Manual (HCM) to determine levels of service (LOS) for each alternative during the morning and afternoon peak hours. Levels of service are classified on an "A" through "F" scale, representing best to worst conditions. The LOS is based on user delays, a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

Depending on the alternative, between 7,000 to 13,000 vehicles per day are predicted to use the highway. The K2 alternatives will produce lower volumes. Tables 4-4 and 4-5 provide projected levels of service for the build alternatives. For the U1, U2-A and U2-B alternatives, three roadway segments were analyzed: Haleakala Highway or the "Five Trees" intersection to Omaopio Road; Omaopio Road to Pulehu Road; and Pulehu Road to Piilani Highway. For the U3 alternatives, two roadway segments were analyzed: Kula Highway to Pulehu Road; and Pulehu Road to Piilani Highway.



Potential Alternative U3 Impacts to Local Residential Roads
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 4-4

Table 4-4
Projected Levels of Service for
the U1, U2-A and U2-B Alternatives in 2020

Alternative/Peak Hour	Level of Service		
	Haleakala Hwy. to Omaopio Rd.	Omaopio Rd. to Pulehu Rd.	Pulehu Rd. to Piilani Hwy.
U1,K1			
A.M. Peak Hour	D	D	D
P.M. Peak Hour	D	D	E
U1,K2			
A.M. Peak Hour	C	D	D
P.M. Peak Hour	C	D	D
U2-A,K1			
A.M. Peak Hour	D	D	D
P.M. Peak Hour	D	D	E
U2-A,K2			
A.M. Peak Hour	C	D	D
P.M. Peak Hour	C	D	D
U2-B,K1			
A.M. Peak Hour	D	D	D
P.M. Peak Hour	D	D	E
U2-B,K2			
A.M. Peak Hour	C	D	D
P.M. Peak Hour	C	D	D

Source: Traffic data used to produce analysis provided by the State of Hawaii, Department of Transportation; Parsons Brinckerhoff Quade & Douglas, Inc. prepared the analysis, October 1997

As indicated on Tables 4-4 and 4-5, most segments will operate acceptably, at LOS C or D during the a.m. and p.m. peak hours. However, there will be segments that are projected to operate at LOS E for alternatives U1,K1, U2-A,K1 and U2-B,K1. This condition will occur during the p.m. peak hour when volumes will be heaviest in the upgrade direction.

Table 4-5
Projected Levels of Service for the U3 Alternatives in 2020

Alternative/Peak Period	Level of Service	
	Kula Hwy. to Pulehu Rd.	Pulehu Rd. to Piilani Hwy.
U3,K1		
A.M. Peak Hour	D	D
P.M. Peak Hour	E	E
U3,K2		
A.M. Peak Hour	C	C
P.M. Peak Hour	D	D

Source: Traffic data used to produce analysis provided by the State of Hawaii, Department of Transportation; Parsons Brinckerhoff Quade & Douglas, Inc. prepared the analysis, October 1997

Table 4-6 shows the LOS at the six alternative termini for each alternative. As indicated on this table, only the U1 terminus under Alternative U1,K1 is predicted to operate worse than LOS C. As indicated on Table 1-1, certain movements at this intersection are currently operating at LOS D and F.

Table 4-6
Project Levels of Service at the Alternative Termini in 2020

Location	Level of Service	
	A.M. Peak Hour	P.M. Peak Hour
U1,K1		
U1 Terminus	D	D
K1 Terminus	C	B
U1,K2		
U1 Terminus	C	C
K2 Terminus	B	C
U2-A,K1		
U2-A Terminus	B	B
K1 Terminus	C	B
U2-A,K2		
U2-A Terminus	B	B
K2 Terminus	B	C
U2-B,K1		
U2-B Terminus	B	B
K1 Terminus	B	B
U2-B,K2		
U2-B Terminus	B	B
K2 Terminus	B	C
U3,K1		
U3 Terminus	B	B
K1 Terminus	B	B
U3,K2		
U3 Terminus	B	B
K2 Terminus	B	B

Note: All termini are assumed to signalized.

Source: Traffic data used to produce analysis provided by the State of Hawaii, Department of Transportation; Parsons Brinckerhoff Quade & Douglas, Inc. prepared the analysis, July 1997

4.4.1.3 Bicycle and Pedestrian Movements

Kihei-Upcountry Maui Highway will have no adverse effects on any existing and future bikeway. When completed, some bicycle tour companies may use the roadway, modifying their Haleakala bike tours. Although Kihei-Upcountry Maui Highway was not identified in Bike Plan Hawaii (April 1994) as a potential bikeway, the Kihei-Makena region will be a natural area to end some of the Haleakala bike tours if the highway were constructed. The proposed roadway will have sufficient room for bicyclists riding single file because bike lanes will be provided along urban roadway sections and adequate shoulders will be provided along rural roadway sections (see Figure 2-2). If a U2-A or U2-B alternative were selected, bike tours may interact with traffic surrounding King Kekaulike High School. If a U3 alternative were selected, bike tour operators utilizing this route would probably use Kula residential roads between Haleakala and Kula Highways. Bicycle tours moving through these neighborhoods may disturb residents and disrupt local traffic. Bike tour operators will be less likely to modify their routes if a U1 alternative were selected because of the distance between the "Five Trees" intersection and the U1 terminus.

No alternative will adversely affect an existing pedestrian facility. In some cases, some of the alternatives will improve or install walkways, sidewalks and crosswalks along existing roads (see Section 4.4.4). Kihei-Upcountry Maui Highway will include sidewalks in conformance with the Americans with Disabilities Act (ADA) where the highway is constructed in an urban area. In rural areas, pedestrian facilities will not be provided.

4.4.2 WATER SUPPLY SYSTEM

Kihei-Upcountry Maui Highway will not affect existing water supply systems or future Maui BWS plans, which are described in Section 3.4.3.

4.4.3 DRAINAGE

Kihei-Upcountry Maui Highway will not affect existing drainage systems in the project area.

4.4.4 MITIGATION MEASURES

Under a U1, U2-A or U2-B alternative, traffic conditions at the intersections of the proposed highway with Omaopio and Pulehu Roads will be monitored after completion of the project to determined whether these intersections meet traffic signal warrants specified in the Manual on Uniform Traffic Control Devices, published by FHWA.

If a U2-A alternative were selected, the modified Five Trees intersection would include crosswalks and sidewalks to the high school. In addition, the Pukalani leg of Haleakala Highway would be converted to a pedestrian walkway.

If a U2-B alternative were selected, an urban design (see Section 2.1.2) would be used next to the Kamehameha Schools campus in Kulamalu. This design includes sidewalks.

If a U3 alternative were selected, signage will be provided to direct motorists to the proper route to the Haleakala summit.

4.5 AIR QUALITY

A detailed discussion of the microscale air quality impacts of the proposed project is found in Appendix F, Air Quality Study for the Proposed Kihei-Upcountry Maui Highway (September 1998). The following information is based on that report.

4.5.1 POLLUTANTS FOR ANALYSIS

The pollutants relevant to evaluating the air quality impacts of a roadway project are those contained in motor vehicle emissions. These pollutants include carbon monoxide (CO), hydrocarbons (HC), nitrogen oxide (NO_x), ozone (O_3), and lead. Vehicles account for a very small percentage of regional emissions of sulfur dioxide (SO_2) and particulate matter (PM_{10}), and therefore detailed analyses of these contaminants are typically not warranted for a proposed roadway.

Motor vehicles have historically constituted a major source of lead emissions to the atmosphere. However, lead levels have decreased substantially and will continue to do so due to the mandated decrease and elimination of lead in gasoline. Therefore, a detailed analysis of the impact of lead emissions is also not warranted.

HC and NO_x emissions from automotive sources are of concern primarily because of their roles as precursors in the formation of O_3 in the lower atmosphere. Ozone, a major greenhouse gas, is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Since the reactions are slow and occur as the pollutants diffuse downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. HC and NO_x emissions are therefore examined on a regional or "mesoscale" basis.

CO impacts are localized. Even under the worst meteorological conditions and most congested traffic conditions, high concentrations are limited to a relatively short distance (91 to 183 m (300 to 600 ft)) from heavily traveled roadways. Consequently, it is appropriate to predict concentrations of CO on a localized or "microscale" basis.

4.5.2 METHODOLOGY

4.5.2.1 Microscale Analysis

To estimate future CO levels by year 2020, microscale air quality modeling was performed using the most recent version of the Environmental Protection Agency (EPA) mobile source emission factor model (MOBILE 5A) and the CAL3QHC version 2 air quality dispersion model. Appendix F contains a more detailed description of the methodology used to predict CO concentrations.

Adverse air quality effects of a roadway project are caused by increased vehicular activity in a particular area, such as an intersection. Impacts at these local areas, typically intersections, are often referred to as "hot spots." According to the EPA Conformity Guidelines, a hot spot analysis should be prepared if:

- the project worsens an intersection's LOS if it was previously a C or D; and

- the intersection LOS is D or worse and the project substantially increases intersection delay.

According to Section 4.4.1, the LOS at the alternative termini (U1, U2-A, U2-B, U3, K1 and K2) are predicted to remain the same as present or be no worse than LOS C, except for one terminus. Because of this predicted traffic condition, only the following two sites received detailed CO analysis because they represent the termini with the worst predicted traffic conditions:

- Site #1: Haliimaile Road / Haleakala Highway / Kihei-Upcountry Maui Highway intersection - Alternatives U1,K1 and U1,K2; and
- Site #2: Kaonoulu Street / Piilani Highway / Kihei-Upcountry Maui Highway intersection - Alternative U1,K1

A localized (microscale) analysis of mobile sources applies mathematical models that simulate physical conditions to predict CO concentrations at specific receptor locations. Mobile source dispersion models are the basic analytical tools used to estimate CO concentrations expected under given conditions of traffic, roadway geometry and meteorology. The mathematical expressions and formulations that comprise the various models attempt to describe extremely complex physical phenomena. However, because all models contain simplifications and approximations of actual conditions, most have been designed to be conservative.

4.5.2.2 Mesoscale Analysis

The effects of a proposed project on regional hydrocarbon and nitrogen oxide emissions are an indication of the project's overall affect on areawide ozone levels. A regional emission burden (or mesoscale) analysis is often conducted to estimate these effects. This analysis utilizes vehicle miles of travel (VMT) and vehicle hours or travel (VHT) within the region (together with appropriate mobile source emission factors) to estimate changes in pollutant burden levels with and without the proposed project. The results of this analysis are then used to determine if the area will be in compliance with regulations set forth in the Final Conformity Rule.

4.5.3 POTENTIAL IMPACTS

4.5.3.1 Microscale Analysis

Maximum 1-hour and 8-hour carbon monoxide levels were predicted at two analysis sites for Alternatives U1,K1 and U1,K2. The results of this analysis are provided in Tables 4-7 and 4-8. An analysis of other sites and alternatives, including the No Build alternative, is unnecessary because the CO levels at Sites #1 and #2, under the U1 alternatives, would be the "worst-case" among all of the other termini and alternatives. Therefore, the predicted CO levels at these two analysis sites would be the highest due to microscale effects from the project. As indicated on Tables 4-7 and 4-8, no violations of State Ambient Air Quality Standards (SAAQS) for one- or eight-hour CO standards are predicted, even at these "worst-case" locations (the SAAQS are more stringent than the Federal Ambient Air Quality Standards).

Since the project is not predicted to cause a violation of the applicable air quality standards, it conforms to the goals set forth in the Clean Air Act Amendments.

Table 4-7
Predicted Worst-Case 1-Hour Carbon Monoxide Concentrations (ppm)*

Site	Description	Alter.	State Std.	Build (Year 2020)	
				AM	PM
1	Haliimaile Road / Haleakala Highway intersection	U1,K1	9	0.81	0.71
1	Haliimaile Road / Haleakala Highway intersection	U1,K2	9	0.91	0.61
2	Kaonoulu Street / Piilani Highway intersection	U1,K1	9	0.81	0.81

Note: * 1-hour CO Background = .012 ppm

Source: Parsons Brinckerhoff Quade & Douglas, Inc., September 1998

Table 4-8
Predicted Worst-Case 8-Hour Carbon Monoxide Concentrations (ppm)*

Site	Description	Alternative	State Standard	Build (Year 2020)
1	Haliimaile Road / Haleakala Highway intersection	U1,K1	4.5	0.07
1	Haliimaile Road / Haleakala Highway intersection	U1,K2	4.5	0.08
2	Kaonoulu Street / Piilani Highway intersection	U1,K1	4.5	0.07

Note: * 8-hour CO Background = .012 ppm

Source: Parsons Brinckerhoff Quade & Douglas, Inc., September 1998

4.5.3.2 Mesoscale Analysis

On a regional air quality basis, any of the build alternatives will produce an improvement over the No Build alternative because of the reduction of travel distance between Upcountry and Kihei-Makena or West Maui, which will result in decreased fuel consumption. The Kihei-Upcountry Maui Highway is included in the current State of Hawaii Statewide Transportation Improvement Program (STIP), 1997, for Fiscal Years 1998-2000. The regional effects of this project are incorporated into and satisfy the requirements of the conforming Statewide Implementation Plan (SIP). Therefore, a regional or mesoscale analysis is not necessary.

4.5.4 MITIGATION MEASURES

Mitigation measures for the air quality impacts of Kihei-Upcountry Maui Highway after its construction will not be necessary. Construction-phase air quality impacts and mitigation measures are addressed in Section 4.17.2.

4.6 NOISE

A detailed discussion of the noise impacts of the proposed project is found in Appendix G, Noise Technical Report for Kihei-Upcountry Maui Highway (January, 1998). The following information is based on that report.

The noise impact analysis for Kihei-Upcountry Maui Highway was prepared using SDOT's FHWA-approved Noise Analysis and Abatement Policy (October 1996) (hereinafter referred to as Noise Policy). This Final EIS considers two types of future traffic noise impacts:

- the traffic noise levels along Kihei-Upcountry Maui Highway under each alignment alternative; and
- the change in traffic noise levels on other roadways within the project study area due to traffic diversion caused by Kihei-Upcountry Maui Highway.

4.6.1 PREDICTION METHODOLOGY

Future noise levels with and without the project were predicted using FHWA's highway traffic noise prediction model, STAMINA 2.0 Highway Traffic Noise Modeling Program (FHWA, 1982). Input variables to the model include traffic volumes, speeds and vehicle fleet mix (auto, medium truck, and heavy truck percentages). The analysis assumes that existing and future traffic conditions have the same vehicle mix and speeds.

The noise analysis considered the following traffic scenarios:

- two-lane facility (proposed project) - sunrise hours (5:00 a.m. to 6:00 a.m.);
- two-lane facility (proposed project) - peak hour; and
- two-lane facility (proposed project) - roadway operating at level of service (LOS) C.

Roadway "level of service" (LOS) is measured on a scale from A to F (see Section 4.4.1). LOS C is a traffic condition, where vehicular volume is at the capacity of the roadway, yet vehicles operate at the allowable speed limit. This is considered to be the noisiest of the six levels of service (A through F).

4.6.2 POTENTIAL IMPACTS

Noise abatement must be considered when there is a noise impact. According to the Noise Policy, a noise impact occurs when:

- predicted traffic noise levels approach or exceed the FHWA Noise Abatement Criteria (NAC); or
- predicted traffic noise levels substantially exceed the existing noise levels.

Noise is measured by the one-hour $L_{eq}(h)$ parameter. "Approach" means to attain a noise level 1 dBA less than the NAC and "substantially exceed the existing noise levels" means to increase the one-hour $L_{eq}(h)$ by at least 15 dBA.

Computer modeling results for the Year 2020 are presented in Table 4-9.

Under the No Build alternative, predicted future traffic noise levels are expected to be no more than 1 dBA over the existing noise levels. The NAC of $L_{eq}(h)$ 67 dBA is expected to be approached at Site 7 (see Table 4-9). All other sites are predicted to remain below the NAC.

The predicted sunrise noise levels presented in Table 4-9 represent traffic using the proposed highway and other roadways during the early morning hours to model the condition of tourists traveling to the Haleakala summit for sunrise. However, these predicted noise levels do not include the cumulative effects of ambient early morning noise from other activities except at Site 1, which includes the effects of ambient early morning noise because measurements at this site were taken at 5:00 a.m. (see Section 3.6.3). The results in Table 4-9 indicate that the effects of early morning traffic will not cause future noise levels at the receptor sites to approach or exceed the NAC, including the K1 alternatives' traffic noise effects on Site 1. Site 1's sunrise noise levels are predicted to increase by 3 dBA over the existing ambient level, which is considerably less than the "substantial increase" threshold in the Noise Policy. A 3 dBA increase is barely perceptible to the human ear. Predicted noise levels at Site 1 included the effect of tour buses accelerating uphill.

Table 4-9
Predicted Year 2020 Noise Levels

Site	Location	Segment	Noise Levels ($L_{eq}(h)$ (dBA))					
			NAC	Existing	No-Build	Build Condition		
						Sunrise	Peak Hour	LOS C 2 Lanes
1	Ohukai community (Ohukai St.)	K1	67	39	40	42	46	48
2	Kamalu Elementary School	K2	67	58	59	46	60	61
3	Omaopio Homesteads	U2-A	67	53	54	52	59	63
		U2-B	67	53	54	52	59	63
4	Haleakala Hwy. / Haliimalile Rd. Intersection	U1	---	68	69	49	69*	69*
5	Pukalani community (Alani St.)	U2-A	67	57	58	48	56	59
		U2-B	67	57	58	45	58	60
6	Kula 200 community	U2-B	67	51	52	48	55	59
7	Kula residence along Kula Hwy.	U3	67	66	67	33	67*	67*
8	Pulehu community (Holopuni Rd.)	U3	67	47	48	50	56	57
9	Future Kamhehameha School	U2-B	67	53	54	42	54	56
10	Piilani Hwy. / Kaonoulu St. Intersection	K1	67	60	61	52	62	63
11	Future Kihei Regional Park	K2	67	45	46	55	63	70
12	King Kekaulike High School	U2-A	67	49	50	40	51	53
		U2-B	67	49	50	38	50	52
13	Unnamed Road off of Haleakala Hwy. near Five Trees Intersection	U2-A	67	50	46	56	60	63
		U2-B	67	49	50	44	52	58

Notes: (XX)- Values that are underlined approach or exceed the applicable Noise Abatement Criteria.
* The predicted future traffic at Sites 4 and 7 results in noise levels that are lower than the predicted future No-Build noise levels. Therefore, future noise levels at these sites are assumed to be the same as the future No-Build levels.

Source: Parsons Brinckerhoff Quade & Douglas, Inc., June 1997 and September 1998

Peak hour and LOS C traffic noise levels at 12 of the 13 receptor sites are predicted to increase from 1 dBA to 11 dBA over existing ambient noise levels (see Table 4-9). Site 11 is located at the future County Park in South Kihei. Under the K2 alternatives, Site 11's peak hour and LOS C noise levels are predicted to increase by 18 dBA and 25 dBA over its existing ambient level, respectively. Both increases are considered "substantial," and the LOS C condition would exceed the NAC. Therefore, a noise impact is predicted at Site 11 with the K2 alternatives, even though the site of the future park is currently being used for pasture.

Site 7, an off-site receptor, is predicted to have peak hour noise levels of $L_{eq}(h)$ 67 dBA under the U3 alternatives and the No Build alternative. Its predicted $L_{eq}(h)$ under the U3 alternatives would be slightly lower than the predicted $L_{eq}(h)$ under the No Build alternative (or under a U1 or U2-A alternative). Nevertheless, a noise impact is predicted at Site 7 because future conditions under the U3 alternatives would "approach" the NAC, as defined in the Noise Policy.

4.6.3 MITIGATION MEASURES

Noise abatement measures must be considered as part of the project if traffic noise impacts are identified. The Noise Policy is used to help determine whether noise abatement measures shall be implemented, depending on whether the measures are reasonable and feasible based on the following criteria:

- Measure would provide a minimum noise reduction of 5 dBA.
- Cost of noise abatement would not exceed $35,000 per residence benefited. The number of residences protected includes all dwelling units - owner occupied houses, rental units, mobile homes, etc. All units benefited by a 5 dBA or more noise reduction will be counted regardless of whether or not they were identified as impacted.
- Views from impacted residences are a major consideration in the reasonableness of noise abatement measures.

- Greater consideration of implementation of abatement measures is given to residential areas where high absolute traffic noise levels are expected to occur, e.g., greater than 70 dBA, or where large increases over existing noise levels are anticipated.
- Greater consideration of implementing abatement measures is given to residential areas along highways in a new location, residential areas constructed before an existing highway, and residential areas in place along an existing highway for an extended period of time.
- Consideration of adverse environmental effects and beneficial reduction of construction noise.

Noise abatement would only be considered at existing residential or planned development sites where building permit approvals have been obtained, and would only apply to outdoor ground level areas.

As stated in Section 4.6.2, a noise impact is predicted at Site 7 under the U3 alternatives, and Site 11 under the K2 alternatives.

At Site 7, a noise barrier that would provide at least a 5 dBA reduction in $L_{eq}(h)$ at the Site 7 residence was considered, but was found not to be reasonable and feasible because the barrier would block the residence's egress/ingress on Kula Highway, block viewplanes from the residence and not be appropriate in a rural, country setting.

At Site 11, abatement measures that are reasonable and feasible include buffer zones between the roadway right-of-way and noise-sensitive areas within the park, and berms that deflect noise from the highway. If a K2 alternative had been selected as the preferred alternative, the SDOT would work with the County of Maui Department of Parks and Recreation to determine which combination of these two measures would be preferred. For example, according to the latest master plan for the park, an amphitheater would be located at the southwest corner of the park adjacent to the K2 alignment. The grade at this location would allow the highway to be constructed at a lower elevation than the amphitheater, and therefore the highway would be separated from the park by berms. At other locations along the southern perimeter of the park, activities that are not noise sensitive (e.g., ball fields) could act as buffer zones for activities that are noise sensitive (e.g., camping grounds).

4.7 WATER RESOURCES

4.7.1 SURFACE WATER

Impacts to the intermittent streams (gulches) crossed by the Kihei-Upcountry Maui Highway will be associated in part with the bridges or embankments that will cross the gulches. After construction, the bridges will have no or very minimal impacts on the intermittent streams because current flow capacities of the gulches will be maintained. Storm water will be confined within the gulch, preventing flooding of adjacent areas. Information about the size and location of the bridges is provided in Section 2.1.2, and typical bridge profiles are shown on Figure 2-4.

Decisions on whether to use a bridge or embankment for gulch crossings partially depend on the storm water flow in the affected gulches. Many of the affected gulches have small storm water flows (under 100 m^3/sec (3,500 cfs) for the 100-year design storm), which culverts will be able to accommodate. Therefore, the embankment crossings (containing culverts) will not create upstream impoundments, and there will be no hydraulic impacts except perhaps during conditions exceeding the 100-year design storm.

In rural areas, the roadway will cause run-off to drain into areas previously free of automobile-related pollutants. However, these areas have already been exposed to agricultural and ranching-related pollutants, such as fertilizers, pesticides and livestock waste. Under most cases, the roadway runoff will drain into gulches and thereupon percolate into the ground. Roadway run-off could enter coastal waters during a heavy rain. However, roadway pollutant levels are related to VMT, and by reducing total regional VMT (see Sections 4.4.1 and 4.13), Kihei-Upcountry Maui Highway's impact to total pollutant loading will be to decrease pollutant emissions in comparison to the No Build alternative. Under the No Build alternative, a larger amount of pollutants would be generated because of the greater VMT compared to the build alternatives.

The U.S. Army Corps of Engineers (USACE), has stated that construction of bridges and embankments in Haleakala's gulches will require a U.S. Department of Army Nationwide permit under Section 404 of the Clean Water Act (see Appendices B and C). The Corps is

therefore a cooperating agency in the preparation of this document. A Section 401 Water Quality Certification from the State of Hawaii Department of Health (SDOH) may also be required.

4.7.2 GROUNDWATER

Kihei-Upcountry Maui Highway will overlie dike-confined groundwater sources deep below the surface. The amount of roadway run-off percolating into the ground will not be sufficient to reach the deep aquifers. In addition, according to the Maui Board of Water Supply, these sources are not utilized for potable water because of the high cost of drilling and the risk of not reaching water.

As an arterial roadway, Kihei-Upcountry Maui Highway will be used by vehicles transporting fuel and other chemicals. In the event of an inadvertent spill, fuels or chemicals could be released. Should there be an inadvertent release, State regulations require immediate containment and clean-up, and the County Department of Fire Control already has response procedures in place. The depth from the surface to the groundwater will help protect the aquifer under these conditions.

As described in Section 3.7.2, there is no U.S. Environmental Protection Agency designated principal or sole-source aquifer in the project area. Therefore, the requirements pertaining to potential impacts to such a resource under Section 1424(e) of the Safe Drinking Water Act do not apply to the proposed project.

With the No Build Alternative, roadway pollutants also would be generated and the risk of spills would exist. The location of the discharges would be different, however.

4.7.3 WETLANDS

Wetlands at Kealia Pond and along the Kihei-Makena coastline will be unaffected by Kihei-Upcountry Maui Highway. Although the U.S. Fish and Wildlife Service National Wetlands Inventory Map identifies wetlands within two of the gulches that will be crossed by some of the alternatives (Waipuilani and Waiakoa), botanical surveys conducted for this project found no

vegetational, soil or hydrological evidence that wetlands exist in any gulch to be crossed by the proposed highway. Therefore, wetlands do not exist within the path of any alternative.

4.7.4 FLOODPLAINS

As described in Section 3.7.4, the project area is not considered a floodplain because of its Zone C classification on the Flood Insurance Rate Maps. The hydrological impacts of the proposed bridges and culverts on the intermittent stream flow in the gulches are discussed in Section 4.7.1.

4.7.5 MITIGATION MEASURES

According to existing State regulations, hazardous spills require immediate containment and clean-up. Effective incident response procedures will minimize impacts to water sources. Measures to mitigate or prevent adverse impacts to the quality of State waters during construction are described in Section 4.17.4.

4.8 ECOSYSTEMS

4.8.1 FLORA

The No Build alternative consists of widening several existing roadways. The floral impact of the No-Build alternative would be removal of the vegetation in the construction zone of these widening projects.

Construction of Kihei-Upcountry Maui Highway will also remove vegetational communities. Some of these communities are commercial croplands, and cropland impacts are discussed in Section 4.2.

None of the alternatives (No-Build and Build) are expected to have an adverse impact on the region's botanical resources. The vegetational communities that will be directly affected by the proposed highway are regionally abundant (see Section 3.8.1). From a botanical

perspective, there is no alternative that is preferable because of the extensive involvement of existing agricultural areas along all alignment alternatives. However, for comparative purposes, the area of vegetational clearance for each alternative (including cropland) is shown on Table 4-10. Alternative U3,K1 requires the least clearance of vegetation.

The indirect effects of the highway include increased risk of fire and the potential introduction of alien species. Kihei-Upcountry Highway may increase the potential of brush fires in the region by enhancing public access to areas that are near dry land forests. The kiawe/buffelgrass association is especially fire-prone during the dry summer months. According to the National Park Service (letter dated October 25, 1994; see Appendix A), wildland fires are generally caused by humans.

The introduction of alien plant species to areas free of such species is also a concern. This concern was raised explicitly by the U.S. Department of Interior (see letter commenting on the Draft EIS, dated September 30, 1999 in Volume Two: Draft EIS Comments and Response).

One way that alien species could be introduced is through materials of construction and equipment that would be used to build the roadway. Since Maui already has all the equipment and vehicles needed to construct the road, there is little chance that off-island alien species would be introduced to the project area through equipment. In addition, much of the construction materials, such as base course and aggregate, would be obtained on Maui. Imported materials needed for the project include asphalt, cement, and rebar, but such materials are unlikely to contain alien species. Mulch may be imported for roadside landscaping, but in accordance with SDOT specifications, this material would be certified to be free of alien seed before being used.

Another way that alien species could be introduced would be through the conduit created by the roadway. This mechanism would be a greater concern if the roadway crossed areas of native vegetation. However, the agricultural areas that would be traversed by the roadway are already highly disturbed, and the increased risk of introduction of alien species is considered minimal.

In summary, Kihei-Upcountry Maui Highway will not change the current floral conditions of the project area. The area surrounding the highway will continue to be dominated by agriculture and kiawe trees/buffelgrass. The highway does not cross areas of native vegetation, and so would not increase the risk of introducing alien species into areas presently supporting native vegetation.

4.8.2 FAUNA

The impact of the No Build alternative on faunal resources would be associated with the habitat disturbance caused by the roadway widening projects contained in this alternative. This impact would not affect regional faunal conditions.

As with the No-Build alternative, the Build alternatives will convert faunal habitats into roadway and embankment. Table 4-10 shows the acreage of habitat converted for each alternative. Alternative U3,K1 would convert the smallest amount of acreage. However, regardless of the alternative, Kihei-Upcountry Maui Highway will not have a regional impact on faunal communities because they are common and widespread. As discussed in Section 3.8.2, the mammal and bird species in the project area are common throughout the Hawaiian Islands.

Table 4-10
Size of Vegetational Displacement

Alternative	Approximate Vegetational Displacement
U1,K1	97.6 ha (241.2 acres)
U1,K2	112.2 ha (277.3 acres)
U2-A,K1	98.5 ha (243.3 acres)
U2-A,K2	113.1 ha (279.4 acres)
U2-B,K1	99.4 ha (245.6 acres)
U2-B,K2	114 ha (281.7 acres)
U3,K1	89 ha (219.3 acres)
U3,K2	102.4 ha (252.5 acres)

Source: Warren S. Unemori Engineering, Inc., October 1997

Several commentors to the Draft EIS (see Volume Two: Draft EIS Comments and Responses) stated that Kihei-Upcountry Maui would increase the number of vehicle collisions with axis deer. The number of deer is increasing, their range is expanding, and the build alternatives cross areas where the deer have been observed (see Section 3.8.2). While the risk of vehicle-cattle collisions can generally be minimized by well-maintained stock-proof fencing (see Section 4.8.4), preventing vehicle-deer collisions is more difficult because deer can jump stock fencing. The population of axis deer in the study area is denser in Ulupalakua and less dense in Puunene. Therefore, of all the build alternatives, the U1,K1 alignment (the preferred alternative), has the least involvement with the axis deer population. The U3,K2 alignment would have the most involvement with concentrations of axis deer.

4.8.3 ENDANGERED, THREATENED AND MIGRATORY SPECIES

Consultation with the U.S. Fish and Wildlife Service (Service) (Parsons Brinckerhoff letter November 25, 1996 (see Appendix C)) and the State of Hawaii Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (see Section 5.1.1) has occurred. The Service was consulted because of its jurisdiction under Section 7 of the Endangered Species Act of 1973 to impose requirements upon federal agencies regarding endangered or threatened species and critical habitat. The Service noted that Puu o Kali supports a rare dry land forest which may contain endangered and rare plant species. The Service also noted a reservoir that may be used by migratory or endangered waterbirds (see Section 3.8.3).

Botanical surveys which covered all alignment alternatives did not identify any listed, proposed or candidate threatened or endangered plant species, or any plant species of concern (see Section 3.8.1 and Appendix J). None of the species identified in the Service's January 8, 1997 letter were observed.

Concern about potential impacts to endangered or migratory waterbirds resulted in additional consultations with Service staff (telephone conversations on April 2 and May 9, 1997). Service staff clarified that the January 8, 1997 letter did not request faunal surveys of the alignments and the reservoir. Additional consultation with the Maui Nature Conservancy (telephone conversation on April 2, 1997) supported the Service's position that endangered or

threatened faunal species were unlikely to be found along the alignments. However, Service staff recommended that the EIS acknowledge that the reservoir could attract migratory or endangered waterbirds. At its nearest approach, the edge of the U2-A,B alignment right-of-way would be approximately 70 m (230 ft) from the reservoir (horizontal distance), with an elevational difference between the road and the reservoir of approximately 20 vertical meters (60 ft). None of the U2-A or U2-B alternatives would modify the reservoir or its functions during or after construction.

Based on the information above, FHWA determined that Kihei-Upcountry Maui Highway will have no effect on the plant species identified in the Service's January 8, 1997 letter or other listed, proposed or candidate threatened or endangered plant species known at the time the botanical surveys were conducted. FHWA also determined that the proposed project will have no effect on migratory or endangered waterbirds that use the reservoir near the U2-A,B alignment. A letter was sent to the Service on December 1, 1997 requesting concurrence with the above conclusions under Section 7. In a letter dated December 24, 1997, the Service concurred with the FHWA determinations (see Appendix C).

4.8.4 MITIGATION MEASURES

Losses of floral communities will be partially mitigated by the implementation of a landscaping plan, which is discussed further in Section 4.13.2. Mitigation for losses of cropland is discussed in Sections 4.1.4 and 4.2.4.

Signage will be provided to encourage motorists to prevent brush fires. In addition, SDOT will conduct regular maintenance to control weed growth along highway shoulders. During the design phase, sources of water near the highway will be inventoried, and procedures to use these sources during a brush fire will be established.

Well-maintained stock-proof fencing will be provided at cattle grazing areas (see Section 4.2.4) to prevent cattle from wandering onto the highway. However, since such fencing will not prevent deer from getting onto the highway, frequent signage will be provided warning motorists of the danger of deer crossing the highway. Also, reduced speeds could help prevent and reduce the severity of vehicle-deer collisions. Although the highway is planned for

a 90 km/h (55 mph) posted speed limit in rural sections, this limit will be re-evaluated during the design phase, and the risk of vehicle-deer collisions will be considered further in this assessment. As noted in one of the Draft EIS comment letters, the reflection of automobile headlights off of the raised pavement markers used on many of the highways on Maui mimic the headlight reflection off of axis deer eyes, which make it difficult for drivers to see the deer. Therefore, alternative pavement markers would be studied during the design phase.

Existing SDOT specifications on the use of mulch for landscaping will be followed to prevent alien plant species from invading the project area. In addition, existing SDOT specifications requiring construction vehicles and equipment to be washed after use will help prevent the spread of alien species among construction sites on Maui.

4.9 GEOLOGY, PHYSIOGRAPHY, SITE CONTAMINATION AND NATURAL HAZARDS

4.9.1 GEOLOGIC AND PHYSIOGRAPHIC SETTING

None of alternatives will affect the geologic conditions of the study area.

Kihei-Upcountry Maui Highway will alter the physiography of the study area by introducing a roadway where there is presently open space used for agriculture and ranching. The project will require cuts and fills, resulting in localized changes in topography. Table 4-11 displays the estimated amount of earthwork for each alternative. Alternative U3,K1 will require the least amount of earthwork. Regardless of the alternative, total cuts and fills will be balanced during the design phase so material will not need to be disposed of or imported from outside the project site.

4.9.2 HAZARDOUS MATERIALS

A search of federal and State environmental databases did not identify hazardous materials sites along any of the alignments. Prior land use history indicates agricultural and ranching

use. Therefore, hazardous materials are not expected to be encountered during project construction.

Table 4-11
Comparison of Earthwork[A] (General Site Work) Among Alternatives

Alternative	Excavation	Embankment	Total
U1,K1[B]	656 900 m^3	516 300 m^3	1 173 200 m^3
U1,K2[B]	792 800 m^3	625 100 m^3	1 417 900 m^3
U2-A,K1[C]	922 700 m^3	739 400 m^3	1 662 100 m^3
U2-A,K2[C]	1 058 800 m^3	848 200 m^3	1 907 000 m^3
U2-B,K1	770 900 m^3	616 700 m^3	1 387 600 m^3
U2-B,K2	906 800 m^3	725 500 m^3	1 632 300 m^3
U3,K1	489 600 m^3	391 800 m^3	881 400 m^3
U3,K2	604 600 m^3	483 700 m^3	1 088 300 m^3

Notes: [A] Earthwork for a two-lane highway in rural areas and a four-lane highway in urban areas, and excess excavation material to be used to fill major gulches (where bridges will not be used) for a four-lane roadway
[B] Includes earthwork to construct two undercrossings where the road crosses cane haul roads.
[C] Includes earthwork to re-align Haleakala Highway in Pukalani.

Source: Warren S. Unemori Engineering, Inc., December 1997 and July 1998

4.9.3 NATURAL HAZARDS

Kihei-Upcountry Maui Highway will not produce any additional exposure of communities to geologic hazards, tsunami or other natural hazards, such as tropical storms and hurricanes. The No Build alternative would also not result in additional exposure to natural hazards.

Kihei-Upcountry Maui Highway will enhance roadway evacuation capacity from Kihei-Makena in the event of a coastal emergency. In comparing the alternatives for their evacuation effectiveness, the K2 alternatives, with their more southerly terminus, would facilitate a coastal evacuation better than the K1 alternatives. With the K1 alternatives, including the preferred alternative, traffic flows will collect in North Kihei because the K1 terminus is approximately 1 km (0.6 mile) from the Piilani Highway/Mokulele Highway intersection.

4.10 HISTORIC, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The purpose of this section is to summarize potential project impacts on historic and archaeological resources and traditional cultural properties (TCP), and to document compliance with Section 106 of the National Historic Preservation Act and Chapter 6E of the Hawaii Revised Statutes.

In coordination with the State Historic Preservation Division (SHPD), reconnaissance level surveys were conducted on all the alternatives considered in the EIS, and an inventory-level survey was conducted on the preferred alternative. More information about the project's historic and archaeological research activities is provided in Section 3.10.

4.10.1 SECTION 106 AND CHAPTER 6E

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies consider the effect of their projects on any resource listed on or eligible for the National Register of Historic Places, in coordination with the State Historic Preservation Officer (SHPO). The Advisory Council on Historic Preservation (ACHP) is given an opportunity to review project impacts if appropriate. Chapter 6E places similar responsibilities on State agencies to evaluate their projects. The processes of Section 106 (as described in 36 CFR 800) and Chapter 6E are very similar, with both containing two basic steps: (1) identify historic properties (sites on or eligible for the National and Hawaii Registers); and (2) assess effects, and if necessary, mitigate adverse impacts.

Section 3.10 documents the activities performed to comply with Step 1.

In assessing the effects of a project on a historic property (Step 2), there can be only one of the following three possible findings under the Section 106:

- no historic properties affected;
- no adverse effect; and
- adverse effect.

"No historic properties affected" means that either there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them of any kind (that is, neither harmful nor beneficial). An "effect" means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register.

"No adverse effect" means that there could be an effect, but the effect would not be harmful to those characteristics that qualify the property for inclusion in the National Register. In other words, it would not diminish or adversely affect the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

An "adverse effect" means an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration is given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

If a project has an "adverse effect", a Memorandum of Agreement (MOA) that is signed, at minimum, by the federal sponsoring agency and the SHPO, is required. The ACHP may sign the MOA when the federal agency and the SHPO are in disagreement. Other entities may sign the MOA as concurring parties, such as the State sponsoring agency (SDOT), and agencies and organizations with an interest in the historic property(ies) affected.

Effect determinations, in accordance with Section 106 and Chapter 6E, are provided in Section 4.10.2.

Section 106 also requires consultation with those who may have knowledge about historic properties in the project area. A group of organizations and individuals recommended by the SHPD, which included the State of Hawaii Office of Hawaiian Affairs and the State Department of Hawaiian Home Lands, were contacted and asked to participate in consultation at various times throughout the project. They were sent copies of the reconnaissance survey reports, the inventory survey report, and the cultural impact study, and were also asked if they had

knowledge of other historic properties not identified in these reports (see Appendix C). One of the consulted parties provided information about other historic properties near the U2-A alignment during the Draft EIS review period (see letter from Charles Maxwell in Volume Two).

4.10.2 POTENTIAL IMPACTS

4.10.2.1 Historic and Archaeological Resources

None of the build alternatives completely avoid significant historic and archaeological sites. Table 4-12 lists the historic properties (sites eligible for the National Register) that would be adversely affected ("adverse effect") depending on the alternative. Since an inventory survey was only conducted on the U1,K1 alignment, the preferred alternative, the level of information obtained for this alternative is superior to the information obtained for the other alternatives. If inventory surveys were conducted on the other alternatives, additional significant sites could be identified. In addition, FHWA rendered official Section 106 effect determinations only for the U1,K1 alignment (see Appendix C). Section 3.10 contains information about these sites, including significance evaluations that indicate that they all are significant only under Criterion D. Criterion D sites yield, or may likely yield, information important in prehistory or history.

Although the number of historic properties that would be adversely affected differs by alternative, the overall impacts among the alternatives were judged to be equal because none of the affected historic properties are culturally significant (i.e., eligible for listing based on Significance Criteria E), or require preservation. Both the FHWA and SHPO agreed that none of these sites warrant modifications or realignments of any of the alternatives, and that data recovery would be an appropriate mitigation measure at each of the sites affected by the project.

The FHWA determined that the U1,K1 alignment, the preferred alternative, will have an "adverse effect" on three historic properties, State Sites 5032, 5033 and 5035. Sites 5032 and 5033 are about 57 m (190 ft) and 45 m (150) from the U1,K1 center line, respectively, which is barely within the alignment's Area of Potential Effect (APE). Nevertheless, FHWA rendered adverse effect determinations even though construction of Kihei-Upcountry Maui Highway may not affect these sites. As described in Section 3.10.2, Sites 5032, 5033 and 5035 functioned

as temporary habitation as evidenced by the discovery of cultural materials. Although these sites do not require preservation, additional data recovery is needed if detailed design activities to be conducted in the next phase of project engineering confirm that these sites are displaced by the project.

Table 4-12
Historic Properties to be Adversely Affected by Alternative

Alternative	Historic Properties Adversely Affected[1]
U1,K1 (Preferred Alternative)	5032, 5033 and 5035
U1,K2	4766, 4767, 4768, 4769, 4770, 4771 and 4772,
U2-A,K1	5032, 5033 and 5035
U2-A,K2	4766, 4767, 4768, 4769, 4770, 4771 and 4772,
U2-B,K1	5032, 5033 and 5035
U2-B,K2	4766, 4767, 4768, 4769, 4770, 4771 and 4772
U3,K1	4763, 4774, 4775, 5032, 5033 and 5035
U3,K2	4763, 4766, 4767, 4768, 4769, 4770, 4771, 4772, 4774, 4775

Note: [1] Site numbers preceded by "50-50-10-."
The impacts of the U1,K1 Alternative reflect information from the inventory survey. The impacts of other U1 and K1 alternatives partially reflect information from the inventory survey. Section 106 effect determinations were made only for the U1,K1 alternative.

Source: Cultural Surveys Hawaii, November 1997, December 1997, July 1998 and December 2000 Federal Highway Administration, June 18, 2001 (see Appendix C).

The FHWA rendered "no adverse effect" determinations on State Sites 3727, 3728, 3729, 3742, 3743, 3745 4765, 4773, 4776, 4778, 5030, and 5034. None of these sites warrant preservation and sufficient documentation on these sites was compiled during the inventory survey or in previous studies. The SHPD agreed in a May 10, 2001 letter (see Appendix C) that no further work is needed on these sites.

The two petroglyph sites (State sites 5029 and 5031) are located approximately 60 m (200 ft) from the alignment centerline in Kalialinui and Waiakoa Gulches. Because of this distance, and since Kihei-Upcountry Maui Highway will cross both gulches via two-lane bridge, both

petroglyph sites are outside the APE. Nevertheless, mitigation measures will be implemented during construction to prevent accidental damage to the sites (see Section 4.17.7.2).

As described in Section 3.10.2, the U2-A alignment avoids State Sites 1062 and 4779 (petroglyph sites). With proper mitigation (see Sections 4.10.3 and 4.15.7.2), proximity impacts can also be avoided.

At its nearest point, the U2-A alignment's edge of pavement would be approximately 50 m (150 ft) from State Site 2701 (a heiau; see Section 3.10.2). Adverse effects on this site would not be expected because the alignment runs along the heiau's south (mauka) side, which would not affect the heiau's downslope (north and west) view plane (see Figure 4-5). Measures to mitigate proximity impacts to State Site 2701 would be implemented if a U2-A alternative were selected as the preferred alternative (see Sections 4.10.3 and 4.15.7.2).

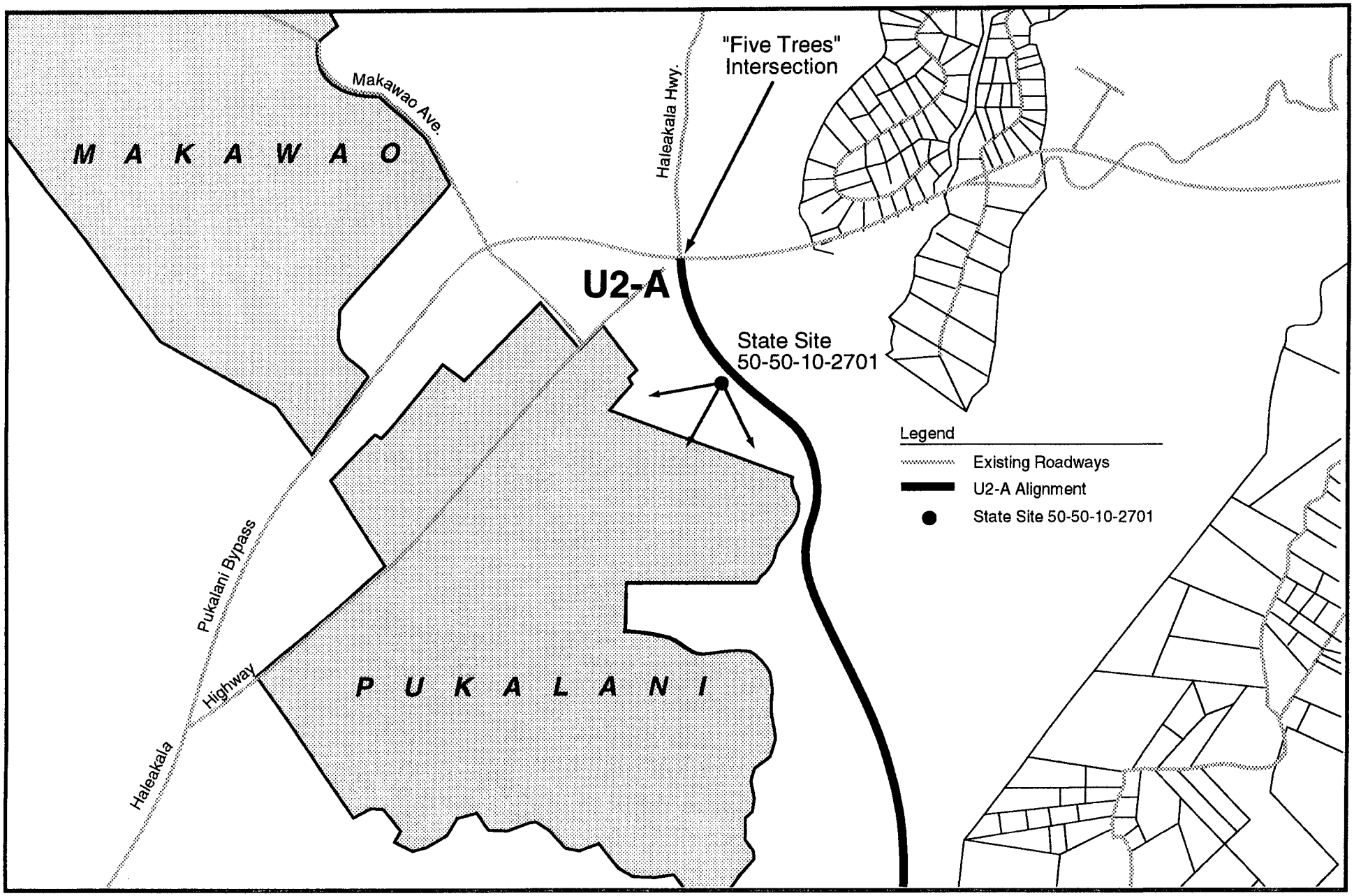
State Site 4181 may be within the U2-B alignment's APE. However, this site is no longer considered a historic property (see Section 3.10.2).

The U3 alignment was shifted to avoid Site 4764 (see Section 3.10.2). Measures to mitigate proximity impacts to Site 4764 would be implemented if a U3 alternative were selected as the preferred alternative (see Sections 4.10.3 and 4.15.7.2).

4.10.2.2 Traditional Cultural Properties / Practices

As described in Section 3.10.4, Scientific Consultant Services, Inc. (SCS) prepared a report on the potential cultural resource impacts of the proposed project (Identification and Assessment of Potential Traditional Cultural Impacts Within the Kihei-Upcountry Maui Highway Project Area, Maui, Hawai'i [TMK: 2-2 and 2-3], October 2000). The SCS report is provided in Appendix I.

According to the SCS study, the project area contains no TCPs, although there are culturally-significant sites near the project area, such as the petroglyphs (Sites 5029 and 5031) and *heiau* (Site 2701). None of the culturally-significant sites will be affected by Kihei-Upcountry Maui Highway (see Section 4.10.2.1). The SCS study was reviewed by the SHPD, the State



Source: Warren S. Unemori, Engineering, January 1998

Viewplane from State Site 50-50-10-2701
KIHEI-UPCOUNTRY MAUI HIGHWAY
Final Environmental Impact Statement
FIGURE 4-5

Office of Hawaiian Affairs and others who were consulted regarding the historic impacts of the project (see Appendix C).

4.10.3 MITIGATION MEASURES

In accordance with Section 106 regulations, a MOA was prepared and signed by the FHWA and SHPO because of the "adverse effects" that the project could have on three historic properties along the U1,K1 alignment (see Appendix C). The MOA specifies that a data recovery plan be prepared and implemented in coordination with the SHPD. The plan will be prepared during the design phase and will specify:

- the research questions to be addressed through the data recovery, with an explanation of their relevance and importance;
- the methods to be used, with an explanation of their relevance to the research questions;
- contents of the archaeological data recovery report;
- the report review procedures;
- a report completion date;
- proposed distribution of the results; and
- proposed methods by which native Hawaiian groups will be notified when the work is beginning and be provided a summary of the report findings.

Should a previously unidentified historic or archaeological site be discovered during construction, all work will stop and the SHPD will be informed and consulted on the appropriate treatment measures.

4.11 PARKLANDS

In general, the proposed Kihei-Upcountry Maui Highway will enhance access to Haleakala National Park, the new Kihei Aquatic and Community Center and the future Kihei Regional Park. No alternative, including the No Build, will adversely affect access to or use land from any existing or future park or recreational facility described in Section 3.11.

Kihei-Upcountry Maui Highway is not anticipated to increase the approximately one million visitors traveling to the summit annually. The health of Maui's visitor industry is the fundamental factor affecting the number of visitors to Haleakala. Roadway capacity does not act as a constraint on the number of visitors.

Kihei-Upcountry Maui Highway, regardless of the build alternative, will improve access to the future Kihei Regional Park. However, the K2 alternatives would enhance access to the Regional Park to a greater degree than the K1 alternatives. However, if a K2 alternative were selected as the preferred alternative, the SDOT would work with the County of Maui Department of Parks and Recreation to determine appropriate noise mitigation measures, such as buffer zones and berms (see Section 4.6.3).

4.12 SECTION 4(F)

Section 4(f) of the Department of Transportation Act, 49 U.S.C. 303 and 23 U.S.C. 138 (referred to hereafter as "Section 4(f)"), permits the use of land for a transportation project from a significant publicly-owned public park, recreation area, wildlife and waterfowl refuge, or a historic site only when the FHWA has determined that:

- there is no feasible and prudent alternative to such use; and
- the project includes all possible planning to minimize harm to the property resulting from such use.

The purpose of Section 4(f) is to preserve significant parkland, recreation areas, refuges, and historic/archaeological sites by limiting the circumstances under which such land can be used for transportation projects. The word "use" in this case means:

- land is permanently incorporated into a transportation facility;
- there is a temporary occupancy of land that is adverse in terms of preservation of the resource; or
- the project's proximity to the site substantially impairs those functions that qualify the site as a Section 4(f) resource even though no land is permanently or temporarily acquired. This type of use is called "constructive use."

None of the alternatives will use lands from publicly-owned public parks or recreational facilities, or wildlife and waterfowl refuges, because there are no such resources within the path of the alignments. The Section 4(f) resource nearest to any alternative is the future Kihei Regional Park, which would be adjacent to the K2 alternatives. As described in Section 4.6.2, these alternatives are predicted to have a noise impact at the future park because there would be a "substantial" increase of noise from its present level (the area is presently vacant and is used for pasture). However, a constructive use of the park would not occur because the SDOT would work with the County to ensure that noise impacts are mitigated by buffer zones or berms (see Section 4.6.3).

An archaeological site falls within the protection afforded by Section 4(f) only if it is on or eligible for the National Register of Historic Places and the site has been determined, after consultation with the SHPO and the ACHP, to be important for preservation-in-place. Since none of the historic and archaeological sites that may be affected by the project meet these two criteria (see Section 3.10.2), the project would not involve any historic properties under the jurisdiction of Section 4(f).

4.13 VISUAL AND AESTHETIC RESOURCES

4.13.1 POTENTIAL IMPACTS

The No Build alternative, which consists of widening existing roadways, would not affect the viewsheds described in Section 3.12. Views of roadside trees and landscaping could be affected by the removal of vegetation associated with the widening.

Regardless of the build alternative selected, views from Upcountry will not change because the terrain drops away towards Central Maui and the ocean. The visual quality of the ocean, West Maui Mountains and Central Maui from Upcountry will not be affected. In fact, the Kihei-Upcountry Maui Highway will provide additional viewpoints of these vistas for motorists. The possibility of providing a scenic overlook will be studied further in the design phase of the project.

The intactness (extent to which the landscape is free from visual encroachment) of the eastern (mauka) view of Haleakala from Kihei will be affected by a paved roadway and associated embankments climbing the slope.

Highway lights will be provided at the terminus intersections, and they will be visible from several vantage points during the evenings. Highway lights will not be provided along the entire length of Kihei-Upcountry Maui Highway.

The visual quality of the ocean, coastline and the West Maui Mountains from Kihei will be unaffected.

4.13.2 MITIGATION MEASURES

Although the proposed project's visual impact is expected to be minor, landscaping will be provided to improve the appearance of the roadway. Native trees and shrubs will be used. These plants are already adapted to local growing conditions and will require less water and soil amendments. Some of these native species include:

- wiliwili--these occur naturally in some of the larger gulches in the study area;
- naio (Myoporum sandwicense)--a glossy, dark green shrub with fragrant white flowers;
- nehe--a member of the daisy family;
- ilima (Sida fallax)--a small shrub with bright orange flowers that is used in landscaping; and
- akia (*Wikstroemia uva-ursi*)--a low, mat-forming shrub and excellent ground cover which is used in landscaping.

The Maui Native Plant society and the DLNR will be contacted for additional suggestions for planting and planting material. A project "Landscaping Plan" will be developed and completed during the project's design phase.

Scenic overlooks will be established if appropriate location(s) are found. This will be explored during the design phase.

4.14 ENERGY

The No Build alternative would have higher regional VMT and vehicle fuel consumption when compared to any of the build alternatives because travelers would experience increased traffic delay along the existing circuitous route between Upcountry and Kihei-Makena or West Maui.

In contrast, any build alternative for the Kihei-Upcountry Maui Highway will produce lower regional VMT and vehicle fuel consumption when compared to the No Build alternative because any build alternative will provide a shorter, more direct route between Upcountry and Kihei or West Maui. As an example, Table 4-13 provides the travel distances from the "Five Trees" intersection (a point representing a centralized location in Upcountry) and the Lipoa Street/Piilani Highway intersection (a point representing a centralized location in Kihei) for the No Build and build alternatives. Trip lengths between these centroids will decrease from 50 percent to 26 percent, depending on the alternative. Alternative U2-A,K1 would decrease the length of this trip by half, and subsequently reduce vehicle fuel consumption by roughly this amount.

Electricity will be needed for roadway lighting at the termini and signalization.

4.15 CUMULATIVE IMPACTS

A cumulative impact, according to 40 CFR 1508.7, is defined as:

> . . . . an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Table 4-13
Trip Distance Between Five Trees and the Lipoa Street by Alternative

Alternative	Approx. Distance Between Centroids (km)	Trip Reduction	
		Length (km)	Percentage
No Build	36	n/a	n/a
U1,K1	23	13	36%
U1,K2	25	11	31%
U2-A,K1	18	18	50%
U2-A,K2	21	15	42%
U2-B,K1	19	17	47%
U2-B,K2	22	14	39%
U3,K1	22	14	39%
U3,K2	24	12	33%

Source: Warren S. Unemori Engineering, Inc., October 1997

Sections 2.1.1, 3.1.3, and 3.1.4.2d describe proposed roadway improvements, the major land use developments in the project area, and the characteristics of the built environment in accordance with the County's Community Plans, respectively. The cumulative impacts of the proposed project and the transportation and land use projects described in these sections have the potential to be serious, if not mitigated. Under the No Build alternative, there would be a smaller level of cumulative impacts because the proposed Kihei-Upcountry Maui Highway would not be included in the mix. A discussion of the expected cumulative impacts as they relate to major environmental resources is provided below.

Land Use

Planned land use development projects, such as the Waena Generating Station, Kulamalu, DHHL homesteads and the expansion of the Maui R&T Park, would immediately and irrevocably change the land use of these areas from agriculture, open space and pasture to industrial, urban, suburban and rural uses. Roadway projects are capable of inducing regional development because they often remove

one of the impediments to growth—transportation access. Since some of the planned roadway projects, including the proposed project, are intended to improve circulation in existing urban areas, a certain amount of development can be expected from transportation and other infrastructure projects. Development in existing urban areas, such as in Kihei, would be consistent with County land use plans. Highway-induced growth in areas not approved for development, such as existing agricultural lands in Upcountry, is not expected because of land use controls (e.g., zoning) and other constraints, such as water availability. However, the major planned residential developments in Upcountry, such as the Kulamalu and DHHL projects, would substantially increase population in the region, which may encourage commercial development. For example, plans for Kulamalu include a commercial shopping center.

Farmland

The agricultural activities of the project area include large scale sugarcane and pineapple operations, and small-scale Kula farms that cultivate vegetables and flowers (see Section 3.2). The No Build alternative, comprised of several roadway widening projects, would affect sugarcane operations through the conversion of active fields to roadway infrastructure. Since these projects entail the widening of existing highways (Mokulele, Kuihelani, Hana and Haleakala), sugarcane operations would not be severely affected. In contrast, some of the build alternatives would cause more severe effects because they would bisect active fields. In addition, the planned Waena Generating Station would displace 66 acres of sugarcane fields. Although the residential projects in Upcountry would not directly affect agricultural land, they would substantially increase population in the region, which may exacerbate many of the concerns expressed by both the large and small scale farmers: urban encroachment, competition for water, increasing land values, and complaints from neighbors about farming activities (e.g., pesticide spraying, cane burning, etc.).

Socioeconomic Characteristics

Regardless of the alternative, planned projects would provide short-term construction employment. In addition, the expansion of the Maui R&T Park, the Waena Generating

Station and Kulamalu commercial development would provide long-term employment. The expansion of the Maui R&T Park would benefit and diversify the local economy. None of the planned roadway projects are anticipated to cause adverse social or economic impacts to any community in the study area. The Upcountry residential projects would substantially increase population in Upcountry, which may change the "country" ambiance of the region by potentially affecting the factors that create this ambience: farming (see above), open space, low population density, and rural lifestyle. Population growth in existing urban areas, such as Kihei or even Pukalani, would have less of a social impact because these two areas are physically and culturally already urban and suburban.

Transportation

Without adequate transportation improvements, planned land use developments, such as expansion of Pukalani, Kulamalu, DHHL Homesteads and Maui R&T Park, can overburden the existing roadway infrastructure. However, the planned roadway projects, including the proposed project, would alleviate the traffic impacts of these developments, and help improve regional and local circulation.

Air Quality

Other than particulate matter emissions from sugarcane burning activities, the project area has excellent ambient air quality conditions (see Section 3.5). The planned projects or developments are not anticipated to substantially change these conditions. However, some of the roadway projects may change "hot spot" or microscale conditions at certain locations. The planned Waena Generating Station would also be a major point source of Nitrogen Dioxide, Sulfur Dioxide and PM_{10} (particulate matter of less than 10 microns in diameter). However, it is not anticipated that this project would cause the SAAQS and NAAQS to be exceeded.

Noise

None of the planned land developments are anticipated to substantially affect ambient noise levels, including the Waena Generating Station. This power station would be located in a relatively isolated area surrounded by sugarcane fields. Some of the

roadway improvements, especially those near noise sensitive land uses, may cause noise impacts. These projects include the North-South Collector and Road C in Kihei, Piilani Highway widening, Kuihelani Highway widening, Haleakala Highway widening and Kula Highway widening.

Water Resources

Surface waters in the project area consist of gulches that contain intermittent streams, coastal ocean waters, and Kealia Pond (see Section 3.7.1). Groundwater in the project area is largely unexploited (see Section 3.7.2). Wetlands in the project area are at Kealia Pond and along the coastline of Kihei-Makena (Section 3.7.3). Construction that clears vegetation can cause erosion, which could increase sediment loading of surface waters during heavy rains. However, under the National Pollutant Discharge Elimination System permit process, large projects are required to incorporate Best Management Practices to minimize erosion. Once completed, many of the projects would contribute to the amount of runoff containing automobile-related (petroleum, oil, rubber) and domestic (waste water, pesticides, etc.) pollutants that could percolate into the ground or drain to surface and coastal waters. The EPA, in accordance with Section 303(d) of the Clean Water Act, has identified several surface water bodies in the project area as impaired by point and non-point pollution sources. Among these include the Kihei coastal waters.

None of the planned projects would be constructed in a wetland or floodplain, except the Mokulele Highway widening, which would be partially constructed in a floodplain at its terminus in Kihei. Wastewater from new development can pose a pollution threat to groundwater resources if sewer and treatment systems are not used. For example, the DHHL homesteads would probably utilize septic systems or seepage pits or fields for wastewater disposal.

Biological

The vegetation of the project area consists of cultivated lands (see above discussion on farmland), and uncultivated lands of various non-native and weedy species, but dominated by kiawe trees and buffelgrass. Although the projects described in Sections 2.1.1, 3.1.3 and 3.1.4.2b would clear vegetation on uncultivated lands, an

adverse impact on the botanical resources of the project area is not expected because the type of vegetation found on uncultivated lands would still be regionally abundant. Likewise, faunal habitat would remain unaffected because of the large size of the project area.

As described in Section 3.8.3, federally-protected plant species may be found in a dry land forest at Puu o Kali on the south side of the project area. Since this forest is within the DHHL property that would be used for homesteads, the DHHL project may be adversely affect the forest and the endangered species contained within it (see Section 3.8.3). There are no known federally-protected faunal species in the project area other than migratory or endangered waterbirds that may use the agricultural reservoirs.

Historic and Archaeological

Most of the planned projects are not expected to affect historic or archaeological sites because of the relative paucity of sites in the project area. However, archaeological reconnaissance and inventory surveys conducted for the proposed project found petroglyph sites and a heiau. These sites are considered to be significant and important for preservation. Since development is planned around some of these sites, they could be adversely affected. However, under State law private land owners are required to inform the SHPD before any construction work that would affect a historic property. The SHPD could permit the land owner to proceed if he or she demonstrates that mitigation would be implemented to protect the historic property or the necessary data recovery occurs prior to construction.

Parklands

None of the planned projects are anticipated to adversely affect any park or recreational resource. However, the Upcountry residential projects would substantially increase population in the region, which would place additional burdens on existing park resources. Additional parks, such as the Kihei Regional Park and Kulamalu Park, are planned to accommodate expected growth.

Visual and Aesthetic

Major visual resources of the project area are views of Haleakala and the West Maui Mountains from low-lying areas, views from Upcountry, and views of the coastline from various locations (see Section 3.12). Some of the planned projects, especially those on the slopes of Haleakala, would affect the visual quality of the Haleakala view plane.

Infrastructure and Utilities

Roadway projects would enhance Maui's transportation infrastructure, and would help improve response time for police and emergency personnel. The planned residential developments could place substantial burdens on the existing infrastructure and public services. For example, residential development in Upcountry may worsen the overburdened water supply condition of the region. As described in Section 3.4.3, Upcountry residents and farmers are presently required to reduce water use during drought conditions because surface waters are the source. The Kulamalu development has drilled a well in Haiku to free existing water capacity for the development.

In summary, cumulative impacts are tempered by the large size of the project area. For example, the loss of uncultivated lands from some of the projects would not affect the biological diversity of the region because the plant species affected are abundant, and mostly non-native. Moreover, these plant species are not federally-protected with the exception of those found at Puu o Kali. Although the impacts to uncultivated lands are not a major concern, the cumulative impacts to agricultural land, in particular HC&S sugarcane fields, are a concern. Although the cumulative take would be marginal compared to the total size of HC&S's sugarcane land holdings (14 000 ha (35,000 acres)), throughout the century HC&S has sustained substantial losses of productive croplands due to urban encroachment. Although foreseeable cumulative impacts are not likely to shut down HC&S's operations, continuing urban encroachment, if not controlled, may adversely affect the sugarcane-growing industry on Maui.

Planned development in Upcountry would also be a cumulative impact concern because it would substantially increase the population of a region that is largely rural and agriculturally

based. The developments may place substantial new demands on public infrastructure and services, such as water supply systems, schools, and roadways. Farming activities in Upcountry may be affected because of increasing land values, worsening traffic conditions and complaints about agricultural activities. These impacts may contribute to the change in the "country" ambience of Upcountry.

The notable difference in cumulative impacts between the build and No Build conditions would be on agricultural resources. The U1 and U2 alternatives cross sugarcane and pineapple fields, thereby adversely affecting these operations. In addition, the U1 and U2 alternatives cross Omaopio and Pulehu Roads (the U3 alternatives would only cross Pulehu Road), which will affect the existing truck transport system for produce between the Kula farms and Kahului. In other environmental resource areas, there will be little difference between the cumulative impacts of the build and No Build conditions.

4.16 SECONDARY IMPACTS

According to 40 CFR 1508.8, secondary impacts are impacts that have the potential to occur "later in time or farther removed in distance but are still reasonably foreseeable." They can be viewed as actions of others that are taken because of the presence of the proposed project. For example, the presence of a U2-A alternative may influence some bicycle tour companies to modify their Haleakala bike tours so they take advantage of the new highway to end the tours in Kihei. Secondary impacts from highway projects often occur because they can induce development. These secondary impacts can include affects to open space, air quality, water quality, natural vegetation, historic sites, social environment and demands on infrastructure systems.

Secondary impacts are not anticipated because the build alternatives will have little influence on those who could propose development. Other factors, such as water supply, appear to be controlling development to a greater degree than limited roadway capacity. Further, proposed actions, such as housing, commercial, research, light industrial and institutional developments (see Sections 3.1.3 and 3.1.4.2d), would be completed regardless of whether Kihei-Upcountry Maui Highway is approved. For example, the Department of Hawaiian Home

Lands (DHHL) homesteads in Keokea (see Section 3.1.3) would be completed regardless of the proposed project. Similarly, Kulamalu (see Section 3.1.3) would be completed despite lack of implementation of a build alternative, although the U2-A and U2-B alternatives would support this development. Therefore, for most of the build alternatives (see below), secondary impacts are not anticipated.

As described in Section 4.1.1.2, the U1 alignments may facilitate a westward (makai) expansion of Pukalani and additional growth in Haliimaile. Therefore, the U1 alternatives may cause secondary impacts, as opposed to the No Build and other build alternatives. This potential land use development would be beyond what is designated in the Makawao-Pukalani-Kula Community Plan (July 1996). The secondary impacts from land development on the northwest (makai) side of Pukalani would include the potential for erosion due to site development, loss of agricultural lands, and increased population, which can lead to more traffic, and higher demand for utility and other public services.

4.17 CONSTRUCTION

4.17.1 MAINTENANCE OF TRAFFIC

Almost all construction will take place on agricultural and pasture lands. Therefore, during construction, only slight delays to existing traffic flows, if any, are expected. Traffic impacts could occur at construction site ingress and egress areas, and when work is being conducted at the highway termini (e.g., at the intersections with existing roadways). These impacts may include lane closures and/or detours. A "Maintenance of Traffic Plan" will be prepared during the design phase to minimize impacts on traffic flows during construction.

4.17.2 AIR QUALITY

4.17.2.1 Potential Impacts

Air quality impacts during roadway construction generally consist of fugitive dust and mobile source emissions from construction equipment.

Fugitive Dust Emissions

Fugitive dust is airborne particulate matter and is usually relatively large in particle size. Construction vehicles operating around the construction sites and material blown from uncovered haul trucks, stockpiles, and exposed areas will generate fugitive dust.

The dispersion of fugitive dust depends on particle size, emission height, and wind speed. Small particles (30 to 100 micron range) can travel several meters before settling to the ground, depending on wind speed. Most fugitive dust, however, is made up of relatively large particles (i.e., particles greater than 100 microns in diameter). Given their relatively large size, these particles tend to settle within 6 to 9 m (20 to 30 ft) of their source. Therefore, because most of the construction will occur where there are no existing homes or commercial areas, fugitive dust impacts will be minimal.

Mobile Source Emissions

Construction vehicles will emit engine exhaust while in operation. However, this is expected to cause minimal impacts because carbon monoxide (CO), the principal pollutant of construction vehicles, is most serious under localized (microscale) conditions. Most of the construction activities will occur away from sensitive receptors, such as residences.

4.17.2.2 Mitigation

The following particulate control measures related to construction activities will be followed:

1. Site Preparation
   - minimize land disturbance;
   - use watering trucks to minimize dust;
   - cover trucks when hauling dirt;
   - stabilize the surface of dirt piles if not removed immediately;
   - use windbreaks effectively;
   - limit vehicular paths and stabilize temporary roads; and
   - to the maximum degree possible, pave all unpaved construction roads and parking areas to road grade for a length no less than 15 m (50 ft) from where such roads

and parking areas exit the construction site, to prevent dirt from washing onto paved roadways.

2. Construction:
   - cover trucks when transferring materials;
   - use dust suppressants on traveled paths that are not paved;
   - minimize unnecessary vehicular and machinery activities; and
   - minimize dirt track-out by paving site exit road just before entering the public road.

3. Post-Construction:
   - restore to original conditions any disturbed land not used;
   - remove unused material and dirt piles; and
   - restore to original condition all vehicular paths created during construction and prevent future off-road vehicular activities.

4.17.3 NOISE AND VIBRATION

4.17.3.1 Potential Impacts

Construction will involve the use of heavy machinery that may cause temporary noise impacts to adjacent noise sensitive land uses. Table 4-14 presents maximum noise levels (L_{max}) produced by heavy mobile construction equipment and compressors measured at a distance of 15 m (50 ft). These noise levels are estimates based on minimal site-specific data. Therefore, because of the preliminary nature of this analysis, specific impacts cannot be accurately determined without a detailed construction plan. However, because construction will normally occur during daylight hours when occasional loud noises are more tolerable, and the construction site will be in relatively isolated areas away from noise sensitive land uses, extended noise disruptions to normal activities are not anticipated.

With rubber-tired vehicles, ground borne vibration is generally low. There may be some vibration with the passing of heavy duty trucks, but this movement is usually not perceptible except within the immediate right-of-way. Construction activities will not generate

unacceptable vibration impacts at nearby land uses because no unusual activities that would generate substantial vibration are anticipated.

Table 4-14
Construction Equipment Noise Levels

Source	L_{max}(dBA) at 15 m (50 ft)	Model Tested
Backhoe	85	John Deere 609A
Front Loader	84	Caterpillar 980
Dozer	84	Caterpillar D7e
Grader	91	Caterpillar 16
Scraper	92	Caterpillar 660
Compressor	80-89	Various Tested
Pile Driver	95-100	Various Tested

Source: Federal Highway Administration, Highway Construction Noise: Measurement, Prediction, and Mitigation, 1976

4.17.3.2 Mitigation Measures

Specifications for allowable noise levels will be formulated and implemented to minimize adverse impacts on surrounding communities. Since the State Department of Health (SDOH) maintains community noise control standards (HAR Section 11-46) that apply to construction noise, these specifications will be submitted to SDOH for their review. The project will not deliberately exceed the stipulated noise limits unless a permit is granted by SDOH.

To minimize noise impacts from construction, the following mitigation measures will be followed:

- Design Considerations. During the early stages of construction plan development, natural and artificial barriers, such as ground elevation changes, will be considered for use as shielding against construction noise. Strategic placement of stationary equipment, such as compressors and generators, could reduce impacts at sensitive receptors.

- Source Control. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer.
- Time and Activity Constraints. Noisier activities will be limited to daytime hours when most people normally impacted are either not present or engaged in less noise sensitive activities.

These mitigation measures will be incorporated into the construction plan, and the contractor will comply with SDOH standard or permit specifications.

4.17.4 WATER RESOURCES

4.17.4.1 Potential Impacts

The primary potential for construction-phase water resource impacts will be associated with erosion and sedimentation associated with the project's clearing and earthmoving activities and alteration of existing drainage patterns.

4.17.4.2 Mitigation Measures

Stormwater runoff and erosion during project construction and landscaping will be mitigated through the use of Best Management Practices (BMPs) established before construction begins. Generally accepted BMPs applicable to this project include:

- use of silt curtains and silt fences;
- minimizing areas of disturbance;
- covering stockpiles;
- immediate planting of vegetation and/or mulching on highly erodible or critical areas, such as the upper elevation portions of Kihei-Upcountry Maui Highway where the climate is generally wetter and the topography steeper; and
- construction of dikes or diversions to avoid runoff across erodible areas.

The specific erosion control measures to be implemented will be approved by the SDOH when they issue the National Pollutant Discharge Elimination System (NPDES) Stormwater

Discharge Permit for this project and the County of Maui will also require specific measures when they issue the Grading, Grubbing, Stockpiling and Excavation Permit.

4.17.5 SOLID WASTE MANAGEMENT AND HAZARDOUS WASTE

4.17.5.1 Potential Impacts

Project construction will require excavation, filling and grading activity. As discussed in Section 4.9.2, the excavated materials are expected to be free of contamination and will be used elsewhere on the project for fill. As described in Section 2.1.2 the amount of cuts and fills will be balanced so that no fill material will need to be disposed outside the construction area, nor will fill material be imported from other areas.

The construction crew will generate solid waste. The materials or substances listed below may be present on site during construction:

- detergents;
- paints;
- metal;
- tar;
- petroleum-based products; and
- cleaning solvents.

4.17.5.2 Mitigation Measures

During construction, all waste materials will be collected and stored in a securely lidded metal dumpster. The dumpster will meet all State and County solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as needed. No construction waste materials will be buried on site. The Contractor will be responsible for implementing the correct procedures for waste disposal. Notices stating these practices will be posted in the office trailer; the Contractor will be responsible for ensuring that procedures are followed.

All sanitary waste generated during the construction phase will be collected from portable units as required.

The following material management practices addressing good housekeeping and hazardous products will be used to reduce the risk of spills or other accidental exposure of materials and substances to the environment. In addition, a Spill Prevention Plan will be proposed and followed by the contractor.

1. Good Housekeeping
   - an effort will be made to store on-site only enough product required to complete the job;
   - all materials stored on site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure;
   - products will be kept in their original containers with the original manufacturers' labels affixed;
   - substances will not be mixed with one another unless recommended by the manufacturer;
   - whenever possible, all of a product will be consumed before disposing of the container;
   - manufacturer's recommendations for proper use and disposal will be strictly followed; and
   - a daily inspection will be conducted by the contractor to ensure proper use and disposal of materials on site.

2. Hazardous Products
   - products will be kept in original containers unless they are not resealable;
   - original labels and materials safety data will be retained; and
   - if disposing of surplus product, manufacturer's or local and State-recommended methods for proper disposal will be followed.

3. Petroleum Products

   All on-site vehicles and other machinery will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be

stored in tightly sealed, clearly labeled containers. Any asphalt substances used on site will be applied according to the manufacturer's recommendations. Vehicle servicing and maintenance activities shall not pollute the environment.

4. Paints

   All containers will be tightly sealed and stored when in use. There will be the proper disposal of excess paint according to manufacturer's instructions or State and local regulations.

5. Spill-Control Practices

   In addition to the good housekeeping and material management practices discussed previously, the following practices will be implemented for spill prevention and clean up:

   - manufacturer's recommended methods for spill clean up will be clearly posted, and site personnel will be informed of the procedures and the location of the information and clean up supplies;
   - materials and equipment necessary for spill clean up will be kept in the material storage area on site;
   - all spills will be cleaned up immediately after discovery;
   - the spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from coming in contact with hazardous substances;
   - regardless of their size, spills of toxic or hazardous materials will be reported to the appropriate State or local government agency;
   - should they occur, the spill prevention plan will be adjusted to include measures to prevent spills from re-occurring and clean-up procedures for spills. A description of the spill, its cause, and the clean-up measures will be included; and
   - the Contractor will coordinate spill prevention and clean-up efforts. In addition, the Contractor will designate at least three site personnel to receive spill prevention and clean-up training; these individuals will each be responsible for a specific

phase of prevention and clean-up. The names of responsible spill personnel will be posted in the material storage area and in the office trailer on site.

Although hazardous materials sites are unlikely to be encountered during construction, the contractor will report to SDOT and SDOH any undiscovered undocumented storage sites, hazardous materials releases or potential signs of contamination when soil is excavated. If any contaminants are encountered during construction, they will be handled according to applicable SDOH requirements.

4.17.6 AGRICULTURAL ACTIVITIES

4.17.6.1 Potential Impacts

Construction activities in agricultural areas will damage crops and remove grazing land from agricultural use. Pineapple, sugarcane and ranching activities will be adversely affected.

4.17.6.2 Mitigation Measures

A "Maintenance of Cropland and Ranching Activities Plan" will be prepared. The details of the Plan will be developed during design in coordination with affected agricultural operators, such as HC&S, ML&P, Haleakala Ranch and Kaonoulu Ranch. Some of the measures to be addressed in the Plan include the following:

- provision of temporary road crossings (existing roads will be maintained where feasible);
- provision of irrigation and drainage systems (existing systems will be maintained as much as possible);
- appropriate fencing of construction site so that agricultural and ranching workers will be kept a safe distance away from construction activities;
- provision of stock-proof fencing around construction sites to safeguard and secure livestock; and
- provision of cattle crossings where appropriate.

4.17.7 HISTORIC AND ARCHAEOLOGICAL RESOURCES

4.17.7.1 Potential Impacts

Construction has the potential to damage archaeological and historic sites, as described in Section 4.10. It also has the potential to damage sites that have not been identified.

4.17.7.2 Mitigation Measures

This Final EIS includes an MOA (see Appendix C) stipulating mitigation measures for historic and archaeological resources. The measures stipulated in the MOA will be implemented prior construction. In addition, marked buffer zones will be placed around known archaeological preservation features at and near the construction sites. For example, buffer zones will be established around Sites 5029 and 5031, demarcated with bright colored markers, so that they will not be damaged during the construction of the bridges over Kalialinui and Waiakoa Gulches. SDOT will consult with the SHPD to determine adequate buffer zones.

If additional historic or archaeological sites are uncovered during construction, work will stop immediately, and the SHPD will be notified without delay. Construction will resume only upon approval of the appropriate authorities.

4.18 PERMITS AND APPROVALS

The following permits or approvals will be required prior to the construction of the highway.

Federal

- USACE - Section 404 permit (Nationwide)

State

- SDOH - National Pollutant Discharge Elimination System (NPDES) permit (storm water from construction site)
- SDOH - Noise permit (if noise levels are expected to exceed allowable levels as stated in HAR 11-46-6(a), which will be known during the design phase)
- SDOH - Water Quality Certification

County

- Department of Public Works (DPW)- Grading, Grubbing, Stockpiling and Excavation permit
- DPW - Permit for Excavation of Highway

4.19 RELATIONSHIP BETWEEN SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Implementation of Kihei-Upcountry Maui Highway will involve trade-offs between short-term environmental and economic losses, and long-term transportation and economic gains. Depending on the alternative, the long-term productivity of the build alternative will offset the short-term losses to varying degrees.

Adverse short-term construction-phase impacts from the construction of Kihei-Upcountry Maui Highway will disappear soon after construction is completed.

Long-term conditions include:

- reduced traffic congestion on Haleakala Highway, Hana Highway, Dairy Road and Mokulele Highway;
- reduced travel times between Upcountry and Kihei-Makena or West Maui regions; and
- improved regional State Highway System.

Considering the long-term productive uses listed above, and the fact that adverse impacts from Kihei-Upcountry Maui Highway will be minimized, the project appears beneficial to the community and to the present and future land uses in the vicinity.

4.20 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Implementing the Kihei-Upcountry Maui Highway project will require an irreversible commitment of natural, physical, human, and fiscal resources, as follows:

- agricultural lands will be permanently lost by construction of the project (see Section 4.2.1);
- archaeological resources will be damaged, destroyed, or lost in constructing the project (see Section 4.10.3);
- considerable amounts of fossil fuels; labor required for construction, planning, engineering design, landscaping, purchasing, and services; and construction materials will be committed;
- construction will also require a substantial one-time expenditure of government funds that will not be retrievable (see Section 2.1.2). The commitment of these resources will be appropriate because the benefits from the completed Kihei-Upcountry Maui Highway include the following:

  - convenience and substantial savings in time and vehicle fuel consumption for residents, businesses, researchers and scientists, and visitors through an improved transportation system; and
  - improved accessibility and safety.

These benefits are anticipated to outweigh the commitment of resources.

CHAPTER FIVE

Comments and Coordination

CHAPTER 5
COMMENTS AND COORDINATION

This chapter presents a record of the public and agency consultation and coordination activities conducted for the project, beginning with project scoping activities. It also summarizes the comments received on the project's Environmental Assessment (EA), Environmental Impact Statement Preparation Notice (EISPN), Notice of Intent (NOI) to prepare an EIS (see Appendix B), and the Draft EIS, which was distributed in August 1999, as well as other written and oral comments received throughout the EIS process.

5.1 PROJECT SCOPING PROCESS

5.1.1 AGENCY SCOPING AND COORDINATION

The project's scoping process was initiated on September 1, 1994 through the issuance of letters to the agencies, organizations and individuals shown in Table 5-1. These letters requested comments on the proposed project. (The project initiation letter is provided in Appendix A). Responses from agencies and organizations (see Table 5-1) identified the following key concerns:

- alignment selection;
- directness between the Maui R&T Park and Science City;
- proposed termini;
- land use and transportation impacts;
- existing travel demand and traffic congestion;
- improved commuter and tourist accessibility;
- socio-economic impacts on existing communities;
- disruption to agricultural lands and farming activities;
- endangered species; and
- archaeological features.

Table 5-1
Public and Agency Consultation During Scoping

Agency	Sept. 1, 1994 Request For Consultation	Responded to Consultation Request	Invited to Attend Scoping Meeting	Attended Scoping Meeting
FEDERAL				
Army Corps of Engineers	○	○		
Department of Agriculture				
Natural Resources Conservation Service	○		○	
Department of Defense	○			
Department of the Interior				
Fish and Wildlife Service	○		○	
Geological Survey	○		○	
National Park Service	○	○	○	
Department of Transportation, Federal Aviation Administration	○	○		
Environmental Protection Agency (Pac. Islands Contact)	○		○	
STATE				
Department of Accounting and General Services	○	○		
Department of Agriculture	○		○	
Department of Defense	○	○		
Department of Education	○	○		
Dept. of Business, Economic Development & Tourism (DBEDT)	○			
Department of Hawaiian Home Lands				
Hawaiian Homes Commission	○			
Land Division	○		○	○
Maui District Office	○			
Dept. of Health (Environmental Management Division)	○	○	○	○

Table 5-1
Public and Agency Consultation During Scoping
(Continued)

Agency	Sept. 1, 1994 Request For Consultation	Responded to Consultation Request	Invited to Attend Scoping Meeting	Attended Scoping Meeting
Department of Land and Natural Resources				
Chair	○	○	○	
Historic Preservation Division	○	○	○	
Maui Island Burial Council	○		○	
Division of Forestry & Wildlife	○		○	
Conservation and Environmental Affairs			○	
State Parks			○	
Office of Hawaiian Affairs	○			
Office of State Planning (now DBEDT Office of Planning)	○		○	
University of Hawaii Environmental Center	○	○		
COUNTY OF MAUI				
Board of Water Supply	○	○	○	
Department of Parks and Recreation	○		○	
Department of Public Works & Waste Management	○		○	○
Economic Development Agency	○			
Planning Department	○	○	○	○
ELECTED OFFICIALS				
United States Senator Daniel K. Inouye	○			
State of Hawaii Senators	○			
State of Hawaii Representatives	○			
Mayor of Maui County	○	○		
Councilmembers of Maui County Council	○	○		

Table 5-1
Public and Agency Consultation During Scoping
(Continued)

Agency	Sept. 1, 1994 Request For Consultation	Responded to Consultation Request	Invited to Attend Scoping Meeting	Attended Scoping Meeting
OTHER PARTIES				
Haleakala Ranch Company	❍	❍		
Hawaiian Commercial & Sugar Company	❍	❍		
Kaonoulu Ranch Company	❍			
Kihei Community Association	❍			
Kihei-Upcountry Highway Task Force Committee	❍	❍		
Kula Community Association	❍	❍		
Ms. Laura Tamanaha	❍			
Maui Chamber of Commerce	❍			
Maui Land & Pineapple Company, Inc.	❍			
Makawao Main Street Association	❍			
Pukalani Community Association	❍			
Shinwa International, Inc.	❍	❍		
Sports Shinko Company, Ltd.	❍			

A scoping meeting with government agencies was held on October 26, 1994. The agencies that were in attendance are shown in Table 5-1, and the meeting minutes can be found in Appendix A. Concerns raised at the scoping meeting included:

- congestion at the Maui R&T Park/Piilani Highway intersection;
- access to Hawaiian Home Lands;
- farmland impacts; and
- criteria to be used to select the alternatives that would receive detailed analysis in the Draft and Final EIS.

Coordination with various State and federal agencies continued throughout EIS preparation (see Appendix C), such as:

- State Historic Preservation Division (SHPD) and Officer (SHPO):
  - meeting on January 31, 1996 to discuss their comments on the EISPN;
  - letter from the Federal Highway Administration (FHWA) to the SHPO, dated February 16, 1999, requesting concurrence on the results of archaeological reconnaissance surveys, and "effect" and "adverse effect" evaluations;
  - letter from the SHPO to the FHWA, dated June 21, 1999, concurring with FHWA's determination on the eligibility of sites identified along the alternative alignments;
  - Letter from the State of Hawaii Department of Transportation (SDOT) to the SHPD, dated February 8, 2001, requesting review of the archaeological inventory survey and cultural impacts study;
  - Letter from the SHPD to the Cultural Surveys Hawaii, dated May 10, 2001, providing comments on the archaeological inventory survey report;
  - Letter from the FHWA to the SHPO, dated June 18, 2001, requesting concurrence on effect determinations and submission of draft Memorandum of Agreement (MOA); and
  - Letter from the SHPO to the FHWA, dated September 28, 2001, approving the MOA.
- State Department of Business, Economic Development and Tourism, Office of Planning (OP):
  - Submission of the Hawaii Coastal Zone Management (CZM) program consistency evaluation from the FHWA to the OP on January 29, 2001; and
  - Letter from the OP to the FHWA, dated March 30, 2001, stating that the CZM consistency determination would be deferred until after the Final EIS.
- U.S. Army Corps of Engineers (USACE):
  - letter from the USACE, dated April 1, 1998, accepting cooperating agency status;

- meeting on February 9, 1999 to discuss applicable Department of the Army permit; and
- letter from the USACE, dated February 26, 1999, providing information on the applicable Department of the Army permit.

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS):
  - NRCS on two occasions provided "relative value of farmland to be converted" scores for the alternatives (Form AD-1006).

- U.S Fish & Wildlife Service (Service):
  - letter from Parsons Brinckerhoff, dated November 25, 1996, requesting information on endangered and threatened species in the vicinity of the project;
  - letter from the Service, dated January 8, 1997, with information on possible endangered and threatened species in the project area;
  - letter from the FHWA, dated December 1, 1997, requesting concurrence on effect evaluations on endangered and threatened species; and
  - letter from the Service, dated December 24, 1997, concurring with the FHWA effect evaluations.

5.1.2 COORDINATION WITH ELECTED OFFICIALS

Following the agency scoping meeting and distribution of the EA (see below), project briefings were held for the Mayor of Maui County and other County officials on October 17, 1995, and members of the Maui County Council on October 18, 1995.

5.1.3 ENVIRONMENTAL ASSESSMENT

5.1.3.1 Issuance of the EISPN and NOI

An "Environmental Impact Statement Preparation Notice" (EISPN) was published in the September 23, 1995 edition of The Environmental Notice, published by the Office of Environmental Quality Control (see Appendix B). A "Notice of Intent" (NOI) to prepare an EIS was published in the November 9, 1995 edition of the Federal Register (see Appendix B). At the same time, the project's EA was completed and distributed (the distribution list is provided in Appendix B; the EA is provided in Appendix D).

With the EISPN and NOI duly published, the public had the opportunity to provide comments on the EA. Under State EIS law, an EA, when prepared in the context that an EIS will be

prepared later, is viewed as a public and agency scoping document and a vehicle for the agency (in this case the State of Hawaii Department of Transportation (SDOT)) or applicant to establish contact with the public and agencies.

The Kihei-Upcountry Maui Highway EA was distributed a couple of weeks before the first round of public information meetings (see Section 5.2) with the intent that it would provide background information to those attending the public information meetings.

In brief, the EA:

- presented 10 alternative roadway alignments;
- summarized potential project impacts that could be significant, pending further study;
- summarized potential project impacts that did not appear to be major, pending further study;
- presented candidate alignment screening criteria for review and comment; and
- stated that an EIS would be prepared.

The public review period closed on November 10, 1995, several weeks after the first round of public information meetings (see Section 5.2).

5.1.3.2 Responses Received During the EISPN Comment Period

The following agencies, organizations and individuals submitted written comments to the SDOT during the EISPN public comment period on the EA (September 23, 1995 through November 10, 1995). No comments were received during the NOI public comment period (November 9, 1995 through December 8, 1995). All names appearing below were included in the project mailing list to ensure notification of all subsequent EIS-related activities to interested parties.

FEDERAL AGENCIES

- U.S. Department of the Army, U.S. Army Engineer District
- U.S. Department of the Interior, National Park Service, Haleakala National Park
- U.S. Department of Transportation, Federal Aviation Administration

STATE AGENCIES

- Department of Accounting and General Services
- Department of Land and Natural Resources, Historic Preservation Division
- Office of Environmental Quality Control
- Office of State Planning (currently Department of Business, Economic Development and Tourism, Office of Planning)

OTHER ORGANIZATIONS AND INDIVIDUALS

- Robert M. Butterfield
- Ann F. Crowe
- Dowling Company, Inc. (Don Fujimoto)
- Jamie Fonseca
- Hawaiian Classic Perfumes (Dennis Edward Bell)
- Hawaiian Commercial & Sugar Company (Richard F. Cameron)
- Hawaiian Estates Realty Ltd. (Suzanne Lee Freitas)
- Sam S. Hironaka
- The Incense Works (David J. Baar)
- International Longshoremen's and Warehousemen's Union, Local 142 (William Kennison)
- Kevin Johnston
- Buck Joiner
- James Judge
- Hale D. Judson III
- Nancy Kanady
- Kizmet Brokerage (Sunny Crowley)
- Kula Community Association (Steve Sutrov)
- Elizabeth Marciel
- Maui Land & Pineapple Company, Inc. (Warren A. Suzuki)
- Maui Pineapple Company, Ltd. (L.D. MacCluer)
- Lenda McGehee-Simon
- William W. Monahan

- Edwin S. Murai
- O Cole
- Christopher Perreira
- Fred Peterson
- Sally Raisbeck
- Hans Riecke
- Fredrick W. Rohlfing
- Dennis Smith
- Gordon Stellway
- Edward S. Syrjala
- Leah Wesson
- Frank W. White

These written EISPN comments were reviewed and their contents are summarized below:

- Five letters (almost 12 percent) offered no comment on the Draft EA.
- Nearly 45 percent of those responding stated that they supported at least one of the ten alternative alignments proposed in the EA for the Kihei-Upcountry Highway. The alignments garnering the most support were Alternatives 1, 4B and 6A or 6B.
- Conversely, 26 percent of the letters opposed the project for reasons including:
  - disturbance of archaeological resources;
  - increased traffic in areas where no problem currently exists;
  - project cost;
  - safety concerns;
  - loss of quality of life in Upcountry;
  - increased crime in Upcountry;
  - increased subdivision development;
  - increased tourism;
  - need to improve existing roadways;
  - loss of agricultural lands and related jobs;
  - lack of national defense justification;
  - lack of mass tourism and tourist-related jobs;
  - lack of water Upcountry; and
  - limited need to travel to Kihei because of increased jobs in the Upcountry area.
- The most frequently made comments involved:
  - project cost;

- secondary growth or lifestyle changes in Kula;
- traffic concerns;
- need to improve existing highways;
- desire to maintain agricultural land; and
- lack of defense-related justification.

- Other comments requested clarification of information presented in the EA or studies and analyses beyond the scope of the Draft EIS document.

Some of the comments were useful in preparing this Draft EIS, while others were useful in the Screening Analysis Report, which is summarized in Chapter 2.0. The letters are reproduced in Appendix B accompanied by response letters from the SDOT.

5.2 PUBLIC INFORMATION MEETINGS

Two rounds of public information meetings (four meetings total) were conducted as part of the project's public involvement efforts. Each round consisted of a meeting in Upcountry and a meeting in Kihei. The first set of meetings was scheduled in coordination with the issuance of the project's EA (see Section 5.1.3). Comments were accepted for several weeks after the meetings for those choosing to comment based on the meetings. The Upcountry meeting was held in the evening of October 17, 1995, at the Upcountry Community Center in Pukalani; the Kihei meeting was held in the evening of October 18, 1995, at Kihei Elementary School. Nearly 80 participants attended the Upcountry meeting, and 35 participants attended the meeting in Kihei. Sign-in sheets and meeting minutes are provided in Appendix A. Meeting attendees were added to the project mailing list.

The Upcountry meeting produced the following comments and concerns:

- the desire to improve linkage between the Maui R&T Park and Science City is not important or could be addressed through other means;
- the project has the potential for cost overruns;
- the project should include access to Hawaiian Home Lands parcels;
- the "no build" is the preferred alternative;
- an alternative consisting of widening existing roadways should be considered; and

- the project should assess potential impacts in the following areas:
  - tourists using the roadway;
  - Upcountry's rural lifestyle and social environment;
  - crime in Upcountry;
  - access to the proposed highway by emergency medical service vehicles;
  - agricultural activities, including small truck farms in Kula; and
  - secondary land use impacts in Upcountry.

The Kihei meeting produced the following comments and concerns:

- the link between the Maui R&T Park and Science City is important;
- the proposed highway would provide relief to many Upcountry residents who presently have to commute long distances to their jobs in Kihei, Lahaina, and Wailea; and
- the commuting link between Upcountry and Kihei will be more crucial in the future as developers construct housing in Upcountry.

The second set of public information meetings was conducted in the evenings of May 15, 1996 at the Upcountry Community Center in Pukalani and May 16, 1996 at Kihei Elementary School. Fifty-five participants attended the May 15 meeting and 25 participants attended the May 16 meeting. Sign-in sheets and meeting minutes are provided in Appendix A. Meeting attendees were added to the project mailing list.

The following comments and concerns expressed at the second Upcountry meeting augment the comments received at the first Upcountry meeting:

- agricultural impacts (to sugar cane fields) are not that crucial because this industry is not important to the future of the island;
- the Kihei terminus should be as far south as possible because the Mokulele/Piilani Highway intersection would be a choke-point if an evacuation from Kihei is needed;
- certain alternatives may cause unanticipated traffic problems on existing sub-standard roads; and
- certain alternatives may have potential impacts on the new high school in Pukalani.

The following comments and concerns expressed at the second Kihei meeting augment the comments received at the first Kihei meeting:

- the Kihei terminus should be placed as far south as possible to accommodate projected growth in the Makena area and provide a second evacuation route from Kihei;
- some of the alternatives will produce unacceptable noise levels in existing neighborhoods;
- two Kihei termini should be considered;
- the road should not cross the Maui R&T Park;
- some of the alternatives would cause traffic problems on existing sub-standard roads;
- a spur to Hawaiian Home Lands parcels should be provided; and
- the EIS should address visual and secondary land use impacts.

Public and small group meetings have continued since the second round of public information meetings. For example, meetings have been held with:

- Hawaiian Commercial & Sugar Company on January 9, 1996 and April 10, 1997;
- Maui Land and Pineapple Company on April 25, 1997; and
- Kula Community Association on February 19, 1998.

5.3 WRITTEN COMMENTS RECEIVED FOLLOWING PUBLIC INFORMATION MEETINGS

Following the May 1996 information meetings, the organizations and individuals listed below provided written comments (reproduction of these letters and responses from the SDOT are located in Appendix A). All names appearing below were added to the project mailing list to ensure notification of all EIS-related activities to interested parties.

- The Amaral Company (Zandra Souza Amaral)
- Keith Dinsmoor
- Isabel Gerhard-Kalahau
- Ed and Stephanie Hackenbruch
- Hawaiian Commercial & Sugar Company (Richard F. Cameron)
- Ikua Purdy Road Committee (Sam S. Hironaka)

- John Janinski
- Maui Research and Technology Park (Brett M. Klyver)
- George Schubert
- Frank W. White
- Don Williams & Company (Don Williams)

Generally, the comments focused on the need for the project and suggested alternatives or alignments. Some were valuable in the selection of the alternatives studied in the Draft and Final EIS (see Chapter 2.0). Others requested that the EIS study the following issues:

- secondary land use impacts;
- evacuation from Kihei;
- impacts to agriculture; and
- noise impacts to existing neighborhoods.

Following the selection of the alternatives to be studied in detail in the Draft EIS (see Section 2.2), the SDOT mailed notices on May 6, 1997 (see Appendix A) to interested individuals, businesses and organizations informing them of this selection. This notice also appeared in the May 7, 1997 editions of the Honolulu Advertiser and the Maui News.

Following this notice and a meeting with the Kula Community Association (see Section 5.2), the organizations and individuals listed below provided written comments (reproductions of these letters and corresponding responses from the SDOT are in Appendix A). Names appearing below were added to the project mailing list, if they were not already on the list.

- Robert M. Butterfield
- Kimo Galbraith
- Hawaiian Commercial & Sugar Company
- Kula Community Association
- Barbara L. Luke
- Kula Community Association;
- RSK Enterprise LLC;
- Azeo Park

- Heinz Rominger and Diane Clarke

Generally, the comments focused on the need for the project, suggested alternatives or alignments, provided information on potential project impacts, and presented community views of the project.

5.4 DRAFT ENVIRONMENTAL IMPACT STATEMENT

5.4.1 AVAILABILITY OF DRAFT ENVIRONMENTAL IMPACT STATEMENT

The project's Draft EIS was announced in the August 8, 1999 edition of The Environmental Notice, and the August 20, 1999 edition of the Federal Register (see Appendix B). These announcements formally initiated the public comment period on the Draft EIS. In accordance with the stipulated review periods in State and federal law, the comment period on the Draft EIS officially ended on October 14, 1999. However, comments received after this date were considered official comments under the environmental review process.

Copies of the Draft EIS were mailed to federal, State and County agencies and elected officials who may have an interest in the project. Copies were also sent to five public libraries on Maui (Wailuku Regional, Kihei, Lahaina, Makawao and Kahului). In addition, copies of the Draft EIS were mailed to affected landowners, community organizations, and individuals who previously commented on the project or who requested copies. All organizations and individuals to whom SDOT sent copies of the Draft EIS were asked to provide comments. Appendix B lists all the parties who received copies of the Draft EIS.

5.4.2 PUBLIC HEARINGS

Three formal public hearings were held during the formal review period for the Draft EIS. These hearings were held during the evening, as follows:

- September 29, 1999 at the Kihei Aquatics and Community Center;

- September 30, 1999 at the Mayor Hannibal Tavares Community Center in Pukalani; and
- October 13, 1999, at Kahului School.

All three hearings were advertised in the "Hawaii State & County Public Notices", a weekly publication of Statewide distribution. The hearings were also advertised in the Maui News, the only daily newspaper serving Maui County. Also, more than 200 government agencies, individuals, community and civic organizations, and businesses on the project mailing list received notice of the public hearing by mail.

Initially, only the Kihei and Upcountry public hearings were scheduled. The third public hearing was added in response to community concerns that the second hearing conflicted with the County Fair. The decision to hold the third public hearing was made before the first two hearings were held. Therefore, a sign was placed at the first two hearings informing participants of the third public hearing at Kahului School.

A record of all hearing attendees was maintained, and a handout that included project information was distributed at the sign-in table (see Appendix B).

The format of the first two public hearings was an "open house". In an open house format, no formal presentation is made, but "science fair" types of displays provide information about the project, and experts are available to answer questions. The objective of an "open house" public hearing is to create a non-threatening, relaxed environment in which participants can easily learn about the project, and then make informed comments. An open house hearing is also more convenient to the public as they may attend the hearing at any time while the hearing is occurring, and receive the same information. In comparison, at a traditional hearing, the public must arrive at the hearing by a certain time to hear the formal presentation, and those wishing to comment on the project "testify" in front of an audience. In general, most attendees tend to comment at an "open house" style hearing in comparison to a "traditional" hearing.

The "open house" format of the first two hearings was previewed by the SDOT Administrator at a Kula Community Association meeting prior to the hearings. Later, the Maui News published an article about the project and the "open house" format of the public hearings.

During the open house, the room was set up to establish the following flow through the room:

- Sign-in;
- Watch project video;
- Visit "science fair" display section and talk with experts; and
- Provide written or oral comments.

The rooms used for the hearings were large enough to accommodate this flow.

Upon entering the hearing, participants were asked to sign-in so they would be included in the project's mailing list. They were then handed a project informational packet including instructions on how to obtain project information and participate in the public hearing. They were then asked to watch a 12-minute video about the project. Many chairs were provided, and the video was set to play continuously for the full duration of the public hearing. The project video provided basic information about the project so participants would be better oriented before visiting the display section. The video provided information on the study area, purpose and need of the project, the planning process, the alternatives being considered, potential environmental impacts, and next steps.

After watching the video, the participants visited the display section where they spent most of their time. Displays were organized into the following six stations, with a member of the project planning staff positioned at each station to exchange information:

- Purpose and need: why the project is proposed, and what transportation problems the project is intended to address;
- Alternatives screening: how the planning process arrived at the alternatives addressed in detail in the Draft EIS;
- Project description: detailed information (schedule, cost estimates, roadway sections) on the alternatives under consideration;

- Transportation impacts: comparison of the alternatives' transportation performance and effectiveness;
- Environmental impacts: comparison of the alternatives' environmental impacts; and
- Historic and archaeological impacts: information on the historic and archeological resources found in the project area and how they would be affected by the alternatives.

Each station was staffed by a person knowledgeable about the subject addressed by the station (*e.g.*, the historic and archaeology station was staffed by the principal of Cultural Surveys Hawaii, Inc., the subconsultant who conducted this work). Station attendants wore name tags affiliating them with their station (*i.e.*, "Ask Me About Environmental Impacts"), and engaged public hearing attendees in dialogue about the project.

After visiting the display section, participants were encouraged to provide comments. The comment area was physically separated from the other areas so that participants would not be distracted by the video or discussions taking place in the display area. Participants had several means of providing comments:

- Use a form that was provided (the form asked only for a name and address, and the commenter could write whatever they wish,);
- Provide oral comments directly to a court reporter; or
- Take forms with them for later completion and submission, or distribution to those not attending the hearings.

A drop box for completed forms was provided in the comment area. Two court reporters were also present who transcribed oral comments.

The third public hearing was held because of concerns that the second public hearing conflicted with the County Fair, which would detract from attendance. Also, some complained that the first two public hearings did not provide the public with the opportunity to hear others in the community state their opinions about the project due to the format of those public hearings. Therefore, the third public hearing was a "hybrid" of "open house" and "traditional" formats. The video, station displays and court reporter were available during the first part of

the hearing. During the second part of the hearing, a panel of SDOT and FHWA officials and project consultants sat in the front of the room and took testimony in front of an audience. The testimony was transcribed by the court reporter.

The first public hearing at the Kihei Community Complex drew 67 people; the second hearing at the Mayor Hannibal Tavares Community Center drew 129 people; and the third hearing at Kahului School drew 48 people. Total attendance was therefore 244, but some people attended more than one hearing.

Of the 244 who attended the three public hearings, a total of 163 provided comments. The most frequent mode of comment delivery was oral, with 93 persons providing oral comments to the court reporters. Written comments were the second most common mode of comment delivery, with 70 persons writing comments on the comment forms and turning them in during the hearings. The public hearings were successful in obtaining comments from 67 percent of those who attended the hearings. This high "comment productivity ratio" is attributed to the open house format of the public hearings.

Volume Two of this Final EIS, Draft EIS Comments and Responses, contains the complete transcripts of the oral comments made at the three public hearings, as well as copies of the written comments received at these hearings.

5.4.3 COMMENTS

This section provides a summary of all comments received during the Draft EIS comment period, including the comments received at the project's public hearings. Four hundred and thirteen (413) written and oral statements were received during the Draft EIS public comment period. Table 5-2 summarizes the methods in which these comments were provided, and the number of statements received through each method.

The comment letters, including completed forms, and their associated responses, are provided in Volume Two: Draft EIS Comments and Responses. They are arranged in the following order:

- Federal agencies;

- State agencies;
- County agencies; and
- Individuals and organizations

Table 5-2
Summary of How Draft EIS Comments Were Provided

Method of Comment Delivery	Number of Statements
Comment Forms	
During public hearings	70
Mailed In-Between or After the Public Hearings	131
Total Number of Comment Forms	201
Oral Statements at Public Hearings	
Kihei Aquatic and Community Center	19
Mayor Hannibal Tavares Community Center	52
Kahului School	22
Total Number of Oral Statements	93
Written Statements Mailed to SDOT or FHWA	
Governmental Agencies	17
Others	102
Total Written Statements	119
Total	**413**

Source: State of Hawaii Department of Transportation, November 1999.

Written comments (letters of forms) requiring responses were numbered in the left margin. The oral comments that require responses are paraphrased in the response letter from the SDOT. The paraphrasing of oral statements was done for the purpose of brevity, with no intention of modifying or obscuring the content of any comment received.

Some of the comments received led to changes in the EIS, such as clarifying information and analyses, and inserting new information that was brought to the attention of the project sponsors. The letters responding to the comments were sent in December 2001 and January 2002 (see Volume Two: Draft EIS Comments and Responses). Because of the controversial nature and high profile of this project, nearly every facet of the EIS triggered comments. However, most comments dealt with the alternative preference of the commenter.

Concern about traffic impacts also generated many comments, such as the fear that the U2 alternatives (A or B) would jeopardize the safety of King Kekaulike High School students by

increasing traffic volumes near the school. Other comments on traffic impacts predicted that the U2 alternatives would cause increased congestion in Makawao, and that they would lead to increased through traffic in Pukalani (the latter comment based on mistaken information that the U2 alternatives include a direct access to and from Pukalani). In addition, many commentors agreed with the findings in the EIS that some of the alternatives would cause an increase in through traffic on some of the local agricultural and residential roads, such as Omaopio and Pulehu Roads.

The comments on environmental impacts ranged from concern that the Kihei-Upcountry Maui Highway would result in excess development in Upcountry, to exacerbating alien species invasion. Other environmental issues raised by the commentors included disagreement that the loss of productive agricultural land is worth the transportation benefits provided by the highway, and that the highway would generate automobile-related pollutants that could threaten previously unaffected areas. Some of the comments related to environmental concerns about particular alternatives, such as opinions that the U2-A alternatives would adversely affect a *heiau* (State Site 2701) and unknown burial caves, and that a U3 alternative would increase through traffic on local Kula residential roads. Other comments provided information about the population density of axis deer. This information became very useful in comparing the alternatives in terms of chances of vehicle-deer collisions. All of the comments were used in the preparation of the Final EIS.

CHAPTER SIX

List of Preparers

CHAPTER 6
LIST OF PREPARERS

Below is a listing of persons who were primarily responsible for preparing the Final Environmental Impact Statement (EIS), their titles, years of experience and educational background.

DOCUMENT PREPARATION

State of Hawaii Department of Transportation

Kenneth Au, P.E., Advance Planning Engineer
34 years experience in highway engineering and planning
B.S., Civil Engineering, University of Hawaii at Manoa

Stephen Chang, P.E., Project Manager
15 years experience in highway engineering and planning
B.S., Electrical Engineering, University of Hawaii at Manoa

Wayne Kawahara, P.E., Project Manager
13 years experience in highway engineering and planning
B.S., Civil Engineering, University of Hawaii at Manoa

Warren S. Unemori Engineering, Inc. (Engineering Prime Consultant)

Warren S. Unemori, P.E., Project Manager
35 years experience in highway engineering
B.S., Civil Engineering, University of Hawaii at Manoa

Reed Ariyoshi, P.E., L.S., Engineer
19 years experience in engineering and land surveying
B.S., Civil Engineering, University of Hawaii at Manoa

Clifford Mukai, P.E., Engineer
15 years experience in engineering and CAD system development and administration
B.S., Civil Engineering, Oregon State University

Darren Unemori, P.E., Engineer
12 years experience in hydrology and highway engineering
M.S., Transportation Engineering, University of California at Berkeley
B.S., Civil Engineering, University of California at Berkeley

Parsons Brinckerhoff Quade & Douglas, Inc. (Environmental Subconsultant)

David Atkin, Ph.D., Project Manager
20 years experience in environmental planning
Ph.D., Biology (Ecology), Princeton University
B.S., Biology (Marine), Stanford University

Jason Yazawa, AICP, Environmental Task Leader
8 years experience in environmental planning
M.U.R.P., Urban and Regional Planning, University of Hawaii at Manoa
B.A., Economics, University of Hawaii at Manoa

Jan Reichelderfer, CPG, Environmental Planner
12 years experience in geology and environmental planning
Professional Certificate, Urban and Regional Planning, University of Hawaii at Manoa
M.S., Geology, University of Illinois, Urbana
B.S., Geology, University of Delaware, Newark 1982

Nami Ohtomo, Environmental Planner
6 years experience in environmental planning
M.P.P., Public Policy, University of Michigan, Ann Arbor
M.S., Natural Resources and Environment, University of Michigan, Ann Arbor
A.B., East Asian Languages and Civilizations, Harvard-Radcliffe Colleges

Wayne Yoshioka, P.E., Transportation Task Leader
21 years experience in transportation engineering and planning
B.S., Civil Engineering, University of Hawaii at Manoa

Mike Miyamoto, P.E. (pending), Transportation Engineer
14 years experience in transportation engineering
Graduate Courses, University of Lowell
B.S., Civil Engineering, University of Lowell, 1980

Deneitra M.G. Hutchinson, Environmental Planner
10 years experience in environmental and transportation planning
M.S., Community and Regional Planning, University of Texas at Austin
B.F.A., University of Texas at Austin

Lisa Santiago, Air Quality Specialist
6 years experience in conducting air quality assessments
B.S., Mathematics, New York State University

Steven Wolf, Lead Noise and Vibration Specialist
25 years experience in conducting noise analyses
Graduate Work in Applied Mechanics, Polytechnic Institute of Brooklyn
B.S., Mathematics, Long Island University, 1973

Kevin Keller, Noise and Vibration Specialist
8 years experience in environmental planning and noise analyses
B.A., Geography, California State University Fullerton

Edie Sagarang, Graphic Designer
10 years experience in graphic design
B.A., Fine Arts, University of Hawaii at Manoa

Environmental Subconsultants

Winona Char, Botanist, Char & Associates
22 years experience in conducting botanical studies
M.S., Botanical Sciences, University of Hawaii at Manoa
B.S., Botanical Sciences, University of Hawaii at Manoa

Hallett H. Hammatt, Ph.D., Archaeologist, Cultural Surveys Hawaii
35 years experience in conducting archaeological studies
Ph.D., Archaeology, Washington State University
M.A., Prehistoric Archaeology, University of Edinburgh
B.A., History, University of Pennsylvania

Robert L. Spear, Ph.D., Anthropologist, Scientific Consultant Services, Inc.
26 years experience in conducting anthropological studies
Ph.D., Anthropology, University of Oregon
M.A., Anthropology, Western Washington University
B.A., Anthropology, Western Washington University

REVIEWER

U.S. Department of Transportation, Federal Highway Administration, Honolulu

Domingo Galicinao, Structural Engineer
22 years experience in highway engineering and planning
B.S., Civil Engineering, University of Hawaii at Manoa

Pat V.Phung, Transportation Engineer
9 years experience in highway engineering and planning
B.S., Civil Engineering, University of Washington

CHAPTER SEVEN

Final EIS Recipients

CHAPTER 7
FINAL EIS RECIPIENTS

Listed below are agencies and organizations to whom copies of this Final EIS are being sent.

Federal Agencies

U.S. Department of Agriculture

U.S. Department of Defense
Army Corps of Engineers

U.S. Department of Interior
Biological Resources Division
Office of Environmental Project Review
U.S. Geological Survey, Water Resource Division

Environmental Protection Agency
Office of Federal Activities
Region IX

U.S. Legislators

The Honorable Daniel K. Inouye

The Honorable Daniel K. Akaka

The Honorable Patsy Mink

State of Hawaii Agencies

Department of Business, Economic Development and Tourism (DBEDT)
Office of Planning
Library

Department of Defense

Department of Health

Department of Land & Natural Resources
Division of Forestry and Wildlife

Office of Environmental Quality Control

Office of Hawaiian Affairs

University of Hawaii
Environmental Center

State Senators

The Honorable Robert Bunda, Senate President

The Honorable Cal Kawamoto, Chair Transportation, Military Affairs and Governmental Operations Committee

The Honorable Jan Buen, District 4

The Honorable J. Kalani English, District 5

State Representatives

The Honorable Calvin Say, Speaker of the House

The Honorable Joseph M. Souki, Chair House Transportation Committee

The Honorable Ron Davis, District 7

The Honorable Bob Nakasone, District 9

The Honorable Kika Bukoski, District 10

The Honorable Chris Halford, District 11

County of Maui

The Honorable James "Kimo" Akana, Mayor

Department of Parks and Recreation

Maui Police Department

Libraries

Kihei Public Library

Lahaina Public Library

Makawao Public Library

Wailuku Regional Library

Hawaii Kai Regional Library

Hilo Regional Library

Kaimuki Regional Library

Kaneohe Regional Library

Lihue Regional Library

Pearl City Regional Library

Hawaii State Library

Legislative Reference Bureau

University of Hawaii at Manoa
Hamilton Library

Maui Community College Library

Media

The Maui News

South Maui Times

Honolulu Advertiser

Honolulu Star Bulletin

Major Land Owners Affected by the Preferred Alternative

Alexander & Baldwin

Haleakala Ranch

Kaonoulu Ranch

In addition to the above agencies and organizations who will receive a copy of this Final EIS, individuals and organizations who provided substantive comments (see Volume Two: Draft EIS Comments and Responses) will receive this Final EIS in CD-ROM. However, they will be provided with the option of receiving a hard copy of the Final EIS, or refusing the Final EIS in either format.

CHAPTER EIGHT

Bibliography

CHAPTER 8
BIBLIOGRAPHY

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CHAPTER NINE

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CHAPTER 9
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APPENDIX A

Early Scoping Comment Letters

Invitation to Agency Scoping Meeting

Minutes of the Agency Scoping Meeting

Minutes and Sign-In Sheets of the October 18 and 19, 1995 Public Information Meetings

Minutes and Sign-In Sheets of the May 15 and 16, 1996 Public Information Meetings

Comment Letters and Responses Following the May 15 and 16, 1996 Public Information Meetings

Public Announcement of the Alternatives to be Considered in the Draft EIS

Comment Letters Received After the Draft EIS Alternatives Announcement and Responses

HWY-PA
2.2552

SEP - 1 1994

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

We are undertaking planning studies for the proposed Kihei-Upcountry Maui Highway Project and have engaged the consultant services of Warren S. Unemori Engineering, Inc. The project proposes to construct a new roadway connecting the Kihei area with Upcountry Maui.

The objective of the planning study is to select an alignment for design and construction through our public involvement/environmental process. The process will consist of the following major activities:

- Scoping
- Environmental Assessment and Environmental Impact Statement (EIS) Preparation Notice
- Public Informational Meetings
- Issuance of the Draft EIS
- Public Hearing
- Issuance of the Final EIS

I have enclosed a map (dated August 19, 1994) of the project area showing preliminary alternative alignments which are being investigated by our consultant. As part of our early scoping efforts, we would appreciate any comments, concerns, or information which your organization may have regarding these alignments.

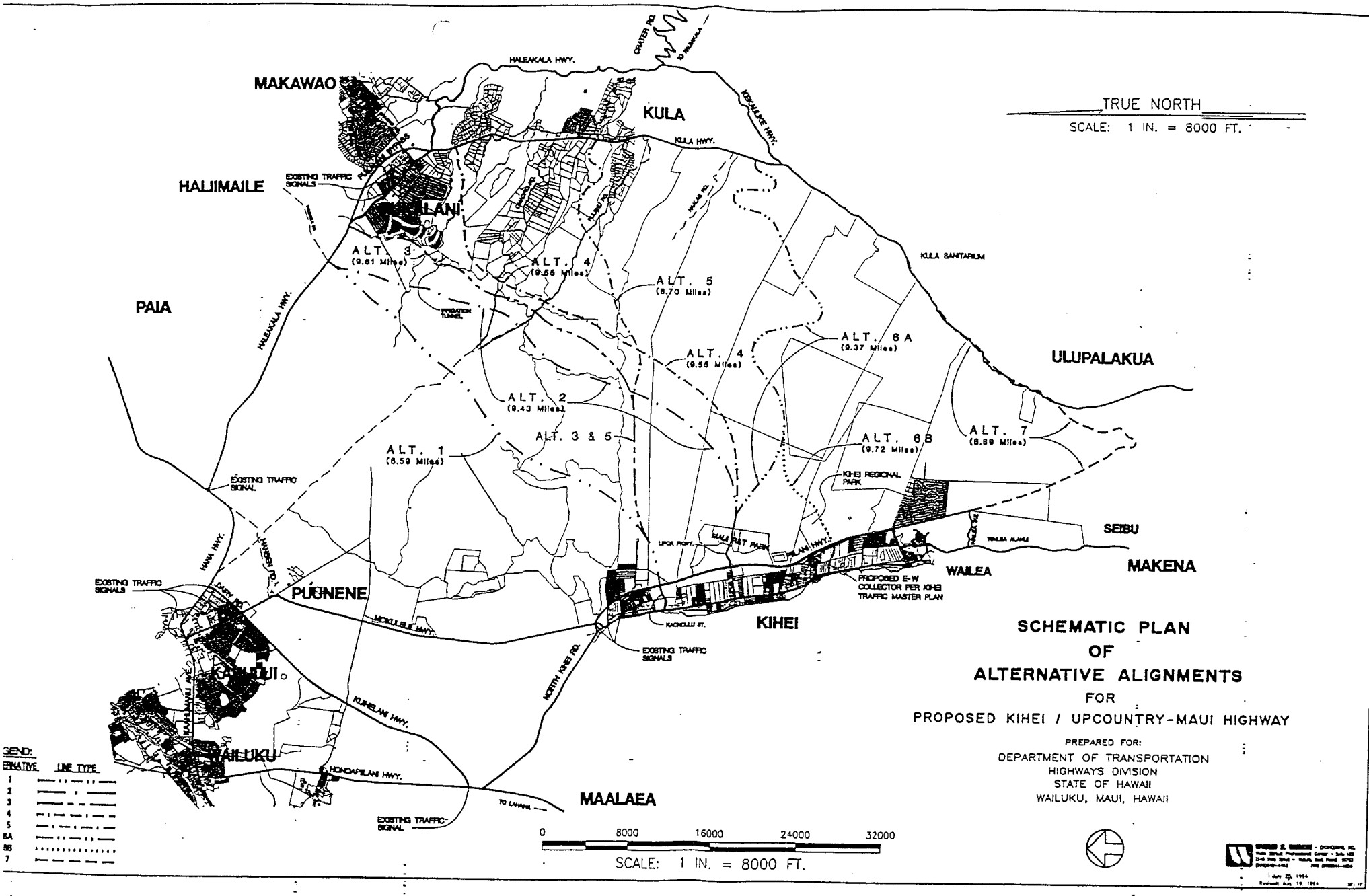
If you have any questions, please call Mr. Ronald Tsuzuki, our Head Highway Planning Engineer, at (808) 587-1830.

Sincerely,

Rex D. Johnson
Director of Transportation

Enclosure

c: WSU



SCHEMATIC PLAN OF ALTERNATIVE ALIGNMENTS FOR PROPOSED KIHEI / UPCOUNTRY-MAUI HIGHWAY

PREPARED FOR:
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STATE OF HAWAII
WAILUKU, MAUI, HAWAII

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96858-5440

REPLY TO ATTENTION OF

Planning Division

September 12, 1994

Mr. Rex D. Johnson, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson:

Thank you for the opportunity to review and comment on the Kihei-Upcountry Maui Highway Project (Project No. HDPS-9203-1). The information provided in your letter dated September 1, 1994 was not sufficient to provide an evaluation at this time. Once detailed plans have been developed, the Corps will need to review the project to determine Department of the Army permit requirements and evaluate flood hazard designations as applicable under the Federal Emergency Management Agency's National Flood Insurance Program.

Sincerely,

Ray H. Jyo, P.E.
Director of Engineering

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HIGHWAYS DIVISION

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HIGHWAYS DIVISION
PLANNING BRANCH
Sep 13 2 22 PM '94
STATE DEPARTMENT
OF TRANSPORTATION

United States Department of the Interior

NATIONAL PARK SERVICE
Haleakala National Park
P.O. Box 369
Makawao, Maui, Hawaii 96768

IN REPLY REFER TO:

October 25, 1994

Rex Johnson, Director of Transportation
State of Hawai'i Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Johnson:

Thank you for the invitation to the October 26, 1994 scoping session for the proposed Kihei-Upcountry Maui Highway. Due to the temporary absence of Haleakalā National Park Superintendent Don Reeser and several other key staff, we are unable to attend this session. However, we hope to be involved as consultants as the proposed development evolves. Please accept the following comments in lieu of our attendance at tomorrow's meeting.

Alternative 6 and 6A pass through or very near what is generally recognized by biologists as one of the most intact and diverse lowland dry forests remaining in the Hawaiian Islands that contains a number of listed or proposed Endangered plant species recognized by the US Fish and Wildlife Service, *i.e.*, the Pu'u-o-kali lava flows. The other alternative to the west appear to pass through areas of relatively little known biological value and hence may be more acceptable from that perspective versus the alternatives to the east.

Direct displacement of dryland forests in this area by highway easements are not the only threats posed by the proposed development, however. Non-native plants and animals and the effects of wildland fire are other severe causes of loss. It is well know in Hawai'i that the preponderance of wildland fires are human-caused. In general the native shrublands that persist in this region are nearly invariably found in areas of rough 'a'ā lava. However, the fire history of the past 50 years has shown that even in these discontinuous fuels, fire fed by surrounding or intermixed flash fuels (principly alien grasses and kiawe) burns aggressively inspite of barriers more than 60 feet wide, *e.g.*, Honoplilani Highway. Increased public access to areas that are peripheral to dryland forests may affect them by increasing fire frequencies in the region -- a severe perturbation.

Our assessment that the more western alternative routes may be "generally more acceptable" from a biological perspective is somewhat subjective, because these are private ranchlands without easy legal access. The private lands are largely unexplored and relictual populations of endangered species may be found among any of the proposed routes. Hence these areas largely lack the basis of biological survey which would allow approval or disapproval of particular routes on that basis. Scientists of the National Park Service and the National Biological Survey have a strong interest in assisting exploration of the proposed alternatives so that values at risk can be identified and appropriate mitigation efforts made in the planning and route selection process.

Road planners recognize that without stringent limited-access rules road development is the purveyor of a sequence of growth. We recommend considering the proposed roadway carefully so as to centralize development, thereby providing some protection to Maui's rural and wild areas.

Sincerely,

Karen Ardoin
Acting Superintendent

RECEIVED
HIGHWAYS DIVISION
PLANNING BRANCH
OCT 31 8 54 AM '94
STATE DEPARTMENT
OF TRANSPORTATION

JOHN WAIHEE
GOVERNOR

REX D. JOHNSON
DIRECTOR

DEPUTY DIRECTORS
KANANI HOLT
GLENN M. OKIMOTO
JOYCE T. OMINE
CALVIN M. TSUDA

IN REPLY REFER TO:

HWY-PA
2.3757

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

December 1, 1994

RECEIVED

DEC 2 1994

WARREN S. UNEMORI ENGINEERING, INC.

Ms. Karen Ardoin
Acting Superintendent
Department of the Interior
National Park Service
Haleakala National Park
P.O. Box 369
Makawao, Hawaii 96768

Dear Ms. Ardoin:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your comments of October 25, 1994, regarding the preliminary alignments being investigated for the subject highway project.

As the project progresses, we will send to the National Park Service, notices of public informational meetings/public hearings, and environmental documents for review and comments.

Sincerely,

Rex D. Johnson
Director of Transportation

c: Warren S. Unemori Engineering, Inc.

U.S. Department of Transportation
Federal Aviation Administration

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 7 10 47 AM '94

AIRPORTS DISTRICT OFFICE
BOX 50244
HONOLULU, HI 96850-0001
PHONE: (808) 541-1243
FAX: (808) 541-3462

October 6, 1994

Mr. Rex D. Johnson, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Johnson:

This is in response to your September 1, 1994 letter regarding the proposed Kihei-Upcountry Maui Highway Project. The FAA has no facilities in the proposed project area; however, we would appreciate being kept informed during the environmental process particularly as the highway project relates to improved access to Kahului Airport.

We appreciate the opportunity to comment on this project.

Sincerely,

David J. Welhouse
Airport Engineer/Planner

Henry A. Sumida
Airports District Office Manager

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DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

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JOHN WAIHEE
GOVERNOR

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Sep 30 1 46 PM '94

ROBERT P. TAKUSHI
COMPTROLLER

LLOYD I. UNEBASAMI
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 119, HONOLULU, HAWAII 96810

LETTER NO. (P)1840.4

Sep 29 1994

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Oct 3 1 40 PM '94
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Honorable Rex Johnson
Director
Department of Transportation
State of Hawaii
Honolulu, Hawaii

Dear Mr. Johnson:

Subject: Kihei-Upcountry Maui Highway
Pre-Environmental Assessment

Thank you for the opportunity to review the subject document. Our concern is that Alternative Alignments 2, 4 and 6A which connect to Lipoa Parkway/Street will funnel additional traffic adjacent to the existing Kihei Elementary and Intermediate Schools.

Should there be any questions, please have your staff contact Mr. Ralph Yukumoto of the Public Works Division at 586-0488.

Very truly yours,

ROBERT P. TAKUSHI
State Comptroller

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Oct 3 11 44 AM '94
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Oct 3 11 45 AM '94
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JOHN WAIHEE
GOVERNOR

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Sep 27 10 13 AM '94

EDWARD V. RICHARDSON
MAJOR GENERAL
ADJUTANT GENERAL

MYLES M. NAKATSU
BRIGADIER GENERAL (M)
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

September 23, 1994

Engineering Office

RECEIVED
Sep 28 12 37 PM '94
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Honorable Rex Johnson, Director
Department of Transportation
Aliiaimoku Hale
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Johnson:

Subject: Kihei UpCountry Maui Highway
Project No. HDPS-9203(1)

Thank you for providing us the opportunity to review the above mentioned project.

We have no comments to offer at this time regarding the project.

Sincerely,

Edward V. Richardson
Major General
Hawaii Air National Guard
Adjutant General

NATIONAL GUARD
Americans At Their Best.

JOHN WAIHEE
GOVERNOR

HERMAN M. AIZAWA, Ph.D.
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

DIRECTOR'S OFFICE
DEPT OF
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Sep 27 1 47 PM '94

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DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

September 27, 1994

MEMO TO: Honorable Rex D. Johnson, Director
Department of Transportation

F R O M: Herman M. Aizawa, Ph.D., Superintendent
Department of Education

SUBJECT: Kihei-Upcountry Maui Highway
Project No. HDPS-9203

We have reviewed the preliminary alternative alignments being investigated for the subject highway and have no comment as to which is preferred. However, we believe consideration should be given to the amount of traffic generated which may affect Kihei Elementary School on Lipoa Street and Kihei II Elementary School on Piilani Highway near the intersection of Alternate 6B. The new King Kekaulike High School near the mauka intersection of Alternate 4 would also be affected.

Should there be any questions, please call the Facilities Branch at 733-4862.

HMA:AH:hy

cc: A. Suga, OBS
R. Murakami, MDO

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HIGHWAYS DIVISION
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AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION
Oct 3 2 38 PM '94

PETER A. SYBINSKY, Ph.D.
DIRECTOR OF HEALTH

In reply, please refer to:

September 30, 1994

94-192/epo

RECEIVED
OCT 7 4 48 PM '94
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

The Honorable Rex D. Johnson
Director of Transportation
State Department of Transportation
869 Puchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson:

Subject: Early Scoping Efforts
Kihei-Upcounty Maui Highway
Project No. HDPS-9203 (1)

Thank you for allowing us to comment on the subject project. We have no comments to offer at this time, but we would like to receive the Environmental Assessment to review when it is completed.

Sincerely,

Peter A. Sybinsky, Ph.D.
Director of Health

RECEIVED
OCT 10 11 05 AM '94
STATE DEPARTMENT
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JOHN WAIHEE
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KEITH W. AHUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JOHN P. KEPPELER, II
DONA L. HANAIKE

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE HISTORIC PRESERVATION
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 621
HONOLULU, HAWAII 96809

DIRECTOR'S OFFICE
DEPT OF TRANSPORTATION
Oct 5 1 05 PM '94

SEP 27 1994

In reply, please refer to:
REF: DOFAW

The Honorable Rex D. Johnson, Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

RECEIVED
OCT 6 2 06 PM '94
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

Dear Mr. Johnson:

RE: HWY-PA 2.2552
Kihei-Upcountry Maui Highway
Project No. HDPS-9203 (1)

My staff has reviewed the subject matter. From the limited information provided, Alternative 1 appears to be the more acceptable site. The highway would be constructed for most of its length in areas that have had high vegetative disturbance, and would be impacted the least biologically when compared to the other alternatives. Alternative 1 would provide the best service to the upcountry residents by hooking up to Hali'imaile Road. Of course, a more thorough biological survey will be needed and we will be able to provide substantial comments at that time.

Very truly yours,

KEITH W. AHUE

cc: DOFAW
OCEA

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OCT 7 2 18 PM '94
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JOHN WAIHEE
GOVERNOR OF HAWAII

KEITH W. AHUE, CHAIRPERSON
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JOHN P. KEPPELER, II
DONA L. HANAIKE

AQUACULTURE DEVELOPMENT PROGRAM
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CONSERVATION AND RESOURCES ENFORCEMENT
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DEPT OF TRANSPORTATION
Oct 21 1 05 PM '94

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

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OCT 25 11 12 AM '94
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PLANNING BRANCH

REF: HP-JEN

OCT 20 1994

LOG NO: 2680
DOC NO: 9410KD05

MEMORANDUM

TO: The Honorable Rex D. Johnson, Director
Department of Transportation

FROM: KEITH AHUE, Chairperson and
State Historic Preservation Officer

SUBJECT: Historic Preservation Review of the Kihei-Upcountry Maui Highway Project No. HDPS-9203 (1)
Makawao District, Maui (File No. HWY-PA 2.2552)

Thank you for the opportunity to comment on the schematic plan of eight alternative alignments for the proposed Kihei-Upcountry Highway. The proposed routes connect Piilani Highway (four alternate locations), with Kula Highway (six alternate locations). Distance of the alternate routes varies from 8.59 to 9.72 miles east-west. The various routes are within a zone approximately 12 miles north-south, and they transect at least fifteen different *ahupua'a*.

In general, very little inventory survey work has been conducted in the undeveloped areas between Kula and Kihei. Sugar cane cultivation has occurred in Pulehunui and areas transected by ALT. 1 and the upper section of ALT. 2. Much of the area transected by the other routes has been ranch lands, with varying amounts of land surface alterations.

Site density in much of the relatively dry area between 400 and 1200 feet elevation is not expected to be high. However, traditional Hawaiian sites such as *mauka-makai* trails and associated temporary shelters, *ahupua'a* boundary walls, burial caves, special purpose resource gathering sites, and dry land agricultural features would be expected to occur in areas not

disturbed by modern farming or ranching. Historic period ranching features over 50 years in age will also be present.

A number of historic sites are known to exist in the major gulches of Kula, to the west of Kula Highway. Sites such as Hawaiian petroglyphs, burial caves, and habitation shelters occur in Kaluapulani, Kalialinui, Pulehu, Hapapa, Waiakoa, and Alae Gulches. Known *heiau* sites occur on ridges to the west of Kula Highway in Oma'opio, Waiakoa, Keokea, Waiohuli, Kaonoulu, and Kamaole. The known *heiau* occur at elevations ranging from 1600 to 2800 AMSL. Upper portions of ALT. 4, 5 and 6 are in this general area of Kula.

Systematic surveys have occurred in Waiohuli and Keokea (ALT. 6A), where numerous historic sites associated with permanent habitation, agriculture, and ceremonial activities have been identified. Archaeological surveys conducted within relatively confined areas in Kamaole and Kanahena (ALT. 7) have confirmed the presence of permanent habitation and intensive agriculture in these areas as well.

A more detailed map of the proposed alternate routes will be needed in order to determine where specific routes are located in relation to the known historic sites. This level of work would be included in the scope of an archaeological overview, which would be part of the Environmental Impact Statement. Aerial reconnaissance and on-ground pedestrian survey work will also be needed, as the alternate route selection proceeds.

The location of known sites with preservation value in relation to proposed routes should be done in early planning stages so that these sites can be safely avoided. Likewise, it is preferable to identify areas with high site densities and/or significant cultural resources in early stages of planning.

Please contact Ms. Theresa K. Donham at 243-5169 if you have any questions.

KD:jen

University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

October 8, 1994
PN:0086

Mr. Rex D. Johnson
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson:

Pre-Planning Consultation
Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

The referenced document describes potential road alignments for the proposed Kihei-Upcountry Maui Highway Project. The document provided six alternate routes for the proposed project.

This review was conducted with the assistance of Richard Mayer, Maui Community College/Geography; and Chris Welch, Environmental Center.

Our reviewers found the proposed route alignments interesting, yet could discern no basis for the selection of these particular routes. Were the routes picked on the basis of topography only or were there other factors involved (such as land use consideration)? In order to fairly evaluate whether the seven choices given are indeed the "best seven choices", the criteria for ranking the particular alignments need to be defined.

In weighing the seven alternatives, our reviewers found four critical parameters necessary for evaluation: visitor trips, recreational usage by residents, transits to and from work, and travel between Kihei Industrial Park and the Haleakala Summit. The pertinent points in optimizing the location of the road would be for gas and time savings during the above mentioned operations.

Of course, other considerations come into play when deciding the best route. Alignments six and seven obviously do not optimize for travel time or gas savings except to a very select population. Further, these routes potentially have a substantial impact on the rural atmosphere present in the Kula area. The limitations of such alignments, in terms of time, fuel, and social impact need to be clearly spelled out in the Environmental Impact Statement.

Our reviewers suggest that another heretofore undescribed alternative would be the construction of several feeder roads to the main road going up from Kihei. Currently, the Lipoa Street intersection is very heavily used. Compressing all of the traffic from upcountry through this junction is problematic. Since much of the traffic originates in Wailea, the alternative of providing a feeder to the Wailea resort should be considered. Thus, both Kihei and Wailea would be served and both would be impacted to a lesser extent (for example alternative 6B and the Lipoa Street connection would merge near Kihei). Consideration of a similar operation should be undertaken for the junctions near Hailemaile, Kula, Pukalani, and Makawao.

Thank you for the opportunity to comment.

Sincerely,

John T. Harrison
Environmental Coordinator

cc: OEQC
Warren S. Unemori Engineering, Inc.
Roger Fujioka
Richard Mayer
Chris Welch

LINDA CROCKETT LINGLE
Mayor
TELEPHONE 243-7855

OFFICE OF THE MAYOR
COUNTY OF MAUI
WAILUKU, MAUI, HAWAII 96793

October 18, 1994

Mr. Rex D. Johnson, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson: Rex,

RE: Kihei-Upcountry Maui Highway Project No. HDPS-9203(1)

In your letter to me dated September 1, 1994, you identified the major activities which were to be accomplished in the planning study and asked for our comments and concerns. My Planning Director had responded earlier on September 19, 1994, identifying those items which were of particular interest to his Department. I thought, however, that I would stress some issues of more general impact or concern.

In the scoping portion of the project, I believe we need to ensure an understanding of the socioeconomic effects of the road. In particular:

- The ability to live and work in the Upcountry environment will be enhanced. The shorter commute to both Kihei and Lahaina will provide better access to markets and jobs for farmers, craftsmen and employees.

- The selected route should be one to benefit both the present residents, as well as future residents. The development of the Hawaiian Homelands which extend from Keokea to Kihei must be considered. We need to ensure that the route chosen either connects to the Keokea Homelands or provides for a relatively inexpensive access to these homelands.

- The preservation of the lifestyle is also very important in selecting the route. A minimum of disruption to agricultural lands, especially cane lands is very important.

When considering the environmental impact of the project, we felt that the effects could be very large and wish that several issues be reviewed in detail.

- This is a major interconnecting highway and will profoundly impact the character and timing of development at both ends of the highway. The statement must adequately address the change in the direction of community growth implied by construction of this highway.

- The road will allow people to transit easily between the Upcountry rural home environment and the coastal urban work environment. The environmental statement should address the long-term effects of such a transportation system and identify or implement measures to improve energy efficiency and reduce environmental effects. We feel that bikeways and Park & Ride facilities need to be addressed.

I appreciate the work of your staff in this process, and I am hopeful that we can continue to progress on this very important project.

Please call me if you would like to discuss my comments in more detail.

Sincerely,

LINDA CROCKETT LINGLE
Mayor, County of Maui

NP:jso
c:\letter\1201

Ken R. Fukuoka
Director of Council Services

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

September 12, 1994

Mr. Rex D. Johnson
Director of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson:

SUBJECT: KIHEI-UPCOUNTRY MAUI HIGHWAY
Project No. HDPS-9203 (1)

Thank you for your letter dated September 1, 1994, soliciting comments regarding the Kihei-Upcountry Maui Highway.

I have sent copies of your letter to the chairs of the Council's Planning Committee and Public Works Committee, for their comments.

Again, thank you for the opportunity to comment on this project.

Yours truly,

Goro Hokama
Council Chair

chr:940907a:kf

Ken R. Fukuoka
Director of Council Services

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

September 20, 1994

Mr. Rex Johnson, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Johnson: Rex ;

SUBJECT: KIHEI-UPCOUNTRY MAUI HIGHWAY
PROJECT NO. HDPS-9203 (1)

Thank you for your letter requesting comments, concerns or information relating to the aforementioned subject matter.

For your information, your letter has been transmitted to the Council for referral to the appropriate standing committee.

Thank you very much for giving us the opportunity to state our concerns. Should you have any questions, please feel free to contact me at 243-7682.

Very truly yours,

ALICE L. LEE
Councilwoman

ALL:jio

BOARD OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109

November 21, 1994

Mr. Rex D. Johnson, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson,

Re: Comments on upcoming planning studies for the Proposed Kihei-Upcountry Maui Highway Project

Thank you for your request for information and our comments on the upcoming planning studies for the proposed Kihei-Upcountry Highway Project. We are aware of the areas of concern which affect water and deserve inclusion in the analysis for this project such as the following:

1. Water Transmission:

Water concentrates in and on the north slopes of Maui, while the majority of the new land-use approvals occur on the south shores, in the central valley and high on the western valley slope. Therefore, land-use approvals in those areas require and generate water transmission lines which crisscross the isthmus from the north to the south. Requirements to pump more water up to waterless areas also grow.

The proposed highway would directly require no new transmission lines. However, the road would be a likely alignment for the future lines which are required to serve land-use approvals.

New transmissions lines which run to newly-approved projects can have side effects on land-use pressures and growth under certain conditions. These effects are best reviewed by the Planning Department.

We would be willing to assist with technical support in any masterplanning efforts which are needed to anticipate the side-effects of land-use approvals and our subsequent facilities.

Please be advised that there may be a cost effect also. If a new road or other factors, including existing ones, induce growth at elevations above the existing water sources, the Board may be required to pass the unique, high cost of pumping onto high-elevation consumers. We are researching elevation-related cost and pricing issues now.

2. Aquifer Protection:

Also, we suggest that aquifer protection be studied and included as part the analysis of the highway project. The possible actions and results of petrol-based contamination, especially large container spills should be considered.

3. Water Conservation:

With the involvement of state funds and pursuant to state Act 73, erosion-control and revegetation plantings would be native Hawaiian species. We suggest species which are climate-adapted to the isthmus' arid coastal vegetation zone. Such plantings can prevent the overuse of the EPA-standard drinking water of the area's Central water system. Examples are as follows:

trees -

Wiliwili	(Erythrina sandwicensis, 20'ht.)
Hao	(Rauvolfia sandwicensis, 20'ht.)
'Ohe makai	(Reynoldsia sandwicensis, 20'ht.)

shrubs -

Noni	(Morinda citrifolia, 20'ht., polynesian intro.)
Alahe'e	(Canthium odoratum, 12'ht.)
Lama	(Diospyros sandwicensis, 12'ht.)
Naio	(Myoporum sandwicense, 10'ht.)
Kulu'i	(Nototrichium sandwicense, 8'ht.)
Ma'o hau hele	(Hibiscus brackenridgeii, 8'ht., endangered)
Naupaka kahakai	(Scaevola sericea, 6'ht.)
'A'ali'i	(Dodonaea viscosa, 6'ht.)
Ma'o	(Gossypium tomentosum, 5'ht.)

groundcovers -

'Ūlei	(Osteomeles anthyllidifolia, 4'ht.)
Pōhinahina	(Vitex rotundifolia, 3'ht.)
Nehe	(Lipochaeta lavarum, 3'ht.)
Nehe	(Lipochaeta rockii, 2'ht.)
Nehe	(Lipochaeta succulenta, 3'ht.)
'Akoko	(Chamaesyce olowaluana, 2'ht.)
'Akia	(Solanum nelsoni, 3'ht.)
'Akia	(Wikstroemia uva-ursi and W. species, 2'ht.)
'Ohai	(Sesbania tomentosa, 1'ht., endangered)
Kalamālō	(Eragrostis monticola, 1'ht.)
'Akoko	(Chamaesyce spp., 1'ht.)
Naupaka	(Scaevola coriacea, 1'ht., endangered)
Ko'oko'olau	(Bidens mauiensis, 1'ht.)
'Ihi	(Portulaca villosa, .5'~1'ht.)
'Ilima papa	(Sida fallax, .5'ht.)
Pā'ūohi'iaka	(Jacquemontia ovalifolia, subsp.sandwicensis,.5'ht.)
Mau'u 'aki'aki	(Fimbristylis cymosa, .5'ht.)

3. Water Conservation (concluded)

Planting with these or similar species, as site conditions and commercial-availability permit, saves drinking water. The plants survive on the sites' rainfall supplemented with low amounts of irrigation during the first year(s) and summers.

Further guidance in water conservation in landscaping may be found in the attached document or in the Maui County Planting Plan.

4. Water Availability and Syatem Requirements:

The water supply for an irrigation system would require hook-up to the Central Maui water system. The system pulls water from Iao Aquifer. The aquifer is closing in on its maximum safe yield as set by the state Commission On Water Resource Management. Attempts to provide other water to the system have been delayed.

Water meters for this project may not be available until new water for the system is developed. No guarantee of water is granted or implied as a result of these comments or the approval of land-use permits, because the Board determines precise water availability only at the time of meter application. The developer may be delayed in receiving water and a meter for the project, even if land-use permits are approved.

Once again, thank you for providing us with the opportunity and the materials to comment on the upcoming studies. If you would like to request further information or comments, please contact us at (808)243-7835.

Sincerely,

David R. Craddick, Director

DDS:c:\wpwin\kihei-up.ltr
enclosure
copy: B. Miskae

LINDA CROCKETT LINGLE
Mayor

BRIAN W. MISKAE
Director

GWEN Y. OHASHI
Deputy Director

COUNTY OF MAUI
PLANNING DEPARTMENT
250 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

DIRECTOR'S OFFICE
DEPT OF TRANSPORTATION
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

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STATE DEPARTMENT OF TRANSPORTATION

September 19, 1994

Mr. Rex Johnson, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Johnson:

Re: Kihei-Upcountry Maui Highway, Project No. HDPS-0203(1)
(HWY-PA 2.2552)

This is in response to your letter of September 1, 1994, regarding the above subject. We have the following comments:

1. The EIS must have a goal and needs assessment which states why this project is necessary and who or what function it will serve. Analysis should show the benefits the county would realize from this road and the criteria used for route selection. Would there be energy savings, a reduction of congestion, get people to jobs in a more efficient manner, how many people commute from which areas of "upcountry" to which areas of Kihei-Makena? What is the cost/benefit per route? Which route would carry the most number of people? Would it be more efficient for travelers from the airport to take this route than Mokulele Highway? Would people from Lahaina travel this route to get to "upcountry"? The EIS should also address the "growth inducement" potential along the alignment and at the terminus. Related to growth inducement would be the potential loss of some family farms because of increased demands to live upcountry and impacts on agriculture.

2. The route selected should connect existing population centers. alternatives 6A, 6B, and 7 would result in little or no savings of mileage/time between Kihei and existing population centers "upcountry" over existing routes. Alternative 6 is likely to encounter a significant number of archaeological sites; mitigation would prove expensive, avoidance/preservation is prefarable to mitigation.

3. Alternative Route 4 provides advantages of convenience to the R&T Park and connecting central Kihei to Kula, Pukalani, and Makawao, however, increased traffic on Lipoa Street would need to be considered, and Lipoa Street, its intersections, and entries/exits from Piilani Highway upgraded accordingly.

4. The proposed Makawao-Pukalani-Kula Community Plan, Part II, Policy Recommendations on transportation objectives and policies #2 states: "Support the planning of the proposed Upcountry-Kihei connector highway with the least negative impact to the Upcountry lifestyle and character by locating the upcountry terminus in the vicinity of the intersection at Haliimaile Road and Haleakala Highway." Alternative 3 and 4 terminus in the "upcountry" area, with access from the bypass will allow the major population centers of Makawao, Haliimaile, Pukalani and parts of Kokomo-Haiku easier access to the proposed Upcountry-Kihai road.

5. The proposed Kihei-Makena Community Plan (K-M CP), Part III, Policy Recommendations on transportation policies and objectives states: "Support a new bypass highway mauka of Piilani Highway, coordinated with a Maalaea-Kealia Pond bypass and an Upcountry-Kihai connector road, to be constructed as growth in the region warrants."

   The K-M CP also seems to be consistent with Alignment alternative 2 and 4 which terminates in Kihei at Lipoa Street and Piilani Highway intersection which is the future intersection of Road "C". The K-M CP under goals, objectives, and policies, on "Land Use" states: "A central business and commercial center for Kihei clustered around the South Kihei Road/Road "C" intersection" would seem a logical point to terminate the upcountry road.

6. One route that is not examined on the alternative alignments is the old county ROW which still shows in the tax map key books. The route may be more cost effective because it would be a shorter route, avoid larger gulches, one overpass may resolve the agricultural traffic conflict, and since the makai terminus is near the intersection of Mokulele and North kihei road, it would be more easily service people going to or coming from either Kihei or Lahaina.

If you have any further questions, please call myself or Julie Higa at 243-7735.

Very truly yours,

Brian Miskae
Director of Planning

cc: G. Ohashi, D. Schneider, W. Spence, E. Anderson, B. Medeiros, C. Suyama, J. Higa, File

A:Upcountry.rd

RE: Kihei-Upcountry Maui Highway, #HDPS-9203

Mr. Rex Johnson
Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813-5097

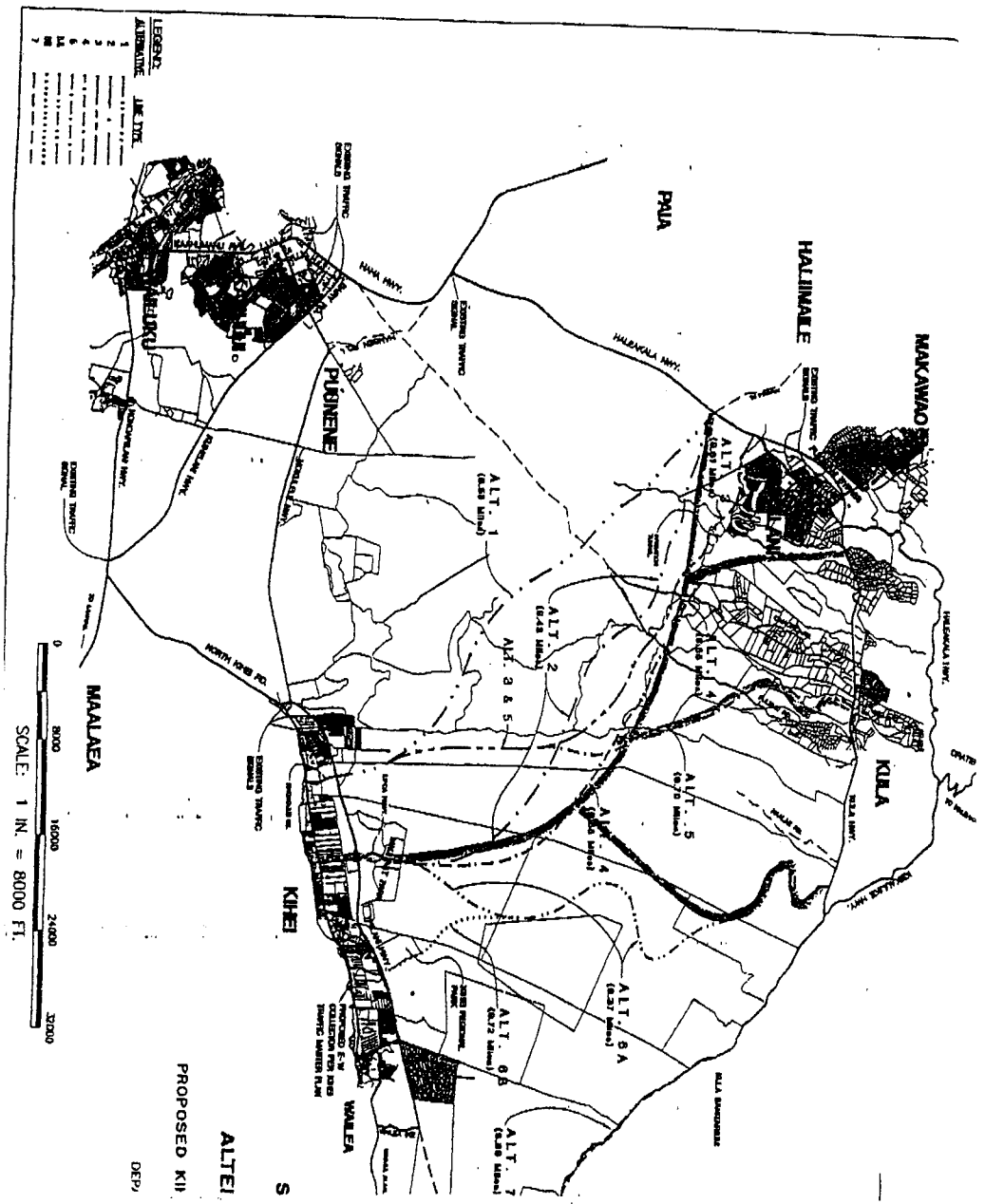
Dear Mr. Johnson:

I am very interested in the planning process for this proposed road. To me it seems that the best thing would be to have several routes down from upcountry not just one connecting in to lower Pukalani, see attached. To have just one connection to upcountry seems shortsighted. By having just one connection you are just adding to the bottle neck that already exists below Pukalani.

I would like to be kept informed of any public meetings. Will you be able to add me to your mailing list for this project? Thank you.

Sincerely,

Robert M. Butterfield



HALEAKALA RANCH
COMPANY
ESTABLISHED IN 1888

October 18, 1994

Ron Tsuzuki
Department of Transportation
Planning Branch
600 Kapiolani Blvd
Honolulu, Hawaii 96813

Re: KIHEI UPCOUNTRY ROAD

Dear Mr. Tsuzuki:

Haleakala Ranch Company prefers that the Mauka connection be somewhere near Kula 200 and the Makai connection through R & T to Lipoa/Piilani intersection.

Yours truly,

Peter D. Baldwin
President

55 SOUTH WAKEA AVENUE • KAHULUI, HAWAII 96732 • TELEPHONE: (808) 877-5544

A&B-HAWAII, INC.
HONOLULU

TELEPHONE: (808) 877-0081
FACSIMILE: (808) 871-7663

HAWAIIAN COMMERCIAL & SUGAR COMPANY

P.O. BOX 266, PUUNENE, MAUI, HAWAII 96784

October 5, 1994

Mr. Rex Johnson
Director of Transportation
State Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Johnson:

Re: Kihei-Upcountry Maui Highway Project No. HDPS-9203 (1)

Thank you for your letter dated September 1, 1994 informing Hawaiian Commercial & Sugar Company (HC&S) of the planning studies being done for the proposed Kihei-Upcountry Maui Highway Project and requesting our input on the preliminary alternative alignments.

My comments are based on the map that was provided with your letter of August 19, 1994. HC&S' has specifically focused on the various alignment that have a detrimental effect on HC&S' viability.

Alternatives 1, 2, & 3

All three alternative routes traverse through HC&S' lands; lands that are currently in cultivation, therefore, severely disrupting field operations. The physical splitting of the plantation, intersecting canehauler road systems, drip irrigation systems, potential disruption of the major water distribution systems, and adverse effects on current agricultural practices will seriously affect HC&S' operating efficiency. This is a major threat to the future viability of HC&S and ultimately the island of Maui.

Along with the cost to the plantation, significant project costs can also be associated with these alternatives. Costs such as the purchase cost of land right-of-ways, relocating existing drip irrigation supply lines, realigning water transportation systems, canehaul roadways, and highway hauler crossings will significantly add to the cost of this project.

Alternatives 4 - 7

All of these alternatives would be acceptable by HC&S since it does not increase our cost of operations. Alternative 4 appears to skirt HC&S' operations and, therefore, does not isolate any cane. Alternatives 5, 6, & 7, which are outside of lands owned by A&B-Hawaii, Inc. will not affect our operations. In our opinion, Alternative 6A appears to be the best route because it is the most direct, the shortest length, crosses the fewest gulches, intersects with pasture lands, and provides access to Hawaiian Homes lands.

As we have consistently stated throughout the State/County Joint Task Force for the Kihei-Upcountry Highway process, HC&S and its parent company A&B-Hawaii, Inc. (ABHI) supports a proposed Kihei-Upcountry highway, provided that the chosen alignment does not interfere with HC&S' operations. This statement is made with full awareness that there are several alternative alignments which do not traverse through the plantation and are considered to be equally, if not more, viable.

Thank you for this opportunity to provide input into the early scoping efforts. As the planning study progresses, we will be awaiting an opportunity to provide more input.

If you have any questions regarding these comments or are in need of additional information, please do not hesitate to contact me at 877-6902 (phone), or 871-2149 (fax).

Sincerely,

Richard F. Cameron
Plantation General Manager

KULA COMMUNITY ASSOCIATION
P.O. Box 417
Kula, Hi 96790

October 10, 1994

Mr. Rex Johnson, Director
State Dept. of Transportation
869 Punchbowl Street
Honolulu, Hi. 96813-5097

Subject : Kihei-Upcountry Maui Highway
Project # HDPS-9203 (1) HWY-PA 2.2552

Dear Mr. Johnson,

Thank you once again for inviting the public into this important process. Our Association appreciates the opportunity to further study this project along with the DOT and all those who might benefit. We know this plane will never fly without widespread community acceptance. To achieve this acceptance it must be shown to benefit the many residents who travel down to work daily in a safe, efficient direction. Military purposes, visitor traffic, and definitely Hawaiian Home Lands are all important concerns, but loosing our small farms, awakening our rural communities of Omaopio, Keokea, and Waiakoa with the screams of development and transient traffic flows will be unacceptable to a few who live on this mountainside.

CONDITIONS OF OUR SUPPORT

We stand ready to support a final alignment only if;

1. The highway benefits the main upcountry resident commuter population base (Pukalani, Makawao, Haiku)
2. Impacts to the future Socio-Economic environment of Kula is minimal
3. The route is safe and efficient (overpasses and underpasses, where needed)
4. Small farms and residents will not be displaced or disadvantaged
5. The route connects directly with Haleakala Highway (to eliminate the potential use of many narrow, steep, neighborhood roads as shortcuts.
6. The Kihei termini should be located to aid Westside commuters and a future spur road access to the Hawaiian Homes Development if possible.

General Comments, Concerns, and Information On Schematic Plan of Alternative Alignments (W. Unemori Map Revised Aug. 19, 94)

ALT 1, 2, & 3

These routes would satisfy most of our conditions if all intersections were made to be safe. The Kula C.A. would favor them in numerical order,

Alt. 1. only intersects Pulehu Rd. and intersects directly into Haliimaile Rd, routing traffic from Makawao and Haiku straight to Kihei.

Alt. 2. crosses both Pulehu and Omaopio but intersects with Haliimaile Rd.

Alt. 3. this route would not benefit as many lacking the efficiency of 1 & 2 , crossing both Pulehu and Omaopio, also not connecting with Haliimaile Rd, but meeting most of our conditions

Alt 4, 5, 6,7

These suggested alignments would fail to meet most or all of the Kula C.A.'s conditions of support for the Kihei / Upcountry Highway

With much thought and debate the Kula C.A. concurs with the:

Distinguished members of the Makawao / Pukalani / Kula Citizens Advisory Committee (Re.Kihei / Upcountry Highway)

And

The Maui Country Planning Departments recommendations of the revisions of the M.P.K. Community Plan Update (Re.Kihei / Upcountry Highway.

That ;

Kihei-Upcountry Highway: The proposed highway between Kihei and the Upcountry region is significant in terms of its land use and transportation impacts. The CAC recognized that the selection of an alignment must consider the growth inducing impacts to the region's agriculture, rural character and open spaces. The need to maintain the unique Upcountry ambiance is an essential parameter in analyzing alternative routing schemes. Recognizing that the evaluation of alternatives should weigh transportation costs and benefits as well as community and land use impacts, the CAC recommends that the Upcountry terminus intersect Haleakala Highway in the vicinity of Hali'imaile Road. The CAC further recommends that a spur off of the proposed Kihei-Upcountry Highway be provided to facilitate access to the Department of Hawaiian Home Lands development area.

The Kula C.A. also agrees with both the Upcountry CAC and the Maui Planning Dept. that the Makena-Ulupalakua Connector road be dropped as a capital improvement project thus, all planning, design, and funding be suspended.(ALT 7)

We also believe this route (ALT 7) would benefit very few, worsen traffic safety, disrupt quiet communities, and only benefit visitor traffic and private landowners.

Some citizens in our association do believe the losses outweigh the gains connecting these mauka and makai communities, and funds should be used to improve existing roads and highways to aid the traffic flow between Upcountry and the South / West Side. The Kula C.A. also believes this is a realistic alternative and should be studied.

The Kula Community Association has followed the Upcountry Highway discussions through the Toll Road concept of former Mayor Tavares (Dec. 1990) and the hard work of the Upcountry / Kihei Highway Task Force. We are full aware of the importance of choosing a workable alignment versus one plagued with problems or weighted by special interests.

Thanks again for listining, and could you please forward the origin / destination studies and any reports filed to you on this project to help us stay current.

Much Aloha
Sincerely,

Steve Sutrov

Steve Sutrov
President,
Kula Community Association

October 17, 1994

Kihei-Upcountry Maui Highway Project
Planning Study

Rex D. Johnson, Director
Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Director Johnson,

Mayor Lingle, County of Maui, has kindly distributed copies of your letter of September 1, 1994, regarding the above subject, to members of the Kihei-Upcountry Task Force. I hope it is appropriate for me, as a Task Force member, to respond directly to your request for comments relative to "early scoping".

Your letter states that the objective of the planning study is to "select an alignment" or as I believe it might also be described -- perform a route-location study. In light of this objective, my experience leads me to question the consultant's intent to include 6A, 6B, and particularly 7 among the "alternatives".

These "alternatives" would seem better described as additional potential highway routes. They appear to serve travel desires largely different from those served by a "Pukalani to Kihei" route as shown on the DOT "Island-Wide Long Range Highway Plan". "Alt 7" is, in fact, shown on the Island-Wide Plan as a distinct, separate route described as the combined extensions of Kula and Piilani Highways.

"Alternative 6A/B", not yet included in the Island-Wide Plan, might provide another useful additional route but, because of the 1500' climb and longer travel distance, probably would be used by very few of the drivers traveling between Haiku-Makawao-Pukalani and Kihei-Wailea -- the high-volume traffic corridor.

Retaining these alternatives in this study would be mixing three steps in the planning process which should be discrete, sequential steps -- island-wide system determination, priority setting, and route-location. Priority, rather than route-location, study should weigh the relative importance of:

- -serving the heavy travel demand corridor,
- -serving the future needs of yet undeveloped homelands,
- -providing an interesting scenic/tourist connection via Ulupalakua.

Of course when the travel benefit/cost comparisons are made "Alternatives" 7 and 6A/B should drop out of serious contention, but why muddy the waters in the first place?

Sincerely,

John W. McDonald
RR 2, Box 230C Kula Highway
Kula, Hawaii 96790

copy: Mayor Lingle

Shinwa Golf Group

September 22, 1994

Mr. Rex D. Johnson, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813-5097

Attention: Mr. Ronald Tsuzuki

Dear Mr. Johnson:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS 9203 (1)

We are taking this opportunity to respond to your letter dated September 1, 1994, with regards to the planning studies for the proposed Kihei-Upcountry Highway on the island of Maui.

Our review of the proposed alternative alignments, in particular alternatives 3 and 4, leads us to believe that these routes may impact two parcels owned by Shinwa International, Inc. Perhaps, the Schematic Plan of Alternative Alignments prepared by Warren S. Unemori Engineering, Inc., revised August 19, 1994, can be supplemented with a map identifying the parcels affected by these proposed alignments.

Due to the proximity of these proposed alignments, we would appreciate your consideration to be included in any subsequent review processes.

Thank you for this opportunity to comment. Should you have any questions, please do not hesitate to contact us.

Very truly yours,

Greg Wong
Vice President

SHINWA GOLF HAWAII CO., LTD. • SHINWA GOLF RESORT SERVICE HAWAII, INC.
2255 Kuhio Avenue, Suite 1600 • Honolulu, Hawaii 96815 • Telephone (808) 924-3900 • Facsimile (808) 922-8356

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JOHN WAIHEE
GOVERNOR

REX D. JOHNSON
DIRECTOR

DEPUTY DIRECTORS
KANANI HOLT
GLENN M. OKIMOTO
JOYCE T. OMINE
CALVIN M. TSUDA

IN REPLY REFER TO:

HWY-PA
2.3146

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

October 11, 1994

Subject: Environmental Scoping Meeting
Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

We will be conducting an environmental scoping meeting with the environmental agencies and other interested parties that are expected to participate in the consultation and coordination of the Kihei-Upcountry Maui Highway Environmental Impact Statement (EIS). The purpose of the scoping meeting is to provide a forum to discuss the scope of the environmental studies and EIS that will be prepared for the project.

The meeting will be held on Wednesday, October 26, 1994, at 1:30 p.m. in the office of Parsons Brinckerhoff Quade and Douglas, Inc., Pacific Tower Suite 3000 at 1001 Bishop Street.

If you have any questions, please call Mr. Ronald Tsuzuki, our Head Highway Planning Engineer, at (808) 587-1830.

Sincerely,

for Rex D. Johnson
Director of Transportation

Enclosure

PB 100 YEARS

Memorandum

TO: FILE

FROM: DENEITRA M. GREEN

DATE: NOVEMBER 2, 1994

RE: KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
SCOPING MEETING
OCTOBER 26, 1994, 1:30 P.M.
PB MAKAI CONFERENCE ROOM

IN ATTENDANCE:
DEPT. HAWAIIAN HOME LANDS - LINDA CHINN
MAUI COUNTY PUBLIC WORKS - GEORGE KAYA
MAUI COUNTY PLANNING - JULIE HIGA
DOH, CLEAN WATER BRANCH - DENENDER NAKALA
SDOT - RON TSUZUKI
SDOT - KENNETH AU
SDOT - OWEN LIU
WSU - WARREN UNEMORI
PB - DAVID ATKIN
PB - DENEITRA M. GREEN
PB - CRYSTAL JOHNSON

MEETING SUMMARY

The meeting was held to consult with appropriate agencies about the proposed Kihei-Upcountry Maui Highway Project prior to the preparation of the environmental assessment (EA).

SDOT described the meeting's purpose and introduced the project team.

WSU defined the project location and points of significance, including the Maui R&T Park in Kihei and Science City at Haleakala. The project's history of more than 20 years was described. At least four different studies have been conducted, including the 1970 study conducted by Maui County, the Maui County Toll Road Study, the Maui Long-Range Highway Planning Study, and the State/County Task Force Final Report. Eight Build alternatives were presented in terms of their termini, zoning designations, and current land uses.

WSU described the highway's design criteria. The proposed highway would be a rural arterial with limited access. The highway would have a maximum design grade of 7.0 percent. The typical section would require a 160-foot minimum right-of-way consisting of four 12-foot lanes, paved shoulders on either side, and a 30-foot median. The project's design year is 2022.

PB described the environmental process and the major milestones of the project.

PB explained that a coordination and consultation letter was mailed on September 1, 1994 to various agencies and interested parties, requesting data and comments. To date, SDOT has

received some responses to the initiation letter. Subsequent letters were then sent to invite appropriate agencies to this meeting.

The EA is expected to be issued in December 1994. Concurrent with its publication, an Environmental Impact Statement Preparation Notice (EISPN) will be published in the Office of Environmental Quality Control (OEQC) Bulletin and a Notice of Intent (NOI) will be published in the Federal Register. This will trigger both the National Environmental Protection Act (NEPA) and Chapter 343, Hawaii Revised Statutes (HRS) processes.

The EA is expected to include the eight Build alternatives previously described, the No-Build alternative, a public transit/TSM alternative, and an alternative which explores the widening of existing roadways. It will identify those areas where impacts could be significant or where the level of impact is unknown. The EA is expected to recommend the preparation of an EIS. Two public information meetings, one in Kihei and one in the Upcountry area, are expected to follow the completion of the EA.

Screening criteria are presently being developed and input on the criteria was requested. Following the completion of the EA, the criteria will be applied to the alternatives to narrow them to three.

After completing the screening analysis, the draft EIS will be prepared. The following topics, among others, will be emphasized:

- farmland conversion;
- archaeology;
- endangered and threatened species;
- traffic impact;
- cost/benefit analysis; and
- social impacts.

The draft EIS is expected to be completed in January 1996. The draft EIS:

- will disclose the results of the screening analysis;
- will analyze the No-Build alternative;
- will analyze the three Build alternatives in detail; and
- will not disclose the preferred alternative.

Public hearings will follow the issuance of the draft EIS. After publication in the OEQC Bulletin and the Federal Register, a 45-day comment period will ensue.

The final EIS will disclose the preferred alternative and respond to the comments received on the draft EIS. The Record of Decision will be approved after allowance of a minimum 30-day review period from the publication date of the final EIS (in the Federal Register).

Parties on the mailing list will receive notices of meetings and the draft and final EISs. Today's meeting attendees are automatically included on the list. Suggestions of additional names for inclusion on the list should be made in writing to the Chief (SDOT) or by phone to Ron Tsuzuki (SDOT).

A comment sheet provided an avenue for the participants to express relevant concerns.

Finally, the scoping meeting concluded with general discussions, summarized below:

Comment: Since "directness to Haleakala" is one of the listed screening criteria, "access to the Maui R&T Park" should be included as a criteria.

Question: The State/County Task Force recommended that a spur be constructed to provide access to the Hawaiian Home Lands. Will this be included in the project?
Response: No. The spur does not satisfy the project's objectives.

Question: Does the Hawaiian Home Lands have plans for their area?
Response: Yes.

Comment: Alternative 6 would provide access to Hawaiian Home Lands from Upcountry.

Comment: Maui County Public Works Department has received calls concerning impacts to small family-owned farms.
Response: WSU explained that Alternative 4 would be the only alignment to traverse a small, family-owned farm parcel. Presently, the land is not being farmed but is being used for limited grazing.

Comment: The Kula Community Association wants the Upcountry terminus located below Pukalani.
Response: Engineering and traffic limitations may not make this alignment as feasible as others.

Question: When will the screening analysis be completed?
Response: The screening process will be completed in February or March , 1995.

Question: Will there be another public opinion survey, similar to the one that the Task Force administered?
Response: No. However, the public input process is ongoing. There will beopportunities for the public to comment, including the meetings to be held after issuance of the EA and the public hearings on the draft EIS.

Comment: A recommendation was made to change the Kihei terminus of Alternative 4 from the Maui R&T Park at Lipoa Street to Kaonoulu Street. This revision would better serve commuters from Lahaina.
Response: Comment to be considered.

DISTRIBUTION:

Meeting Participants
Herb Tateishi
Werner Beuggert

Memorandum

TO: FILE

FROM: DENEITRA M.G. HUTCHINSON

DATE: OCTOBER 31, 1995

RE: KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
OCTOBER 18, 1995; 7:00 P.M. PUBLIC INFORMATION MEETING
KIHEI SCHOOL CAFETORIUM

IN ATTENDANCE: SDOT HIGHWAY PLANNING - RON TSUZUKI
SDOT MAUI DISTRICT - BOB SIAROT
WSU - WARREN UNEMORI
WSU - DARREN UNEMORI
WSU - CLIFFORD N. MUKAI
PB - DAVID ATKIN
PB - DENEITRA M.G. HUTCHINSON

Approximately 35 meeting attendees (see sign-in sheets--attached)

MEETING SUMMARY:

The following summarizes oral comments presented during the public information meeting held at the Kihei School Cafetorium on October 18, 1995.

Commenter - Carla Flood, Kihei Community Association

Enthusiastic about the project and supports the link between the Maui R&T Park and Science City at Haleakala.

Commenter - Greg Vainowski

1. Estimated that about 1,500 Upcountry residents presently commute to work daily, traveling 42 miles one-way.
2. People would need the proposed highway as growth and expansion of the Upcountry area continues into year 2020. As homes are built Upcountry, residents will need to travel to Kihei for hotel/tourist-related jobs.
3. Favors Alternative 5.

Commenter - Susan Ray, South Maui Chiropractic Group

Supports Alternative 5 because of its cost. Why is the cost of Alternative 5 so much less than the others?

Commenter - Kenny Barr

Proposed highway would benefit Upcountry residents commuting to Kihei, Lahaina, or Wailea. Therefore, supports Upcountry terminus near Pukalani Bypass and Kihei terminus at the Maui R&T Park or further north.

Commenter - Phil Christopher Realty

Will costs associated with each alternative be modified to include land acquisition?

Commenter - Gene Thompson, Sun Maui Times

Questioned Hawaiian Home Lands opposition to constructing proposed highway. Thought it facilitated development of Hawaiian Homes parcel Upcountry.

DISTRIBUTION:

K. Au - SDOT
S. Chang - SDOT
B. Siarot - SDOT
W. Unemori - WSU
D. Hutchinson - PB
D. Atkin - PB
W. Beuggert - PB
W. Yoshioka - PB

KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 18, 1995 • 7:00 P.M.
KIHEI SCHOOL CAFETORIUM

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS	PHONE #
21	Sam Mauman	TROOP 55 B.S.A.	116 Koki St	871 3842 (PGR)
22	Channing Mahuhay	Troop 55 B.S.A.	382 Kenolio Rd.	879-8097
23	Doug Wood	Troop 55 B.S.A.	160 Keonekai Rd 4-206 Kihei	874-7471
24	Robert Leonesio	Self	Maui Meadows	
25	Susan S. Ray	S. Maui Chiropractic Group	2180 Haukai Place Kihei	875-4603
26	Kenny Barr	Maui Planning Commission South Maui	P.O. Box 1637, KIHEI	879-6050
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KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 18, 1995 • 7:00 P.M.
KIHEI SCHOOL CAFETORIUM

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#	NAME	ORGANIZATION	ADDRESS	PHONE #
1	Mike Wilkinson		3184 Wahenawai St Kihei 96753	875-1375
2	Gloria Adlawan	Kihei Community Assn	760 S. Kihei Rd #301 Kihei	879-5246
3	Donald Kenney		2164 Aluna Pl Kihei	8790665
4	Carla Flood	Kihei Comm. Assn.	1396 W. Ikena Kai Kihei	879-1775
5	[illegible] Magnuson	Sun Times	2531 S. Kihei, Kihei 96753	879-2281
6	D. Malotka	Self	39 Hale Mahu Pl Lahaina HI	669-5224
7	Elias Demas	Troop 55 Boy Scouts	413 Humupea Pl.	874-4020
8	Brian Bakes	troop 55 BSA	67 Poniano	874-2491
9	Justin Shaffer	Troop 55 BSA	5240 Kawika St	874-3154
10	Josh Jones	troop 55 B.S.A.	567 kupulau	874-1155
11	KEN NAKAKAWA	Austin, Tsutsumi & Associates, Inc.	1871 Kaiolu Loop Kihei HI	242-8044
12	Zac Alexander	Self	~~Maui Meadows~~ Box 1352 Makawao, HI 96768	
13	Brian Perry			
14	LARRY BROOKS	MAUI COUNTY PLANNING	250 High St Wailuku	243-7735
15	[illegible]	Scout Yainowski	12[illegible] Kihei, HI	879-5756
16	[illegible]	SELF	1[illegible] Kihei HI	879-8386
17	[illegible]	MPSCF	P.O. Box 2[illegible] Kihei	879-7871
18	[illegible]	← Phil Christopher Realty	P.O. Box 38 Kihei	874-0106
19	[illegible]			
20				

Memorandum

TO: FILE

FROM: DENEITRA M.G. HUTCHINSON

DATE: OCTOBER 31, 1995

RE: KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
OCTOBER 17, 1995; 7:00 P.M. UPCOUNTRY PUBLIC MEETING
UPCOUNTRY COMMUNITY CENTER

IN ATTENDANCE: SDOT HIGHWAY PLANNING- RON TSUZUKI
SDOT MAUI DISTRICT - BOB SIAROT
WSU - WARREN UNEMORI
WSU - DARREN UNEMORI
WSU - CLIFFORD N. MUKAI
PB - DAVID ATKIN
PB - DENEITRA M.G. HUTCHINSON

Approximately 80 meeting attendees (see sign-in sheets--attached)

MEETING SUMMARY:

The following summarizes oral testimony presented during the public information meeting conducted by the State Department of Transportation.

Commenter - Richard Cameron, Hawaiian Commercial & Sugar Co., Plantation Gen. Manager

Please see attached written comments.

Commenter - Charles Maxwell, Waiahuli Community Association

1. Alternative 6 was never part of the task force report.
2. Preference for a route that would touch the bottom of the Hawaiian Home Land property without taking Hawaiian Homes land.
3. Considers the "No Build", with widening improvements to existing roadways, a viable and possibly less expensive alternative than the build alternatives.

Commenter - Dan Evert

1. Concerned about the No Build not passing the screening analysis.

KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 18, 1995 • 7:00 P.M.
KIHEI SCHOOL CAFETORIUM

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS	PHONE #
41	JAMES AARONA		1450 S. KIHEI RD. #209	874-3221
42	JACK KISTER		2537 S. KIHEI RD #502	875-2708
43	SHARON YUEN	TROOP 55 BSA	328 KAIWAHINE ST.	879-7529
44	CALEB RIVERA	" "		
45	ROBERT RIVERA	" "		
46	RAMON CANETE	" "	213 HUMUPOA PL.	879-4020
47	KITTI FOED			
48	STEWART FEED			
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2. Suggested using telecommunications and high-tech communication improvements to reduce the need to travel between Maui R&T Park and Science City.
3. An update to the Makawao-Pukalani-Kula Community Plan has just recommended maintaining the rural characteristics of the Upcountry area. The roadway would disrupt this way of life.

Commenter - Mary Evanson, Maui Conservation Council

Requested better maps in the draft EIS than were provided in the EA.

Commenter - Dick Mayer, Upcountry Citizens Advisory Committee (CAC), Vice-Chair

1. The presentation did not reference the alignment alternative for the roadway which is contained in the recently released CAC version of the update to the Makawao-Pukalani-Kula Community Plan. The CAC recommended an alignment similar to Alternative 2, with its Upcountry terminus near Haliimaile Road and the Kihei terminus near the Maui R&T Park.
2. Strongly supported the No Build alternative and wanted it considered a viable alternative throughout the development of the EIS.
3. Would like the project to consider the possibility of relocating defense operations from the Maui R&T Park to a site closer to Science City, or use telecommunications to reduce need for travel.
4. Is this an official scoping meeting? If not, you must have an official scoping meeting in case of a legal challenge.
5. Need to update 1991 and 1992 numbers used in the EA to reflect 1995 figures.
6. Clarify whether project is a four-lane or two-lane highway, and whether the construction costs being provided correspond to the four-lane or two-lane concept. The EIS will need to address cost of the four-lane highway. The cost estimate needs to include right-of-way costs and looks low.
7. The real reason for the road is tourist travel. Hopes that the EIS addresses impact of tourist travel through rural area.
8. Concerned about increased accessibility that the roadway will bring to the area. Crime is three to four times higher in Kihei than Upcountry and therefore road will increase crime rate Upcountry.

Commenter - Nancy Gillingham

1. On a scale of 1-10, what is the likelihood of the roadway being built?
2. If the project is not built within the next four years, will the project disappear?

3. How many residents live Upcountry and work in Kihei? Is there a need for the project? How many people travel between the Maui R&T Park and Science City? What are the future travel projections? Have there been travel studies? Will the State calculate the cost per commuter or scientist?

Commenter - Richard Pohle

1. Disagrees that there is a linkage need between Maui R&T Park and Science City.
2. Thinks that the true reason for the proposed roadway is to get Upcountry residents into Kihei.
3. While he supports the project, he believes that voters should determine whether the project should proceed via referendum.

Commenter - Sally Raisbeck

1. Believes that there is not enough traffic between Science City and Maui R&T Park to justify building a highway. The EIS should be very specific about the levels of the Maui R&T Park and Science City traffic; the number of people who would use the roadway; and time savings as compared to the No Build alternative. Sensed that there would be only a small travel time savings that would benefit only a few people.
2. Thought it might be less expensive to shuttle people between the two locations via helicopter.
3. Future expansion of the Upcountry area is limited because of Haleakala National Park.

Commenter - Calvin Nemoto, Pukalani Community Association

Questioned whether federal funds would be contributed if the No Build alternative were selected, and whether payment would be an 80% (federal)/20% (State) split.

Commenter - John McDonald, Kula Community Association

Requested greater analysis of the benefit/cost ratio. Wanted benefit/cost analysis included in the future studies. Recommends that the selected alternative be the most cost effective.

Commenter - Sidney James

Is it true that if Kihei-Upcountry Highway is built, Puunene Bypass will not be built?

Commenter - Phil Mulligan

1. Challenged survey that showed only 3 percent of population opposing the road. In general, Kula residents don't want the roadway. Therefore, the percentage of residents opposing the project must be greater than 3 percent.
2. Objects to roadway because of resultant adverse impacts.

Commenter - Steve Sutrov, Kula Community Association

1. Which highway improvements will be included in the No Build alternative?
2. Is Alternative 7 part of the No Build alternative?
3. The Kula Community Association voted in favor of building a new roadway two years ago. At that time, they favored an alignment with an Upcountry terminus near Haliimaile Road, similar to either Alternative 1 or 2. Now a roadway might be favored that has its lower terminus facilitating travel to Lahaina. However, since new members now sit on the board, they will need to re-vote on whether they favor the road or the No Build alternative..

Commenter - Masami Hironaka

1. Project could resemble H-3 project on Oahu and experience cost overruns. Link between Maui R&T Park and Science City is not the true justification for constructing the road since very few commuters would actually use the road, just as the defense-related reason was not the true reason for building the H-3 project. The real reason for the proposed highway is to help get tourists and residents around.
2. Senator Inouye has secured federal funds. If Maui residents don't want the road now, federal funding may be lost, and the island may not get a new roadway later when it is really needed.

Commenter - Laura Paresa, registered nurse

Quite concerned about access and response time for emergency medical service vehicles reaching accidents that might occur along the alignment.

Commenter - unknown

1. What is the actual cost of each alternative as a four-lane highway?
2. The project does not have to be constructed simply because funding is available. The Senator will not support a project the community does not support.
3. Level of social impact on Kula would be severe for the residents who live there. An urban environment would be introduced into an existing rural one.
4. The Omaopio area, in particular, would be most severely impacted. Since there could be an intersection between Omaopio Road and Kihei-Upcountry Highway, Omaopio Road would have to handle increased traffic if the proposed highway is constructed, and since Omaopio Road is only 14 feet wide, there are safety concerns with respect to increased traffic volumes.
5. How much use would the proposed highway actually get?
6. How much travel time would the proposed highway save?

Commenter - Kenneth Okamura

1. Concerned about the impacts to agricultural activity Upcountry, the State's premier area for flowers and vegetables.
2. Disputes statement in EA, Section 3.1, which states that the project "might enhance farming." Sees proposed road as having only adverse impacts on farming. Predicts that the road would increase housing supply and water demand; accelerate the loss of agricultural lands; cause more tourists to become nuisances to farmers; disturb rural lifestyles; adversely affect access to the harbor for trucks carrying agricultural products from Upcountry via Omaopio Road; and create safety concerns at the intersection of Omaopio Road and Kihei-Upcountry Highway.

Commenter - Steve Burgelin, Casanova, Inc.

1. As a restaurateur, supports the proposed highway and notes that tourism benefits the entire Upcountry community, either directly or indirectly. For example, he stocks his restaurant with produce and flowers from several local vendors. Increased tourism would expand the Kula economy.
2. Is concerned about the pace of the project. Wants the road to open before he retires.
3. Kula is already a bedroom community, and Kula residents already need to commute to non-farm related employment centers. The opportunity for Kula residents to take non-farm related employment would grow with the proposed roadway because Kula residents would have increased access to employment opportunities and roadway congestion would be less.

KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 17, 1995 • 7:00 P.M.
UPCOUNTRY COMMUNITY CENTER

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS	PHONE #
1	ARIC ARAKAKI	HAWAIIAN HOME LANDS	335 Merchant St. Hon. Hi. 96	586-3815
2	CAROLYN DARR	" " "	" " "	586 38 21
3	SIU TAMANAHA		C5C-A Kula, HI 96790	878-1933
4	Carla Mauli		82 Makawao Rd 96768	572-8883
5	Guy Mauli		" " "	" " "
6	SALLY RAISBECK		427 Liholiho St Wailuku	244-9604
7	KITII FORD	STEWART FERN CKG	44623 KANEOHE BAY DR - KANEOHE	235-7600
8	Hawaiʻi Farm	SP " " "	" " "	" " "
9	Mary Evanson	Maui Conservation Council	Box 694 Makawao 96768	572-9424
10	Randall Moore	HC&S	PO Box 266, Puunene, HI	877-6968
11	Dan Aaki	DHHL	1063 E. Main St	243-5265
12	Charles K. Maxwell	Waiakoi Coffee Association	157 Kiloa Place Pukalani	572-8038
13	DAVID KEALA	DEPT. OF EDUCATION	1111 Hoff St Wailuku	243-7060
14	CLIFFORD NAKAI	U.S. WEATHER	2145 WELLS ST SUITE 403	242-6403
15	Celestine & Masami Lindsey		685-B Omaopio Rd Kula	878-2038
16	Jamie Fonseca		105 Kulakani Dr. Kula	878-2789
17	DAVID BLANE	County of MAUI	200 S High St - WAILUKU	243-7735
18	DENNIS SMITH		9641 POLIPOLI KULA	878-3859
19	Warren Suzuki	DLNR Kamehameha Pineapple Co, Inc.	Kahului, Maui.	877-3884
20	Edmond Tavares	~~DOT~~	110 Lexi mele pl Kula	8786302

Memorandum to file
Page 6
10/31/95

Commenter - unknown
Would like to see an additional alignment (Alternative 11) that presents improvements to existing roadways that go beyond the proposed No Build roadway improvements and are not included in the Maui Long-Range Highway Plan

DISTRIBUTION:

K. Au - SDOT
S. Chang - SDOT
B. Siarot - SDOT
W. Unemori - WSU
D. Hutchinson - PB
D. Atkin - PB
W. Beuggert - PB
W. Yoshioka - PB

KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 17, 1995 • 7:00 P.M.
UPCOUNTRY COMMUNITY CENTER

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS	PHONE #
41	John W Hoxie, Jr		PO Box 601, Puunene, Hi	96732-6801
42	Steve Systrom	Kula Community Assoc	P.O. Box 417 Kula 96790	878-2731
43	Richard Carlson	HC&C	P.O. Box 266 Puunene	877-3198
44	Masami Hiramatsu	—	145 Pulehunui Rd Kula 96790	878-8532
45	James Fernandez		1013 Haalaman pl Kihei	879-9516
46	Nancy Gillingham	—	268 Copp Rd Kula 96790	878-1664
47	Chas Gillingham		1119 Chela Pl. Kula	878-6645
48	Victoria Pauda		346 Nalani Street Pukalani	572-6414
49	Clay Couture		291 Ehulani Pukalani	572-3055
50	Nancy Couture	Pukalani Comm. Assoc	291 Ehulani Pukalani	572-3055
51	SEN AVERY Chumbley		SOT 408	
52	Mike Singlehurst		P.O. Box 396 Kula, Hi	8786516
53	Steven & Robin Newhouse		RR2 Box 165 Keokea	8760456
54	Bob Johnson	County of Maui E. Dir	DOS Hish Stabilization	243-7710
55	John W Mc Donald	Kula Comm. Assoc.	230C Kula Hwy Kula	878-6906
56	Gretchen Ladley		2634 Iolani Pukalani	5725550
57	Kenneth Clement	self	HC2 Box 91	[illegible]
58	Richard Hahn	self	RR1 Box [illegible]	[illegible]
59	Mark Lawyer	—	1508 Pulehunui Rd Kula	878-1003
60	Wayne Uradomo	farmer	PO Box 1268 Kula Hi	878-6988

KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 17, 1995 • 7:00 P.M.
UPCOUNTRY COMMUNITY CENTER

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS	PHONE #
21	Calvin Nemoto	Pukalani Community Assoc	261 Liliuokalani St, Pukalani 96768	572-8986
22	Brian Perry (Perry)	The Maui News	100 Mahalani St, Wailuku	242-6340
23	Ken Kirchmayer	County Dpw	RT 3 Box 648 Kula	878-1295
24	Perry O. Artates	Hawaii Operating Engineers Industry Stabilization Fund	1164 Lower Main Wailuku, 96793	242-9444
25	E.T. Tsuji	Hon Adv	PO Box [illegible] Pukalani	244-4886
26	Jerry Ornellas	Self	PO Box 145 Kula	878-6871
27	Nancy Montoya	Malama Realty	151 Hiwalani Loop Puk	572-6523
28	(Sue Stevens)	Kula 2000	172 Aoli Dr Pukalani	572-7191
29	CHARLIE JENCKS	COUNTY OF MAUI DPWRM		243-7845
30	Rev. DAVID BAAR		PO Box 427 Kula	878-6082
31	Meredith Chin	ACP	PO Box [illegible] Hana 96713	572-6669
32	[illegible]	State Representative	[illegible]	879-5021
33	KC Schmidt	Corp Counsel COM		243-7140
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KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 17, 1995 • 7:00 P.M.
UPCOUNTRY COMMUNITY CENTER

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS / ZIP CODE	PHONE #
81	Dick MAYER	UPCOUNTRY C.A.C. V-CHAIR	RR1 Box 518 KULA 96790	878-1874
82	Mabel Lupez	Makawao Com. Assn.	Box 1203 Makawao	572-7342
83	MR. & MRS. ANTHONY DeBOLE	SELF	PO BOX 1781, MAKAWAO, HI 96768	572-7780
84	DAN EVERT	SELF	2760 ~~Pulehu Rd~~ Kula Hwy. Pukalani	572-974,
85	Scott Matsumura	~~ATM~~ A and B	P.O. Box 5888 Kihei HI 96753	875-4644
86	William D. Smith		P.O Box 927, Wailuku 96793	878-6776
87	Cynthia Conrad	—	34 Hiwalani Loop, Pukalani, 96768	572-6548
88	[illegible]	CAC.	304 Alakani St Pukalani 96768	572-[illegible]
89	[illegible]	[illegible]	[illegible]	[illegible]
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KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT
PUBLIC INFORMATION MEETING
OCTOBER 17, 1995 • 7:00 P.M.
UPCOUNTRY COMMUNITY CENTER

PLEASE PRINT

#	NAME	ORGANIZATION	ADDRESS / ZIP CODE	PHONE #
61	Joseph P. Cooke Jr.	RESIDENT	372 Aulii Dr. Makawao 96768	572-0222
62	Julie Higa	Resident / ~~[illegible]~~	187 Aloli Place 96768	243-7735
63	Myrle Sakamoto Sullivan	Resident	1135 Mamo ~~Rd~~ Drive	878 6186
64	Laura Paresa	Resident	27 Aeloa Rd Pukalani	572-0193
65	TOM & NANCY HOEFFKEN	RES.	220 H. AHINAHINA PL, KULA	876 0418
66	Henry Hildebrand	Resident	217 Kula Highway Kulau 96790	878-2096
67	David + Sydney Sukuguza	Residence	Box 657 Omaopio Kula 96790	8781497
68	Ry Barbin	Maui Rep. - Sen. Inouye	24 N. Church St, Wailuku 96793	242-9702
69	Nikhi Lananda		P.O Box 1704 Makawao 96768-1704	572-8787
70	Cliff Greer	Pacific Rim Real Est	P.O Box 995 Paia 96779	579-8580
71				
72				
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78				
79				
80				

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

IN REPLY REFER TO:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

NOTICE

KIHEI-UPCOUNTRY HIGHWAY PUBLIC INFORMATION MEETINGS

The Department of Transportation (DOT), Highways Division announces that it will hold two public information meetings on the proposed Kihei-Upcountry Highway project. The first will be conducted on May 15, 1996, at 7:00 p.m. at the Upcountry Community Center in Pukalani. A second meeting will be held the following night, May 16, 1996, at 7:00 p.m. in the Kihei School Cafetorium, (250 Lipoa Street). The meetings follow-up the October 1995 meetings which presented the conclusions of the Environmental Assessment and ten alternative alignments for the proposed roadway. The purpose of the May meetings is to inform the public of the screening analysis that has been conducted since October, and to present the three alternative alignments proposed for detailed study in the draft Environmental Impact Statement.

The proposed Kihei-Upcountry Highway would be a 15.4 kilometer (9.6-mile) highway that would link the coastal area of Kihei (Piilani Highway) to Upcountry Maui at either Haleakala Highway or Kula Highway. The highway would be generally aligned in an east-west (mauka-makai) direction.

For additional information, please contact Ron Tsuzuki of DOT at 808-587-1830.

Kazu Hayashida, Director
Department of Transportation

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Kihei-Upcountry Highway Project
Maui, Hawaii

State of Hawaii • Department of Transportation • Highways Division
U.S. Department of Transportation • Federal Highway Administration

Project Description

The Hawaii Department of Transportation and the Federal Highway Administration (FHWA) are sponsoring the construction of a rural, limited access arterial roadway that would connect the coastal area of Kihei to the Upcountry area of Maui. The proposed highway would range between 14.1 kilometers (8.8 miles) and 16.9 kilometers (10.5 miles). It would link the coastal area of Kihei (Piilani Highway) to Upcountry Maui at either Haleakala Highway or Kula Highway.

Tier One Screening

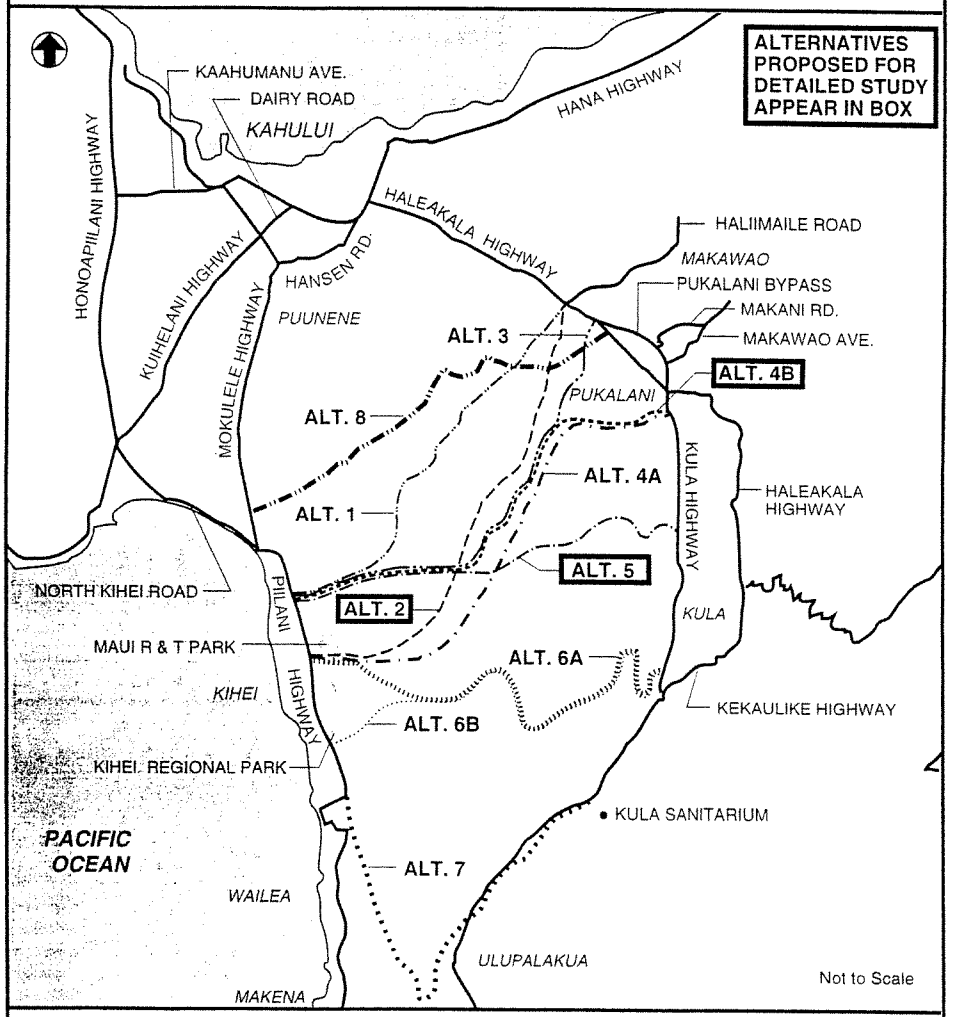
Criterion	Alt 1	Alt 2	Alt 3	Alt 4A	Alt 4B	Alt 5	Alt 6A	Alt 6B	Alt 7	Alt 8
Design Feasibility	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Benefit-Cost (ratio)	Y 0.98	Y 1.00	Y 1.12	Y 0.95	Y 1.41	Y 1.58	N 0.41	N 0.26	N -0.04	Y 1.14

Tier Two Screening

Criterion	Alt 1	Alt 2	Alt 3	Alt 4A	Alt 4B	Alt 5
Agricultural Impact						
cane and pineapple field encroachment (hectares)	5 56.2	3 28	4 32.6	2 16.4	3 21.6	1 5.9
Operations	B	B	W	B	B	B
Cost ($ million)	3 54	3 52	2 46	4 73	2 47	1 37
Conformance With Community Plans						
Makawao-Pukalani-Kula Plan	N	N	N	N	N	N
Kihei-Makena Plan	Y	Y	Y	Y	Y	N
Endangered & Threatened Species	1	1	2	4	3	5
Access to Hawaiian Home Lands	W	B	W	B	W	W
Visual Impact (million cubic meters of earthmoving)	2 1.5	2 1.3	2 1.4	3 2.4	2 1.4	1 1.1

Legend: 1-5 - Best to Worst; Y - Yes, N - No; B - Better, W - Worse; - Cause for Elimination

Project Alternative Alignments



Comments

If you wish to comment, please mail or deliver comments by May 31, 1996, to the following address:

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Memorandum

DRAFT

TO: FILE

FROM: DENEITRA M.G. HUTCHINSON

DATE: JUNE 10, 1996

SUBJECT: KIHEI-UPCOUNTRY HIGHWAY
PUBLIC INFORMATIONAL MEETING

DATE & TIME: WEDNESDAY, MAY 15, 1996

LOCATION: PUKALANI UPCOUNTRY COMMUNITY CENTER

IN ATTENDANCE:

SDOT:	BOB SIAROT
SDOT:	RON TSUZUKI
WSU:	WARREN S. UNEMORI
WSU:	DARREN UNEMORI
WSU:	CLIFFORD MUKAI
PBQD:	DENEITRA M.G. HUTCHINSON
PBQD:	DAVID ATKIN
PUBLIC:	SEE ATTACHED SIGN-IN SHEET

MEETING SUMMARY

SDOT conducted a public informational meeting on the status of the proposed Kihei-Upcountry Highway project. This meeting was a follow-up to the October 1995 meeting in which ten alternatives were introduced to the public. Approximately 57 individuals were in attendance.

Bob Siarot presided over the meeting that began with introductions of the project team members. Next, Warren Unemori summarized the project's progress and findings to date. David Atkin described the screening analysis and how ten alternatives were screened down to three recommended for study in the draft Environmental Impact Statement (EIS).

COMMENT SESSIONS

A brief intermission followed the presentation to allow the participants to view the exhibit boards. After 15 minutes, the meeting was opened for comments. Whenever possible, the commentator is identified in parentheses preceding the question or comment.

(Gage Schubert, Kula Glen)
C: Where is the growth in population density projected to occur. Concerned about how the through traffic along Alternative 5 will affect the Kula Glen area.

(Peter Sisco)
C: What is the purpose of the proposed road? Who will it serve?

(Brett M. Klyver, Maui Research & Technology Park)
C: Read written testimony (see attached).

(Richard Kellom)
C: Suggested that Alternative 1 be reconsidered since agricultural impact may not be that important to the future of the island. Considering the cost, Alternative 1 is only $2 million more costly than Alternative 2. But, Alternative 1 would intersect only one existing roadway (Pulehu Road), while Alternative 2 would intersect two roadways (Pulehu Road and Omaopio Road).

(Steve Sutrov)
C: Ultimately favored the No Build Alternative. However, also felt that Alternative 1 needed to be reconsidered since agricultural impacts should not be so heavily considered. Compared Alternative 1 to Alternative 2 which would intersect two existing roads, to the one road that Alternative 1 would affect.

(Unidentified)
C: Agreed with screening conclusion that Alternative 1 should not be considered. Favors Alternatives 2 and 4B. These two alignments would provide commuters a choice of routes.

(Buck Joiner, Kihei Community Association)
C: Prefers Kihei terminus as far south as possible since existing access to Kihei is via North Kihei only. The Mokulele/Piilani Highway intersection is presently a choke-point. The proposed Kihei terminus could be a second evacuation route. In the Upcountry area, a preference was made for a terminus above Pukalani, not Haliimaile Junction, which is presently too congested.

(Sam Clark, President of Haiku Community Association)
C: Concerned about future traffic volumes on Kaupakalua Road. This is an older sub-standard road that would not be able to handle additional traffic if Alternative 2 is selected.

(Nancy Hoeffken)
C: Favors Alternative 5 because lots of congestion currently exists in Pukalani. Is especially concerned because of the new high school in Pukalani near the mauka terminus of 4B and the students having accidents because they are not experienced drivers.

(Sam Hironaka)
C: Favored Alternative 7 because of low cost, donation of ranch land for roadway, no gulches to cross, the extension of existing Piilani Highway (which has been long-

planned), tourist benefits, far south Kihei terminus, minimal 4.5 miles of highway, and secondary escape route for Kihei.

MEETING ADJOURNED

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: 5/15/96

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

UPCOUNTRY, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
Buck Joiner	3443 Malina Kihei 96753	Kihei Community Assn	874-2825
Alan Kajihiro DVM	POB 297 Kula 96790	Kula Cor Center	878-6882
Mary Evanson	PO Box 694 Makawao 96768	SELF	573-9724
Randall Moore	PO Box 266 Pukalani	HC #5	877-6968
Robert Kivor	219 Halelani St Pukalani 96768	HC #3	877-6923
Ted Sered	130 Haele Pl. Makf 96768	—	5731845
DAVID DARLING	RR 2 Box 726 Kula 96790	SELF	878-1271
PATRICK-TAHE	PO BOX 510 KULA 96790	SELF	878 1678
JERRY Simpson	P.O Box 145 Kula 96790	Self	878 6871
Brian Perry	100 Makalani St. Wailuku 96793	Maui News	242-6340
NIKHILANANDA	P.O. BOX 1704, MAKAWAO, 96768-1704	MAUI COUNTY/Hawaii's Green Party	572-8787
Tom Morrow	PO Box 2123 Kahului 96732	Maui County Council	243-7670

PAGE 2 OF 5

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: 5/15/96

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

UPCOUNTRY, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
DAVID KEALA	248 ELIKANI ST PUKALANI	Dept of EDUCATION	984-8001
SATOSHI TANAKA	RR 1 BOX 656A KULA, HI 96790		878-1733
BRETT M. KLYVER	PO Box 967, Kihei 96753	Maui Research & Tech Park	875-0856
Paige Schweikert	PO Box 548, Kula 96790	Kula Gen'l Comprehensive meeting	878-1843
Pete Hecathorn	P O Box 366 Pukalani 96788	HC #5	877-6981
EDGAR STEIN HACKENBRUCH	973 AKAKA HALIIMAILE 96768		572-5994
Christopher Deluz	P.O Box 541 Haiku HI 96708	operating Engineers local 3	5159101
ANN CLARK	60 KAPUAI RD HAIKU 96708	HAIKU COMM ASSN	572 2549
LYNN CLARK	"	"	"
Warren K. Watanabe	275 Kauchi Pl, Kula, HI 96790		878-2688
LAUREN CRAGA	32 OLELI RD, WAILUKU 96793		244-7107
IDELA KUNISAKI	POBox 494, Kula 96790		878-6531

PAGE 1 OF 5

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: May 15, 1996

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

UPCOUNTRY, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
[illegible]	RR 2 Box 18 Kula HI 96790	[illegible]	[illegible]
Jack Lesker	2531 S. Kihei Rd, Kihei, HI	—	879-2258
[illegible] Thompson	Same	Sandy Tours	575-2755
Steve Sorrow	124 Ainakula Rd. Kula 96790	P. C. citizen	878-2739
Peter Sisco	111 Kolonahe Pl. Kula	Unorganized	878-6749
Penna Clayton	PO Box 187 Kahului	Maui Land & Pine	877-3875
Karen Cadoia	223 Ululani Road Kula	—	876-0615
Doug + Ellen Kuy	1126 Ika Dr Kula	Retired	878-6604
[illegible]	189 Mano Dr		878-6[illegible]
LEONARD SAKAI	110 KAINANA PL KULA	KAISER PERMANENTE	878 2964

PAGE 4 OF 5

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: May 15, 1996

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

UPCOUNTRY, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
Ken K. Kuroyama	1871 Wili Pa Loop Wailuku 96793	Austin, Tsutsumi & Assoc. Inc.	244-8044
John W McDonald	2306 Kuhe Hwy, Kula	—	878-6406
Anna Sheehan	105 Poio Pl Kula	—	—
Doug Sheehan	" "	Maguire Benner Co.	878-2977
Mau Nakahara	275 Kaweki Kula		
JOE TANAKA	STATE SENATE	SENATE	586-7110
Kaya Kinnard	P.O. Box 494 Kula Hawaii		878-6531
Clyde Murdoch	161 Waiale Ike Pl Kihei, HI	Waiohai Resort Co	875-0105
Glen + Kuroyama	99 Nanilua St Wailuku	State Survey Road Comm.	244-5136
RICHARD F. CAMERON	P.O. Box 266 PUKALANI HI 96768	HECS	8773195
Anthony DeBose	152A IKEA PL. PUKALANI, HI 96768	SELF	572-7780
Dan Fujimoto	P.O. 1417 Wailuku HI	Self	244-1560

PAGE 3 OF 5

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: 5/15/96

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

UPCOUNTRY, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
William Spence	258 S. Hill Street, Wailuku	Maui Planning Dept	243-7735
Kathy DeBone	152-A Ikea Place		572-7780
Jessica Nishida	1bo Moanna Jr Wailuku	sports store	871-1318
RICHARD KOLLM	763 S KAMEHAMEHA RD KULA		878-3044
TINI HOEFFKEN	220 H AHINAHINA PL KUHA		876-0415
Debra Sullivan	P.O. Box 931 Paia Maui 96779		213-2174

Memorandum

DRAFT

TO: FILE

FROM: DENEITRA M.G. HUTCHINSON

DATE: JUNE 10, 1996

SUBJECT: KIHEI-UPCOUNTRY HIGHWAY
PUBLIC INFORMATIONAL MEETING

DATE & TIME: WEDNESDAY, MAY 16, 1996

LOCATION: KIHEI ELEMENTARY SCHOOL

IN ATTENDANCE:

SDOT:	BOB SIAROT
SDOT:	RON TSUZUKI
WSU:	WARREN S. UNEMORI
WSU:	DARREN UNEMORI
WSU:	CLIFFORD MUKAI
PBQD:	DENEITRA M.G. HUTCHINSON
PBQD:	DAVID ATKIN
PUBLIC:	SEE ATTACHED SIGN-IN SHEET

MEETING SUMMARY

SDOT conducted a public informational meeting on the status of the proposed Kihei-Upcountry Highway project. This meeting was a follow-up to the October 1995 meeting in which ten alternatives were introduced to the public. Approximately 24 people were in attendance.

Bob Siarot presided over the meeting that began with introductions of the project team members. Next, Warren Unemori summarized the project's progress and findings to date. David Atkin described the screening analysis and how ten alternatives were screened down to three recommended for study in the draft Environmental Impact Statement (EIS).

COMMENT SESSION

As David concluded his portion of the presentation, participants began asking questions. Since this portion of the meeting was unstructured, most comments have not been attributed to individual speakers, but whenever possible, a name is provided.

C: Why is the cost benefit for Alternative 5 so high?

C: The Kihei terminus be should be placed as far south as possible because of projected growth in the Makena area (similar to Alternative 6B). An alignment near the regional park is preferred.

C: The increased noise levels created by the highway would affect the subdivision mauka and north of Kaonolu Street. Favors Alternatives 6A, 6B, and 7 because noise impacts on this subdivision would be farther away.

C: Two Kihei connections should be considered, one north and the other south. Perhaps alignment should extend in the direction of Wailea.

(Brett M. Klyver, Maui Research & Technology Park)

C: Questioned the State legislative appropriation to study Alternative 7.

(Buck Joiner, Kihei Community Association)

C: Appreciates that Alternative 5 is the least expensive, but is concerned about constructing Alternative 5 because it would deposit large volumes of traffic onto Kimo Drive in the Upcountry area. Believes that Kimo Drive is unable to handle large volumes of traffic.

C: Also opposes alignment that would intersect at Haliimaile Road because this already congested intersection would worsen.

C: Would like to see Kihei terminus as far south as possible.

C: Supports Alternative 4B as a way to encourage the counter flow of traffic. Is aware that some oppose because of potential impact to high school, but believes that issues with high school would only occur at the open and close of the school day.

(Gene Thompson, Maui Sun Times)

C: Agrees that an alternative which terminates at the Maui R&T Park is not a good idea. Supports Alternative 5.

C: Concerned about cost differential of Alternative 4A vs. Alternative 4B. Does not think the cost is reasonable.

C: Kihei terminus should be a far south as possible to provide a back door out of Kihei in the event of disaster (i.e., fire). The road is currently unpassable or closed during bad storms.

C: Supports alignment that would use Lipoa Street.

C: Requested spur to Hawaiian Home Lands.

C: Because of the many commuters between Haiku and Makawao, there needs to be a way to reduce travel time. Favors a hybrid Alternative 1/Alternative 2, but not at the expense of traversing the Maui R&T Park.

(William Spence, Maui Planning Department)

C: Planning Department offered the latest versions of community plans for analysis. Upcountry community favors alternative in the vicinity of Haliimaile Road.

C: Recognized A&B planned development along Omaopio Road.

C: EIS should address visual and secondary impacts since the highway would be more than a connector. It would open up growth in the corridor.

C: Supports Alternative 4B because it would provide an escape route from Kihei.

C: Recommended hybrid of Alternatives 3 and 8 (mauka portion of Alternative 8 and makai portion of Alternative 3). It would reduce agricultural impacts.

C: If the road is moved too far south, would contradict legislative mandate of connecting to the Maui R & T Park.

MEETING ADJOURNED

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: May 16, 1996

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

KIHEI, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
Jack Esker	2531 S. K.R. #C302 Kihei		879-2758
Jon Williams	PO Box 1178 Wailuku, HI 96793	DNLO	244-3040
Zoba Limoral	365 Hoalike St. Kihei	Okuhara Subdivision	879-7415
Russ Kenady	P.O Box 1487 Kihei	KCA	879-5579
Peege Schubert	P.O. Box 548 Kula 96790	Kula Community Assoc.	878-1345
[illegible]	107 Kolopua Pl Kihei [illegible]	" "	[illegible]
Carla Hart	467 Kalalau Pl. Kihei 96753	KCA	879-3691
DARYL DAVIS	15 KUKI ST., KIHEI, HI 96753	KCA	879-9356

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: May 16, 1996

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

KIHEI, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
Carol Ford	176 W. Ikea Pl. Kihei	KCA	879-1277
DIANE E SHEPHERD	3329 KEHALA DR. KIHEI	KCA	874-5392
Masami Hironaka	3490 Hookipa Pl Kihei	—	879-5576
BRETT KLYVER	PO Box 967 Kihei	Maui R&T Park	875-0856
Kitty Lesnecki	311 Pakalana Pl., Kihei	KCA	879-6726
Hank "	" " "	KCA	"
Val Ramachak	P.O. Box 495 Kihei HI 96753	KCA	879-3245
BRIAN MISKAE	268 MEHANI CIRCLE, KIHEI 96753		879-2789
NANCY KANADY	2274 S Kihei Rd Kihei	KCA	879-4594
Annie Kemper	1539 Halama St. Kihei 96753	KCA	879-4671
William Spence	250 S. Highway, Wailuku HI 96793	Maui Planning Dept	243-7735

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DATE: May 16, 1996

KIHEI - UPCOUNTRY
PUBLIC INFORMATIONAL MEETING

KIHEI, MAUI

PLEASE PRINT

NAME	ADDRESS	ORGANIZATION	PHONE NO.
Kimo "GALBRAITH	P.O Box 1728 KIHEI	NONE	8796611
Gloria Adlawan	760 S. Kihei Rd #201 Kihei 96753	KCA	879-8266
[illegible] Thompson	2531 So. Kihei Rd	SH Times	879-2755
Book Joiner		Kihei Community Assn	
Doreen Miskae	268 Mehana Cir Kihei		879-2784

THE AMARAL COMPANY
Zandra Souza Amaral
365 Hoalike Street
Kihei, Maui, HI 96753

Telephone (808) 879-7445
Fax 1-808-879-7445

May 21, 1996

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

RE: Alternate 2 for the proposed Kihei-Upcountry Highway above Ohukai Road.

Dear: Mr. Hayashida:

The above mentioned route for the Kihei-Upcountry Highway, is strongly opposed by the Ohukai residents. I, Zandra Souza Amaral appeared on behalf of some of our community members to make clear our objections to this intended route. Our concerns are; but not limited to:

A. The noise impact on our community.
B. The history of speeding cars endangering the safety of our children.
C. The overall safety of our community and our children.

As I stated at the public hearing on May 16, 1996, noise from above the ranch is amplified and is heard clearly in our residential community. At this time the noise is limited to cows and shots from hunters. However, if **OUR** State goes through with their plans of placing the Kihei-Upcountry route using **Alternate 2** (behind the water tank) it would cause severe noise impacts on our community caused by cars racing up and down the highway at all hours of the day and night. Not to mention us having to deal with tour buses shuttling tourist at 4:00 or 5:00 in the morning up to Haleakala to view the sun rise. I doubt sincerely that anyone in **OUR** state government would appreciate being awoken by traffic noise at 4:00 in the morning and we certainly would not appreciate it either.

As a residential community we feel that placing such a highway on Alt. 2 would cause undue hardship and strain as well as cause a problem with safety, on our already strained community. We have had problems with speeding traffic in the past. We felt we alleviated this problem by us successfully working with the Department of Public Works. With the support of our community and Our County's Public Works Committee we were successful in putting "Speed Humps" in place on June 2, 1992.

Again in 1993, we were faced with unsafe conditions. Our homes were burglarized because of security and safety problems being cause by loitering parked cars at the mauka end of Ohukai Road which did not have adequate lighting and street signs. On September 14, 1992 our County Department of Public Works installed two "No Parking Anytime" signs along with a street light." Our community firmly believes that:
WORKING TOGETHER WITH OUR GOVERNMENT, WE CAN MAKE A DIFFERENCE.

We as a community need to ask, why does OUR state need to place a highway in an area that would affect existing residential communities when they have more viable solutions? Such as routing the highway further into the Makena/Wailea area. Placing the route in the Makena/Wailea areas would have much less impact on existing residential communities. It would also fulfill the goal of our Federal Government in connecting the Haleakala Observatory with the Technical Park. And foremost it would eliminate potential law suites against our state in the event of endangerment and the **USE** or **LACK OF USE** of prudence in planning by our state, thereby **costing all of us a lot more money in the long run.** Let us not plan for today with no regard for the future, we've done it in the past and we all paid very dearly for those mistakes.

We ask that The Department of Transportation work with us and **not use "Alternate 2"** for the proposed Kihei-Upcountry Highway. Should you have any questions, please don't hesitate to contact me at 879-7445.

We look forward to your expedient response in assisting us in maximizing harmony and security in our communities.

Sincerely,

Zandra S. Amaral

Zandra Souza Amaral

cc: Mr. Reed Ariyoshi / Omori Engineering
Mr. Bob Siarot / State Department of Transportation, Kah,. HI
Council Members: Mr. Wayne K. Nishiki (Kihei District) and
Mr. Robert M. Monden (Up-Country District)

Request: **NOT** using Alternate 2 as a route for the Kihei-Upcountry Highway.

REASONS: A. The noise impact on our community.
B. The danger of speeding cars endangering safety of our children.
C. The overall safety of our residential community and children.

Signatures of persons affected by "Alternate 2" for the Kihei-Upcountry Highway.

Approve	Object	Signature	Street Address
X		[illegible]	365 Hoalike Street
X		[illegible]	350 Hoalike st
X		[illegible]	341 HOALIKE ST. KIHEI, HI. 96753
X		[illegible]	332 Hoalike St. Kihei HI 96753
X		[illegible]	329 HOALIKE ST. KIHEI
X		[illegible]	326 Hoalike St KIHEI 96753
X		[illegible]	335 Hoalike ST. Kihei 96753
X		[illegible]	321 Hoalike ST. Kihe 96753
X		[illegible]	313 Hoalike St. " "
X		[illegible]	307 HOALIKE ST. KIHEI, 96753
X		[illegible]	304 HOALIKE ST. KIHEI 96753
X		[illegible]	301 Hoalike st Kihei
X		[illegible]	295 HOALIKE ST. KIHEI
X		Kim Pyaa	264 Hoalike St. Kihei
X		[illegible]	258 Hoalika Rd. Kihei
X		[illegible]	253 Hoalika Rd Kihei
X		[illegible]	240 Hoalika St. Kihei
		[illegible]	237 Hoalika St Kihei
X		Vonnie Castro	230 Hoalika ST Kihei
X		[illegible]	211 HOALIKA ST KIHEI
X		[illegible]	216 Hoalika st Kihei
X		[illegible]	211 Hoalike St. Kihei
X		[illegible]	208 Hoalika St. Kihei
X		Debbie Wand	202 Hoalika St. Kihei
X		A. Cista	314 Hoalika St

Submitted by: Zandra Amaral & Kihei Residence
Street Address: 365 Hoalike St., Kihei, HI 96753
Date: 5/25/96 Phone: 879-7445

Approve	Object	Signature	Street Address
X		[illegible]	509 LAULOA ST. KIHEI, CA 96753
X		M/M [illegible] Tavares	359 Hoalike St.
X		[illegible]	356 HOALIKE ST

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PA
2.0788

JUN 25 1996

RECEIVED

JUN 26 1996

WARREN S. UNEMORI ENGINEERING, INC.

Ms. Zandra Souza Amaral
The Amaral Company
365 Hoalike Street
Kihei, Hawaii 96753

Dear Ms. Amaral:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your input in our planning process. The comments expressed in your May 21, 1996 letter made us aware of the concerns of yourself and your neighbors on the Kihei-Upcountry Maui Highway project and its proposed alternatives. The purpose of an informational meeting is to inform the public of our progress/direction and to solicit opinions that have not made themselves evident or that we were not aware of. Your concerns and recommendations will be considered in the development of this project.

Very truly yours,

Glenn M Okimoto

KAZU HAYASHIDA
Director of Transportation

ALOHA PUALANI
15 WAILANA PLACE
KIHEI, MAUI, HI 96753
(808) 874-9265

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
Jun 20 11 43 AM '96

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JUN 20 4 43 PM '96
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

6/15/96

MR. KAZU HAYASHIDA
DIRECTOR, HAWAII DEPT. OF TRANS.
869 PUNCHBOWL ST.
HONOLULU, HI 96813

RE: KIHEI-UPCOUNTRY HIGHWAY, MAUI

DEAR MR. HAYASHIDA:

AS AN OWNER OF A VACATION RENTAL BEACH RESORT IN KIHEI, MY GUESTS FREQUENTLY CONSIDER DRIVING AROUND THE SOUTH SIDE OF THE ISLAND ON THEIR WAY BACK FROM DAY TRIPS TO HANA. MOST OF THEM RETURN THE SAME WAY THEY CAME BECAUSE: 1) OF THE ROAD CONDITIONS IN THE KAUPO AREA, AND 2) THERE IS NO DIRECT ROUTE BACK TO THE KIHEI—WAILEA AREA FROM UPCOUNTRY. TO BETTER SERVE OUR THOUSANDS OF VISITORS, I AM IN FAVOR OF THE MOST SOUTHERN ROUTE #7 FROM MAKENA TO ULAPALAKUA. IF THE UPCOUNTRY TERMINUS WAS AS FAR SOUTH AS POSSIBLE THE VAST MAJORITY OF TRAVELERS WOULD RETURN TO THE COAST FROM HANA WITHOUT IMPACTING THE RESIDENTS OF KULA AND ULAPALAKUA. ONCE UPON A TIME, THIS ROAD WENT THROUGH, AND I WOULD THINK IT WOULD BE THE CHEAPEST ALTERNATIVE TO CONSTRUCT.

IF THE MAIN PURPOSE OF THE UPCOUNTRY HIGHWAY IS TO SERVE THE COMMUTERS FROM MAKAWAO + PUKALANI TO KIHEI + WAILEA, THEN PERHAPS A MORE NORTHERN ROUTE IS PREFERABLE. HOWEVER, THE TOURISTS WILL STILL FOREVER BE ASKING WHY THERE ISN'T A ROAD FROM ULAPALAKUA TO WAILEA.

VERY TRULY YOURS,

Aloha Pualani

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PA
2.1021

JUL 10 1996

RECEIVED
JUL 10 1996
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Keith Dinsmoor
Aloha Pualani
15 Wailana Place
Kihei, Hawaii 96753

Dear Mr. Dinsmoor:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your input in our planning process and the comments expressed in your June 15, 1996 letter on the Kihei-Upcountry Maui Highway project. Your comments and recommendations will be considered in our evaluation of the various alternatives and the subsequent development of this project.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
'96 MAY 29 10 25 AM

2170 S. Kihei Rd. #25
Kihei, Hawaii 96753
May 27, 1996

Dear Mr. Hayashida,

I live in Kihei and want a Kihei-Upcountry Highway very much as I travel frequently to Kaupo and Kipahulu.

I read the South Maui Times (May 24 + May 31) about the meetings on May 15 and 16. I would like to attend future meeting.

I am voting for Route 5 from Kaonoulu to middle of Kula Highway.

Thank you for giving us this new highway soon.

Sincerely,

Isabel Gerhard-Kalalau
879-2762

HIGHWAYS DIVISION
PLANNING BRANCH
'96 JUN 10 P4:54
RECEIVED
DEPARTMENT OF TRANSPORTATION

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1175

JUL 1 5 1996

RECEIVED
JUL 19 1996
WARREN S. UNEMORI ENGINEERING, INC.

Ms. Isabel Gerhard-Kalalau
2170 S. Kihei Road #25
Kihei, Hawaii 96753

Dear Ms. Gerhard-Kalalau:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your interest and support of the proposed highway.

Our consultants are currently working on the draft Environmental Impact Statement (EIS) for the project. A public hearing will be held after the draft EIS is completed and circulated. We will inform you either by mail or by means of the news media when a meeting or hearing is scheduled.

Very truly yours,

for KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

MR. KAZU HAYASHIDA, DIRECTOR
DEPT. OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU HI 96813

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
MAY 20 11 24 AM '96

DEAR MR. HYASHIDA,

WE RECENTLY ATTENDED THE MAY 15TH INFORMATIONAL MEETING AT PUKALANI.
OF THE ROUTES DISCUSSED FOR THE NEW UPCOUNTRY HIGHWAY, WE FAVOR ALT. 2, WITH TWO MODIFICATIONS. WE WOULD LIKE TO SEE THE HIGHWAY WITH TWO TERMINUSES UPCOUNTRY. ONE AT HALIIMAILE ROAD, AND ONE WHERE ALT. 4B ENDS. THIS WOULD GREATLY RELIEVE CONGESTION AT THE END OF THE HIGHWAY WHICH WE FEEL WILL BE A MAJOR PROBLEM IF THERE IS ONLY ONE EXIT/ENTRANCE TO THE ROADWAY.

ON THE KIHEI END, WE WOULD LIKE TO SEE THE TERMINUS AS FAR SOUTH AS POSSIBLE. INSTEAD OF COMING THROUGH THE MIDDLE OF THE MAUI R&T PARK, MOVE IT TO CONNECT BY THE KIHEI REGIONAL PARK WHERE ALT. 6B WAS PROPOSED.

WE HAVE HEARD AT VARIOUS TIMES THAT THIS ROAD WILL BE ONLY 2 - OR POSSIBLY 3 - LANES WIDE. PLEASE, PLEASE, PLEASE!! MAKE THIS ROAD 4 LANES!! 2 OR 3 LANES WILL BE OBSOLETE THE DAY YOU OPEN THE HIGHWAY! WE DO NOT WANT TO BE IN A MEETING 5-10 YEARS FROM NOW AND BE TOLD THAT TO WIDEN THE HIGHWAY TO 4 LANES IS GOING TO COST ANOTHER 50 TO 60 MILLION DOLLARS. EVEN THOUGH BUILDING 4 LANES NOW WILL COST MORE, IT WILL BE MUCH CHEAPER IN THE LONG RUN.

DO IT ONCE! DO IT RIGHT!

WE HOPE YOU WILL TAKE THESE SUGGESTIONS TO HEART, AND THAT WE END UP WITH A HIGHWAY WE CAN ALL VIEW WITH PRIDE AND NOT ONE THAT WE VIEW WITH SCORN AND SHAME.

THANK YOU.

ED AND STEPHANIE HACKENBRUCH
HALIIMAILE, HI 96768

HIGHWAYS DIVISION
PLANNING BRANCH
MAY 21 11 14 AM '96

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.0613

JUN 18 1996

RECEIVED
JUN 19 1996
WARREN S. UNEMORI ENGINEERING, INC.

Ed and Stephanie Hackenbruch
973 Akaaka Street
Haliimaile, Hawaii 96768

Dear Ed and Stephanie Hackenbruch:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your letter received on May 20, 1996, regarding the proposed alignments.

While having more lanes and fanning out into multiple termini may be desirable, additional considerations or cost constraints may affect the feasibility of these proposals. In addition, the alignment ultimately selected is expected to sufficiently handle the projected traffic demand between Upcountry Maui and South and West Maui through the year 2022. Although the projected traffic demand only warrants a two (2) lane highway to year 2022, adequate right-of-way will be acquired in conjunction with this project to accommodate a four (4) lane highway in the future.

Nonetheless, please be assured that your comments are appreciated and will be taken into consideration.

Very truly yours,

for KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

A&B-HAWAII, INC.
HONOLULU

RECEIVED
JUN 3 2 26 PM '96
DEPT OF TRANSPORTATION HIGHWAYS DIVISION

DIRECTORY
TELEPHONE: (808) 877-0081
FACSIMILE: (808) 871-7663

Jun 3 10 23 AM '96

HAWAIIAN COMMERCIAL & SUGAR COMPANY
P. O. BOX 266, PUUNENE, MAUI, HAWAII 96784

May 31, 1996

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION
JUN 6 12 31 PM '96
HIGHWAYS DIVISION
PLANNING BRANCH

Mr. Kazu Hayashida, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: Proposed Kihei-Upcountry Maui Highway Project
Three Alternative Alignments

Thank you for this opportunity to provide comments on the three Alternative Alignments for the Kihei-Upcountry Maui Highway that were presented at the public meeting on May 15, 1996. Since HC&S cultivates 36,000 acres of sugarcane here in the central valley of Maui, the location of this project is very important to our farming operations.

Alternative 2, dissects several HC&S' fields, roadways, irrigation systems and drainage systems, in addition to taking cane land out of production, this will significantly disrupt our operations. This route would require HC&S to change its operational practices making it extremely costly and inefficient. Keeping HC&S "whole" will require far more extensive mitigating measures which go beyond the cost of acquiring the right-of-way itself. Due to the significant effect on agricultural operations associated with this route, HC&S cannot support this alternative.

With proper mitigation, HC&S could support Alternative 4B since it would affect our operations to a lesser degree isolating a much smaller section of the farm. Therefore, the cost of mitigative measures would be far less than Alternative 2.

HC&S supports Alternative 5 since it does not cross through any of our fields and therefore would have minimal effects on our operations.

We request that the potential impacts on HC&S' existing operations be addressed in the Environmental Impact Statement for this project and that HC&S be consulted and recognized in the preparation of the EIS. Mitigating measures

should be identified in the EIS, as these will be bona fide costs of the respective alignments. Attachment 1 shows a summary of the impacts to HC&S of two of the identified alignments.

We look forward to future discussions with the DOT and its consultants on this proposed highway project. We believe that by working together, we can identify an appropriate roadway alignment which will benefit all parties – farmers, residents and businesses on Maui. The over 1,000 farmers at HC&S have an important stake in the chosen alignment.

Thank you for this opportunity to provide comments.

Sincerely,

Richard F. Cameron
Plantation General Manager

Attachment

ATTACHMENT 1

Kihei-Upcountry Maui Highway
Three Alternative Alignments

The Public Meeting on May 15, 1996 showed three alternate roadway alignments for the proposed highway. Alternative 2 would have a serious effect on HC&S' operations.

Alternative 2 – From Haleakala Highway at Haliimaile Road to Maui R&T Park at Kihei.

a. Land area for right-of-way is 78 acres; transverses 4 miles through HC&S property.
b. This route crosses one primary (paved) hauler road and two secondary hauler roads.
c. This route crosses three small ditches and numerous drip irrigation pipelines.
d. This route isolates approximately 1,200 acres of cane land. HC&S would need underpasses or traffic lights to cross the new highway.
e. Drainage – This route will cross at least three major gulches, Waiakoa, Pulehu and Kalialinui Gulches, and several smaller ones which will require the State to build bridges to traverse these gulches adding additional cost to these projects.
f. Endangered species – This route crosses three gulches that contain the endangered plant species Abutilon menziesii. The largest concentration of these plants is at the Kalialinui Gulch.

Alternative 4B – From Kula Highway, near Kula 200, to Piilani Highway at Kaonoulu Street.

a. Land area for right-of-way is 19 acres; transverses 1 mile through HC&S property. This route isolates approximately 60 acres of cane land since it is near the top edge of the farm land..
b. This alternative route crosses two major ditches, the Hamakua Ditch and the Reservoir 40 Ditch.
c. Drainage – This route will cross at least three major gulches, Waiakoa, Pulehu and Kalialinui Gulches, and several smaller ones which will require the State to build bridges to traverse these gulches adding additional cost to these projects.

d. Endangered species – This route crosses three gulches that contain the endangered plant species Abutilon menziesii, but this route is farther away from the endangered species than Alternative 2.

In the above mentioned alternatives, the disruption would require mitigative measures such as:

- Land for right of way – HC&S' lands needed for the highway would be "prime" agriculture land that will need to be purchased.
- Splitting of fields – Compensation for the increased cost of field operations due to the additional hauling time mileage, concrete crossings for haulers and tracked equipment. Field isolation and possible abandonment may also have to be compensated for.
- Cane hauler roads intersects – There will be a need for underpasses or traffic lights at these hauler roads to minimize hauling delays and provide a measure of traffic safety. Additional cane hauler roads that are parallel to the new road may be necessary.
- Proximity to highway – Compensation for the additional costs of operation to control dust and cane smoke and the potential to restrict the use of chemicals currently being used would reduce operating efficiencies.
- Irrigation system intersects – Several pipelines, ditches, supply lines and mainlines would need to be relocated and cross the new road.

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.0662

JUN 17 1996

Mr. Richard F. Cameron
Plantation General Manager
Hawaiian Commercial & Sugar Company
P. O. Box 266
Puunene, Hawaii 96784

RECEIVED
JUN 18 1996
WARREN S. UNEMORI ENGINEERING, INC.

Dear Mr. Cameron:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your May 31, 1996 letter regarding the effects of our proposed alternatives for the Kihei-Upcountry Maui Highway project on the Hawaiian Commercial & Sugar Company's operations. We have met previously with you and have found these discussions to be very helpful in developing our project.

We will keep you informed of major developments in the project and look forward to any assistance you can provide.

Very truly yours,

for KAZU HAYASHIDA
Director of Transportation

√bc: Warren S. Unemori Engineering, Inc.

Typed by D.Libbey 6/19/96

IKUA PURDY ROAD COMMITTEE
c/o Sam S. Hironaka
99 Naniluna Place
Wailuku, Hi. 96793
Phone: 244-5136
May 28, 1996

Mr. Kazu Hayashida, Director
State of Hawaii, Department of Transportation
869 Punchbowl Street
Honolulu, Hi. 96813

Dear Mr. Hayashida:

Re: Kihei to Upcountry Maui Highway

On behalf of the Ikua Purdy Road Committee, we sincerely ask your assistance in building a new road to replace the 100 year old road which was closed in March 1984.

The decision on the selection of one of the 3 routes met with negative reaction at the hearings held on May 15 and 16.

PUBLIC OPINION IS SWINGING VERY STRONGLY IN FAVOR OF COMPLETING THE PIILANI HWY. FROM WAILEA TO ULUPALAKUA.

There are thousands of tourists who drive or ride to Hana, Lindburgh's grave in Kipahulu and stop at the Tedeschi Winery in Ulupalakua every week. These visitors feel frustrated when they see their hotels in Wailea just below the hill, but must drive another one and a half hours instead of just 5 minutes. We all know how important it is to stress visitor satisfaction and enjoyment during these times of budget constraints

Ironically, at the May 15 meeting, Buck Joiner, Chairman of the Maui Road Committee, did not endorse any of the 3 routes. But he strongly advocated a road out of Kihei as FAR SOUTH ON PIILANI as possible to PROVIDE AN ESCAPE . ROUTE IN CASE OF DISASTER.

It is ironic because it was this same Mr. Joiner who torpedoed the road from Wailea to Ulupalakua in a letter to the Maui News on 9/23/93 because "The Highway was a Political Porker" (See attached copy). Mr. Joiner then proudly announced in another letter to the Maui News on 12/12/93 that the "Extension of Piilani Highway is DEAD". (See attached copy). It is sad indeed that one person (a relative newcomer) could halt a project, -- especially after our legislature appropriated $7.4 Million for the extension. Your engineers and staff were already at work on the right of way and design when the project was halted. Mr. Joiner now wants the road which he killed. The road would have been completed by now were it not for a single man.

Certainly, we are all for a route which will benefit the largest number of residents in the Pukalani- Makawao area. But such a highway will be many years away.

In the meanwhile, please help our tourists get back to their hotels in Wailea and Kaanapali an hour and half sooner by completing the SHORT

Link to Ulupalakua.

Yes, many of us who have homes or farms in the Keokea-Ulupalakua-Kanaio-Kaupo-Kipahulu area will benefit. Please remember, though, that when the highway to Kapalua was built, the Cameron family benefited a great deal.

It is important to note that Waikiki has 5 roads leading in and out of the area. Waikiki also has the convenience of the City Bus. Kihei, THE FASTEST GROWING COMMUNITY ON MAUI, has only one way in and out of the area.

The extenion of Piilani makes a lot of common sense because the highway was designed and approved more than 20 years ago. There are no questions re the right of way, engineering and construction will be relatively reasonable.

The closing of the old road became an issue in the mid 1980s. The Kihei and Kula Community Associations, The Maui County Council including now Mayor Linda Lingle were 100% behind the reconstruction of the road. Unfortunately, tourists don't vote on Maui. And we don't have enough votes in our area to help our cause.

We would also appreciate your consideration and study of using the existing Kanaio-Kalama Park Road to the Hana Road . There are more than 18 homes and farms on this road. One of these farms is highly successful with an investment exceeding $1 Million and more than 2,000 bearing avocado and Citrus trees. Currently, there is no reasonable public access to the Kanaio-Kalama Park Road since the closure in 1984. Water is adequate.

Thank you for your consideration of your request.

Sincerely,

IKUA PURDY ROAD COMMITTEE

Sam S. Hironaka, Coordinator Members: Hiroshi Arisumi, George Purdy, Dr. Ralph Hertz, William A. Dilon, Sue Medeiros Wagoner, and Harold Makimoto.

Enclosures:
1. Advertisement, Maui News 10/30/88
2. Maui News -Front Page 11/16/88 - Kihei Community Assn.
3. Letter 4/25/88 from David Morihara, Pres. Kula Community Assn.
4. Maui News Editorial 11/2/88 - Endorsing Road.
5. Letter dated 9/14/67 from Ulupalakua Ranch to Dr. Fujio Matsuda.
6. Letter dated 4/13/88 " " " Gov. John Waihee.
7. Letter dated 6/8/94 from Wm. Kennison, ILWU Business Agent
8. Letters to Maui News 12/4/88 from Mark Rudd, Don Swanson and Charles C. Hestand.
9. Letter to Maui News 3/23/89 from Frances Purdy.
10. Maui News Ad - 3/3/89 Benefits and Distances.

Enclosures:

11. Maui News Front Page 4/12/84 - Ulupalakua-Makena Road Reopening
12. Maui News Front Page 10/28/88 Drive On for Ulupalakua to Kihei.
13. Maui News Front Page 1/14/87 Panel Wants Action by Mayor on Makena-Ulupalakua Road.
14. Star Bulletin 10/31/88 Reopen Road on Maui, Residents Urge in Ad.
15. Advertiser - 4/13/88 Must Reopen 'Public Road' 3 Ulupalakua Residents Say.
16. Maui News Front Page 4/6/89 Upcountry Residents Pool Their Thoughts.
17. Letter to the Maui News 4/12/89 Toll-Road Experiment is Worth a Try. - Glen Rogers.
18. Star Bulletin - 2/13/89 New Push for Creating Maui Toll Roads.
19. Letter to Maui News - 9/22/93 From Buck Joiner HIGHWAY A POLITICAL PORKER
20. Letter to Maui News - 12/12/93 From Buck Joiner HIGHWAY EXTENSION IS DEAD

CC: GOVERNOR BEN CAYETANO
HOUSE SPEAKER JOSEPH SOUKI
SENATOR JOE TANAKA, CHAIRMAN, SENATE COMMITTEE ON TOURISM
MR. HUGH ONO, CHIEF, HIGHWAY DIVISION, STATE OF HAWAII
MR. ROBERT SIAROT, MANAGER, MAUI DISTRICT OFFICE, STATE HIGHWAYS DIVISION

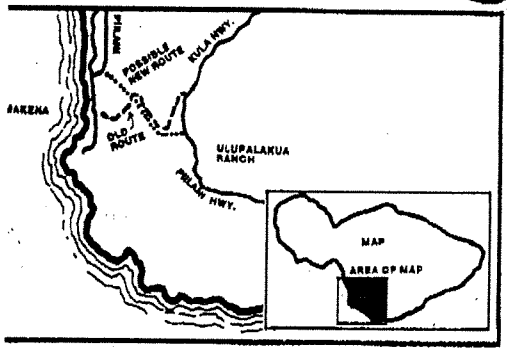
Additional Enclosures:

21. Piilani HighwayAdministrative Action - Final - Environmental Impact Statement by the U.S. Dept. of Transportation and the State of Hawaii Dept. of Transportation dated February 15,1977.
22. Maui News May 16, 1996 - None of Routes up Haleakala's Side Stand out.

ENC #1

THE MAUI NEWS — Sunday, October 30, 1988 —

LEASE Sign THIS PETITION



ROAD BUILT IN 1860's CLOSED MARCH 1984. LOCAL RESIDENTS USED ROAD EXTENSIVELY FOR RECREATION TO SOUTH MAUI. MAINTENANCE COST FOR UNIMPROVED ROAD BECAME TOO MUCH FOR COUNTY BUDGET WHEN TOURISTS AND EMPLOYEES BEGAN USING THIS CONVENIENT ROAD.

ROAD TO BE RENAMED IN MEMORY OF IKUA PURDY, 1873-1945, WORLD FAMOUS RODEO CHAMPION. ULUPALAKUA RANCH FOREMAN.

BENEFITS:

A SAFE IMPROVED ROAD (NOT A SUPER HIGHWAY) WOULD . . .

- RELIEVE TRAFFIC — PUKALANI TO HANA HIGHWAY
- KULA HOSPITAL — MINUTES FROM KIHEI IN CASE OF DISASTER
- EVACUATION — FROM SOUTH MAUI IN CASE OF NATURAL DISASTER
- 30 MILES — SHORTER FOR KEOKEA FAMILIES TO PICNIC AT STATE MAKENA BIG BEACH
- FOR PUKALANI AND ALL UP COUNTRY EMPLOYEES A SHORTER, FASTER, HASSLE FREE PLEASANT DRIVE TO SOUTH MAUI AND EVEN TO LAHAINA
- SHORTER ROUTE SUPPORTS STATE AND MAUI IN DIVERSIFIED AGRICULTURE FLOWERS, VEGT., FRUITS, VINEYARD AND WINERY
- EVEN LAHAINA FAMILIES WILL ENJOY A SHORTER SCENIC DRIVE TO KULA
- FAMILIES AND FARMERS FROM KAUPO AND KIPAHULU WILL BENEFIT TOO WITH SHORTER, FASTER ROAD TO CENTRAL MAUI

POSSIBLE SOLUTIONS:

- COUNTY OF MAUI — SEEK FINANCIAL HELP FROM STATE
- LEGISLATURE — EARMARK SPECIAL VISITOR TAX FUNDS FOR NEW ROAD
- STATE AND MAUI — WORK TOGETHER TO BUILD LEAST COSTLY ROAD

ADVANTAGE:

ULUPALAKUA — OTHER ROUTES — ROUTE TO ULUPALAKUA —

ULUPALAKUA — ELEVATION 1800 FT.
KULA — 3000 FT.
SAVE 1200 FT. OF UPHILL ROAD

OTHER ROUTES — TOO LONG
HIGHER COST

ROUTE TO ULUPALAKUA — NO GULCHES — NO BRIDGES —
DISTANCE 4 MI.
FROM PILLANI EXTENSION IN WAILEA

CO-CHAIRWOMAN

SUE MEDEIROS WAGONER*
OWNER — SU-SU'S BOUTIQUE
WAILEA SHOP. VILL.

CO-CHAIRMAN

HIROSHI ARISUMI*
CHAIRMAN, ARISUMI BROTHERS
CONTRACTORS

CO-CHAIRMAN

DON NITSCHE*
DURABLE STEEL BLDGS.
HAWAII REP.

CO-CHAIRMAN

GEORGE PURDY*
FIREMAN
KAHULUI, AIRPORT

*ALL RESIDENTS OF KULA AND ULUPALAKUA

SUPPORTERS OF THE IKUA PURDY ROAD COMMITTEE . . .

roshi Arisumi
ii Azeka
dna Arisumi
ane Azeka
ichard Arine
onald Ahina
tephanie Ahina
anlel Almasin
etty J. Almasin
ancy Apostolau
eorge Aveiro
tephanie Aveiro
Vayne Asue
ay Ahlbranc
indy Akana
ohn Abe
rank Abrams
waiani Barroga
Ar. & Mrs. Ben Bower
avid Braun
aula Brock
ris Saz
harles Billings
yndell Beach
Vebb Beggs
inny Beggs
ichard Ball
J Covic
oby Chouteau
rank Candra
hil Carr
Scott Curran
ohn Cavaco
Ar. & Mrs. Edward Chang Jr.
.T. Campbell
atsyis Cafra
ally Ann Duarte
nita Damaso
red Dagdag
odney Dawson
arol Dawson
ardee Erdman
ob Everingham
ack Esker
verett & Carolyn Ferreira
Mark Ferguson
leven Ferreira
eorge W. Ferreira
eorge P. Ferreira
saanor L. Ferreira
verett K. Ferreira
elen P. Ferreira
at Favella
anny Fong
ileen Fong
ilmore Gretland
Margaret Galam
ill Gresham
arol Ann Guy
amuel Garcia
erlerie Garcia
arvey Grocholskie

Roger Granpham
Samuel Garcia Jr.
John E. Garcia
Leslie Garcia
Mr. & Mrs. Wallace Gilroy
Ann Goff
Dr. Ralph E. Hertz
Sam S. Hironaka
John Hirashima
Adele Hamal
Mr. & Mrs. David Haltquist
Mr. & Mrs. Greg Howard
Michael Hayashi
Barbara Harbottle
Randy Hall
Kathe Hall
Wayne Hanaoka
Paul Hironaka
Masami Hironaka
Catherine Hironaka
Akio Hanano
William Hogarty
Rosemary Hogarty
Arnawood Iskendarian
Warren Itamura
David Ito
Balancha Ito
Mitsuo Ito
Kiyono Ito
Yolanda Joequin
James Judge
Paul Javier
Paddy Jacobsen
Danell Kanae
Rocky Kanae
Phyllis Kim
Donald Kimizuka
Gordon Krekow
Lisa Krekow
Leslie Kuloloio
Clyde Kono
Peterloe Kahahane
Raymond Kuana
Ken Kirchmeyer
Victor Kinoshita
Eileen Kinoshita
Roger Kawasaki
Rose Kawasaki
Deanne Kost
Rodney Kilborn
Benjamin Lurendez
Jenning Lurendez
Jamie Loux
Mr. & Mrs. Rudolph Luuwai
Mrs. Leona Luuwai
Mary Lundquist
Robert F. Love
Lois Love
Victor Lyon
Elise Lyon
Douglas Lacno
David Morihara

Clyde Murashige
Shigeto Murayama
Sally Murayama
Jim Milliken
Alice Miyazono
Ethel Mizuki
Maggee Maenaka
Linda Manabe
Harold Makimoto
Richard McManus
Kanila Medeiros
Yukio Matsui
Frank Morreira
Catherine Morreira
Peg Mitchell
Bob Mitchell
Dr. & Mrs. Paul McCormick
Miles Matsui
Karl McCarthy
Mary Lou Morreira
Mr. & Mrs. Sanders Makua
Jody McNeil
Mike McClure
Charles Miller
Don Miyagawa
Glen Miyoshi
John McCrea
Marylou Mellinger
Jim Murayama
Pat Murayama
Warren McCord
Helen McCord
Don Nitsche
Pat Nitta
Yoshiharu Nakamura
Lynn Nakamura
Masao Nakao
Sylvia Neizman
Dwight Nacua
Kyle Nakanilua
Michael Okazaki
Mrs. Stephen Okada
Mrs. William Olson
Barry O'Rourke
Sidney Odanaka
George Purdy
Frances Purdy
Dan Purdy Sr.
Nancy Purdy
Ned Purdy
Wayne Purdy
Dorothy Purdy
Violet Purdy
Rick Purdy
Sonja Purdy
Ralph Purdy
Parker Purdy
Mary Purdy
Dennis Pacheco
Dr. & Mrs. Richard Pohle
Eugene Perry
Sam Paradiso

Maria Quindica-Cuomo
Darlene Quintos
Glen Rogers
Gladys Rogers
Maria Romero
Rose Royce
Jiggs E.R. Ritchie
Fred Romanchak
Mr. & Mrs. Dennis Russell
Dr. Howard Shimokawa
Terry Salvedo
Renee Sylvester
Alfred Santiago
Danette Silva
Michael Shim
Norene Shim
Dennie Shiroma
Pauline Shiroma
Mike Sherrill
Carol Sherrill
Ruby Sasaoka

Everett Senter
Nathan Silverstein
Julian Simpson
Jeanne Simpson
Kamal Singh
Ron Terry
Calvin Taoka
Rachelle Taoka
George Taukazaki
Grace Takushi
Eric Teruya
Ron Takatsuka
Peter Thordern
Nora Tau-a
Gary Tau-a
Beth Tavares
Mike Tokunaga
Irene Tanouye
Gene Thompson

Robert S. To
Fumi Uehara
Chris Von Imhof
Rebecca Veine
Mark Veine
Jim Wagoner
Sue Medeiros Wagoner
Louis Wade
James Wolfe
Mona Wolfe
Dtimar Woerl
David Wood
Craig Weber
Dr. Daniel White
Charolotte Warwicke
Terry Wong
John Weinert
Marsha Weinert
Kitaru Yamashita
Masaru Yokouchi
Shirley Yokouchi

PETITION

CUT OFF AND MAIL OR DROP OFF TO:

MORIHARA STORE
RR2, BOX 18 — KULA, 96790

SU-SU'S BOUTIQUE
WAILEA SHOP. VILL., KIHEI, 96753

AMERICAN SAVINGS BANK
PUKALANI — KIHEI — KAHULUI — WAILUKU
LAHAINA — KAUNAKAKAI

CONTRIBUTIONS MAY BE MADE
CHECK PAYABLE TO IKUA PURDY ROAD COMMITTEE

I/WE are in favor of the Re-Opening and Improvement of the Ikua Purdy Road from Ulupalakua to South Maui, I am a Maui Tax Payer

SIGNED _____

NAME _____
PLEASE PRINT

ADDRESS _____

PHONE _____

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.0789

JUN 25 1996

RECEIVED
JUN 26 1996
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Sam S. Hironaka
Coordinator
Ikua Purdy Road Committee
99 Naniluna Place
Wailuku, Hawaii 96793

Dear Mr. Hironaka:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your input in our planning process and the comments expressed in your May 28, 1996 letter making us aware of the concerns of yourself and your committee on the Kihei-Upcountry Maui Highway project and its proposed alternatives. Your concerns and recommendations will be considered in the development of this project.

Very truly yours,

Glenn M. Okimoto

KAZU HAYASHIDA
Director of Transportation

John Jasinski
P.O. Box 103
Kula, HI 96790-0103

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION

MAY 20 10 42 AM '96

May 17, 1996.

HIGHWAYS DIVISION
PLANNING BRANCH
MAY 21 11 19 AM '96

STATE DEPARTMENT
OF TRANSPORTATION
PLANNING OFFICE

Mr. Kazu Hayashida
Director
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr Hayashida,

I'm a resident of upper Kula on Maui, and would like to offer some opinions on the proposed highway alignment between Kihei and Upcountry Maui.

First, I would choose the least expensive plan. Because of budgetary constraints in tight times, the 8.7 mile route from Kaonoulu, Kihei to Waiakoa, Kula would take my vote.

Next, any option of where the road starts in Kihei should consider the congestion already resulting from the quick-paced construction of homes in Kihei district. I think the new road should intersect Kihei as far south as possible so as not to add to the troubles of gridlock now resulting in north Kihei. My choice again would be the Kaonoulu Street (or anywhere further south) alternative.

And last, where the alignment road joins Upcountry should again be as far away from present or potentially new overcrowded areas of our highways. I disagree with any elective below Pukalani because of traffic jams that already occur now during rush hour. How will this be in a few years when more homes are built in upcountry Maui? The best options then would be to send the upcountry commuter traffic away from these spots by diverting the flow of traffic away from where it's already overcrowded. People instead of going down the hill into a traffic mess would detour uphill shortly before heading to their business or beach in Kihei. Therefore, either intersections of the alignment road upcountry at King Kekaulike High School or anywhere south would be preferable. I suggest joining the road at the intersection of Hwy. 37 and Hwy. 377 near Rice Park. This would allow easiest access for tourist traffic to bypass the central Maui traffic mess and get to Haleakala National park in an expeditious way from the South Maui resorts.

Thank you for your time in considering my views.

Aloha kakou,

J. J.

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.0612

JUN 13 1996

RECEIVED
JUN 14 1996
WARREN S. UNEMORI ENGINEERING, INC.

Mr. John Jasinski
P. O. Box 103
Kula, Hawaii 96790-0130

Dear Mr. Jasinski:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your letter dated May 17, 1996, regarding the proposed alignments. Please be assured that your comments are appreciated and will be taken into consideration.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

MAUI
RESEARCH AND
TECHNOLOGY
PARK

May 20, 1996

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hazashida,

Last Wednesday and Thursday, I testified at the informational hearings held by the state to discuss the different alternatives for Maui's Upcountry-Kihei link. As the Maui Research & Technology Park developer and the representative for the park's owners, I spoke against having the Upcountry Road run through the park to the intersection at Lipoa and Piilani Hwy. I repeat our position to you now that, while we are not opposed to the Upcountry-Kihei road, we do not want it running through the park.

During the early 1990's, with the park's first Master Plan, our initial thought was that an Upcountry road running through the park would be appropriate. This thinking continued because our initial development master plan was, in reality, a light industrial park similar to the Wailuku Millyard. As the true nature and character of the park took shape and as the first buildings were occupied with specific user types, it became clear that the original master plan was too limited in scope and unable to take advantage of the many opportunities high technology represented. The result has been that we have now re-oriented our master plan to represent a true research park campus (see attached). As you can see, a major road such as is planned for the Upcountry-Kihei link would split our campus in half and drastically weaken the special appeal high technology users are seeking in their moves to Maui.

With the opening of the Maui High Performance Computing Center, one of the world's largest "supercomputers" as our anchor tenant and with other tenants moving into the park to take advantage of this facility and the park's telecommunication infrastructure, it is imperative to Hawaii's and Maui's future technology growth that the State take no action that would adversely impact the success of this project. An Upcountry road running through the park would be just such an action. As the new Master Plan clearly shows, the park is redesigned around a large roundabout or "Green" with key facilities such as the international teleconferencing center, three new premier office buildings, a support services core and an educational facilities, all lending to this new campus environment. Your proposed road would split the campus in two,

535 LIPOA PARKWAY, SUITE 111 • KIHEI, MAUI, HAWAII 96753 • PHONE: (808) 875-0856 • FAX: (808) 879-8109

destroying the roundabout and representing a major obstacle for the interaction of many new elements in the park, including the pedestrian walkways and bike paths.

We, therefore, ask that you NOT include the alignment of the Upcountry Road through the park as an alternative for your consideration. It represents the most expensive and longest of all of the options. It has a direct and immediate negative impact on all further development in the park. It destroys the nature and character of the technology campus environment we are atternpting to create. And it will cause a number of users, desiring to relocate to the park with valuable jobs and investment capital for our community, to re-think their commitment of bringing high-tech industries here.

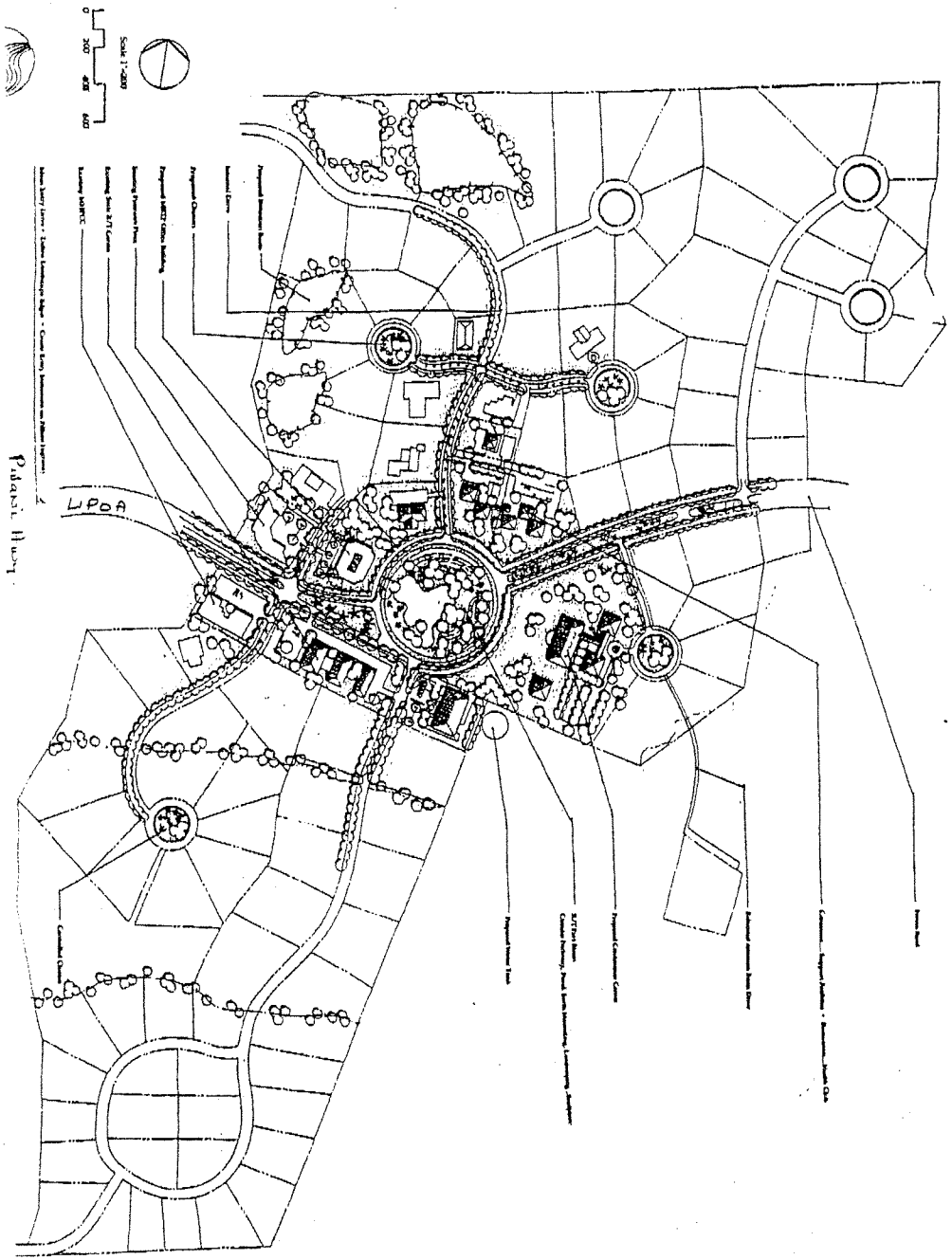
The Maui Research & Technology Park's mission is to be the information center of the Pacific Rim nations and one of the state's most valuable economic assets. The Governor's State of the State address and his Economic Recovery Report both stressed the park's importance to Hawaii's future economic recovery. We would all hate to see the State's department of Transportation take actions that could destroy that mission.

Sincerely,
MAUI R & T PARTNERS

Brett M. Klyver
Director of Development

BMK:pg

cc: Warren S. Unemori



BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.0638

JUN 18 1996

RECEIVED
JUN 19 1996
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Brett M. Klyver
Director of Development
Maui Research and Technology Park
535 Lipoa Parkway, Suite 111
Kihei, Hawaii 96753

Dear Mr. Klyver:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your input in both May informational meetings and your letter of May 20, 1996, on the Kihei-Upcountry Maui Highway, Project No. HDPS-9203(1). We are now aware of your wish not to include the alignment of our project through the Maui Research and Technology Park and will take your concerns into consideration.

Changes and adjustments are part of the environmental process and we appreciate your comments.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

✓bc: Warren S. Unemori Engineering, Inc.

GAGE A. SCHUBERT
108 HOLOPUNI RD. KULA, MAUI, HI 96790 808/878-1843

May 17, 1996

Mr. Kazu Hayashida, Director
State Of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Gentlemen: RE: Alternative Alignments Studies
Maui Highway: Kihei to UpCountry

As a resident of Kula, living in an agriculturally zoned subdivision that is directly connected to the Pulehu Rd./ Omaopio Rd. corridor that connects "Up-Country" Maui to the district of Kahului and the airport, I am much concerned with the highway alignments being considered.

During my many years residency in northern California I took and active role in community planning and its interface with Caltrans. I have seen the havoc created by well-intentioned studies that failed to anticipate the rampant growth that seems to inevitably follow the introduction of new highways in to previously undeveloped lands.

The public response to the two meetings held during the last few days (in Pukalani and in Kihei) was remarkably small . As an "old hand" regarding such public-impact issues, I can only guess that the newspaper reports of the scheduled meetings were not read by a wide audience or that those that did learn of the meetings had too little time to ralley their forces; of course the other possible explanation relates to public apathy!

Clear and concise data was presented to the public attending these meetings. I found it easy to understand and compliment the engineers on their patience and care during their presentation.

I was not surprised to learn that the criteria followed in determining the "best" alignments was motivated to a large extent by expense. It was daunting, however, to percieve so easily how much political power was clearly being applied vis-a-vis the interests of the big land owners.

Most of those attending the meetings saw clearly that an alignment that would begin at the south end of Piilani, near the Maui Meadows subdivision, and entrances to the Wailea project, and continue directy to a point northwest i.e. down hill of the Hallimaile Road connection with Haleakala Highway would meet the needs of most of the electorate, with the least impact on "human needs".

Many of those who have studied the increasing traffic burden to pre-existing roadways through out Maui have reasoned that a rural, limited access roadway from Piilani Highway to Haleakala Highway is most important for many important reasons, chief among them, providing a secondary exit from the Kihei/Wailea area in the event of storm or catastrophe.

But the ralleying cry of "No Growth" has been key to the recommendation.

NOT IN MY BACK YARD, (NIMBY) is the popular sentiment.

If the Maui Planning Department and the State Department of Transportation could only agree to agree, the issues of criteria would focus on conformance with Community Plans, thereby supporting planned growth and the varied issues that are not motivated by the long range profit plans of a few large companies.

None of us have forgotten that the site of King Kaukalike High School was selected via profit and political issues. Traffic safety, nearness of the residences of students and the general impact of such a large institution at the intersection of such narrow, pre-existing roads were clearly not issues at all!

Though I live on Holopuni Rd., less than a mile from the proposed terminus of ALT. 5 at Kula Highway, I am less focused on the likelihood of traffic roar, increased density of traffic, even that which will inevitably spill into my neighborhood from Pulehu Rd., for what concerns me greatly is the inevitability of new subdivisions and commercial development adding to traffic.

Kula is an agriculturally zoned or rurally zoned area. Residences like mine are mandated to grow crops to maintain pre-existent ag rules.

ALT. 5 and ALT. 4-B (as well as 4-A), raise the certainty of development that the county would be hard-pressed to curtail, and which would lead to broad residential development along this alignment, and particularly as it would abut the existing roads of Pulehu and Omaopio.

ALT. 4B would introduce traffic focused on access to Haleakala Highway, at an intersection that already has a very sensitive traffic issue building at this time, i.e. King Kaukalike School. As was pointed out by me at the Kihei School Meeting on May 16, there is a 25 Mile per hour speed zone for a city block or two stretching south from the intersection of the Pukalani By-Pass with Kula and Haleakala Highways.

Within two to three years a full compliment of several thousand students will be attending that high school. Parents will be driving their students to this school at seven am, commuters from much of southern Kula will be lined-up at the existing traffic light seeking an easy flow of traffic towards the Pukalani By-pass and down into Pukalani. Add to this already critically dense flow tourists in private car and bus and one begins to perceive the flaw in positioning the terminus of ALT. 4B in that location.

And that is just focused on current development at the 5-tree intersection. Already county approvals are in the works for development of the so-called Pukalani Triangle, a pineapple field bounded by Makawao Avenue on the west, Pukalani By-Pass on the north and Old Haleakala Hwy on the south. And then there are the developments that Sports Shinko envisions for lands directly west of the high school.

All in all, this location promises far worse traffic snarls than even ALT. 5!

Upcountry critics will probably not focus on the issue of low-income housing as it affects the employment of families living in Haiku and surrounding areas. There is little doubt however that many residents of northeastern edge of Upcountry as well as those communities that abut Hana Highway have sought employment at the resorts in Wailea and McKenna.

Aligning the new highway, so that its terminus with Haleakala Hwy, is near Haliimaile Road will enable many residents of the area to avoid the near terminal traffic congestion that even now exists at the intersection of Dairy Road and Hana Hwy., without factoring-in the impact of traffic as future Dairy Road development comes on-line.

A cursory glance at any map of the Haliimaile, Makawao, Haiku districts yield the information that there are now many rural roads that connect these communities with one another. Though none of these roads would meet current federal standards, most of them carry traffic throughout the day for residents and visitors alike.

It is a logical and fair assumption that no one locale would be seriously impacted by a focused flow of traffic, excepting perhaps the small community of Haliimaile, but since it already is a near totally company-oriented community I believe that this particular "company" would undertake cooperation with the County in order to widen Haliimaile Rd., at least the financial impact would be forseable.

In conclusion, may I summarize my views:

Though cost will undoubtedly determine the future augmentation of this highway project, I urge the State D.O.T. to factor-in as much focus on the future impact of traffic and development as is possible to do.

Maui may be tilting away from agriculture, tourism-interests are ever more important for the future of the state, and jobs will be necessary to bring that about.

An increasing job market pre-supposes increased residential development, and that undoubtedly mandates more and better roadways.

Maui needs carefully planned roadways, perhaps not more roadways as such. Your Project Description says that the Federal Highway Administration is joining the State D.O.T. in sponsoring the construction of a rural, limited access arterial roadway.

If the arterial roadway does indeed maintain its rural character and limited access, all would be perfect for Maui and its future interests.

But we all understand just how big an "IF", that really is!

Thank you for considering my views.

Sincerely,

Jeage Schubert

cc: Linda Crockett Lingle
Mayor, County of Maui

David W. Blane
Director of Planning

LINDA CROCKETT LINGLE
Mayor

DAVID W. BLANE
Director

GWEN OHASHI HIRAGA
Deputy Director

COUNTY OF MAUI
PLANNING DEPARTMENT
250 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

May 23, 1996

Mr. Gage Schubert
108 Holopuni Road
Kula, Hawaii 96790

Dear Mr. Schubert:

RE: Proposed Kihei to Upcountry Highway

Thank you for your letters dated May 17 and 19, 1996, expressing your concerns and encouraging this Department's involvement with this project. We share many of your concerns and have been involved since the project's inception.

The State Department of Transportation (DOT) recently held two informational meetings, May 15 at the Pukalani Community Center, and May 16 at the Kihei School Cafeteria. A Planning Department representative attended both meetings with the purpose of monitoring project status and assessing public sentiment.

Your letters express a concern with the possibility of unwanted and uncontrolled growth along the project's right of way. In a letter written during the scoping phase of the EIS process, this Department pointed this out as a possible impact and asked that it be analyzed in the document. The letter brings out other issues as well. A copy is enclosed.

Again, thank you for expressing your opinions, and I assure you that this Department will continue to be invoived in this project. If you need any additional information, please contact William Spence of my staff at 243-7735.

Very truly yours,

DAVID W. BLANE
Director of Planning

DWB:wrs
Enclosure
cc: Julie Higa
Ron Suzuki, DOT
Central File
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STATE DEPARTMENT OF TRANSPORTATION
MAY 30 1 51 PM '96
HIGHWAYS DIVISION
PLANNING BRANCH

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.0614

JUN 18 1996

RECEIVED
JUN 19 1996
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Gage Schubert
108 Holopuni Road
Kula, Hawaii 96790

Dear Mr. Schubert:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your letter dated May 17, 1996, regarding the proposed alignments. We feel that the detailed alternatives screening process, as well as a continuing process for public input, will assist us in developing "carefully planned roadways." Please be assured that your comments are appreciated and will be taken into consideration.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
May 29 10 23 AM '96

PUA KEA FARM / 206 COOKE ROAD, KULA, HI 96790 / 808-878-6705

May 28, 1996

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hayashida:

With reference to the alternative alignments for the Kihei - Upcountry Highway, the best choice would be alternate 1 with an overpass and on/off ramps at Haliimaile/Haleakala Highway intersection.

Mahalo,

FRANK W. WHITE

JUN 3 1 34 PM '96
HIGHWAYS DIVISION
PLANNING BRANCH

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1176

JUL 19 1996

RECEIVED
JUL 19 1996
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Frank W. White
Pua Kea Farm
206 Cooke Road
Kula, Hawaii 96790

Dear Mr. White:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your comments concerning Alternative #1 and an overpass with on/off ramps at the Haliimaile/Haleakala Highway intersection.

The traffic volume projected for the foreseeable future in Upcountry Maui at the location mentioned cannot justify a grade-separated structure. Nevertheless, your comments and interest in this project are appreciated.

Very truly yours,

for KAZU HAYASHIDA
Director of Transportation

✓bc: Warren S. Unemori Engineering, Inc.

DON WILLIAMS & COMPANY

COMMERCIAL REALTORS

May 17, 1996

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MAY 29 12 42 PM '96
HIGHWAYS DIVISION
PLANNING BRANCH

RECEIVED
MAY 29 '96
DEPARTMENT OF TRANSPORTATION
AIR TRANSPORTATION DIVISION

Mr. Kazu Hayashida, Director
State of Hawaii DOT
869 Punchbowl Street
Honolulu, HI 96813

Re: Kihei-Upcountry Highway Project - Maui, Hawaii

Dear Mr. Hayashida:

Thank you for this opportunity to provide the following comments.

It appears by the comments made at the May 16, 1996 Kihei meeting that the Piilani Highway terminus would be better located at one end or the other of the Maui R & T Park, not through the middle on Lipoa Street. Actually, I suggested two terminuses one north and south of the park but was informed that only one terminus is allowed within the funding guidelines. Perhaps the private sector could be induce somehow to add half of the two road intersection "Y" above the R & T Park.

For the Upcountry terminus, perhaps convince Maui Land and Pine to sell, trade, dedicate or otherwise transfer enough property in Pukalani to provide an acceptable buffer zone to existing residential sub-divisions. This would allow an Upcountry terminus in the Pukalani area without negative impacts to neighborhoods while providing positive economic impacts. This concept uses the most mauka portion of Alternative #8 (the portion above Alternative #2) and then continues down Alternative #2 and then to a terminus at Piilani Highway near the sewer treatment plant and the Kihei regional park. The north portion of the "Y" theory mentioned above could then be completed by the private sector.

With the valid concerns on all sides of this issue, the above combination of alternatives may provide a balance of satisfaction to all concerned.

Thank you for your continuing dedication to resolving this very difficult situation.

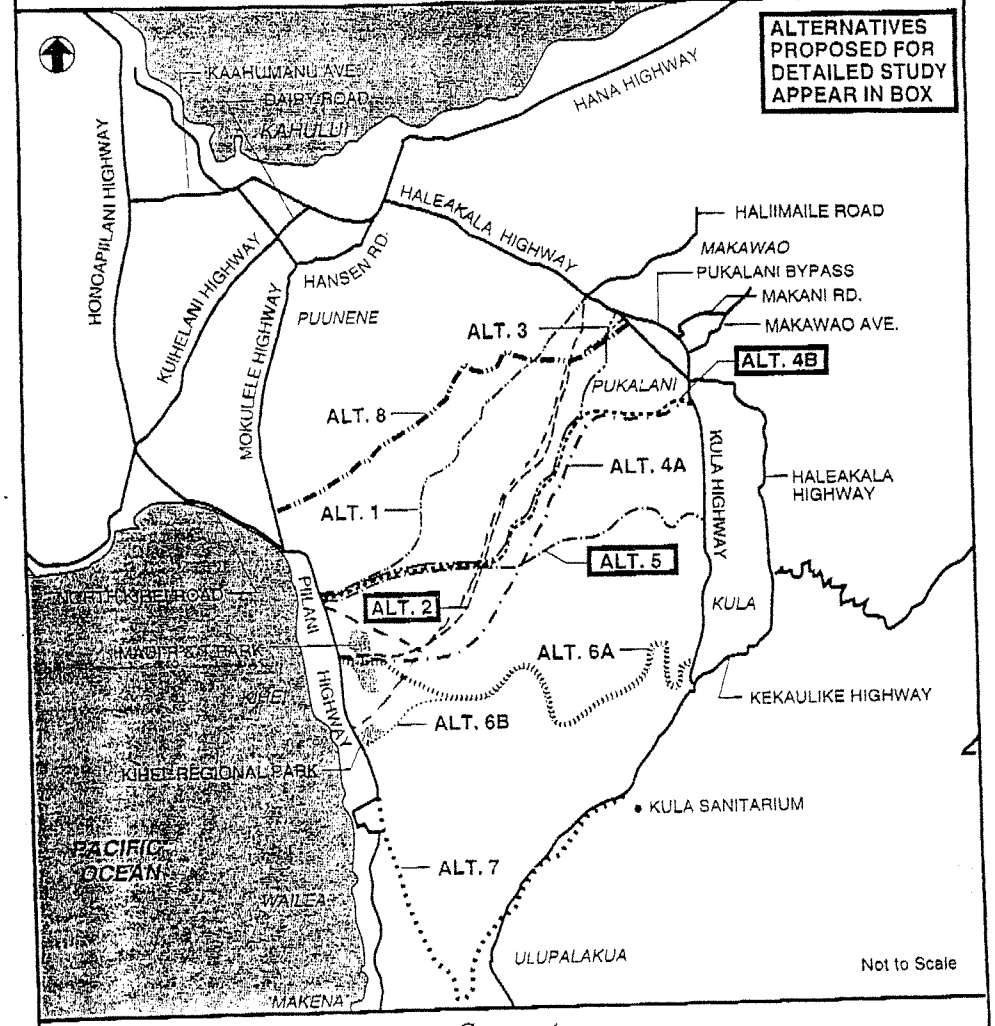
You are welcome to contact me with your questions and comments.

Aloha,

Don Williams, CCIM

Dallas FAX Number (214) 824-3443
P.O. BOX 595953 • DALLAS, TEXAS 75359 • (214) 824-3388
P.O. BOX 1178 • WAILUKU, MAUI, HAWAII 96793 • (808) 244-3040

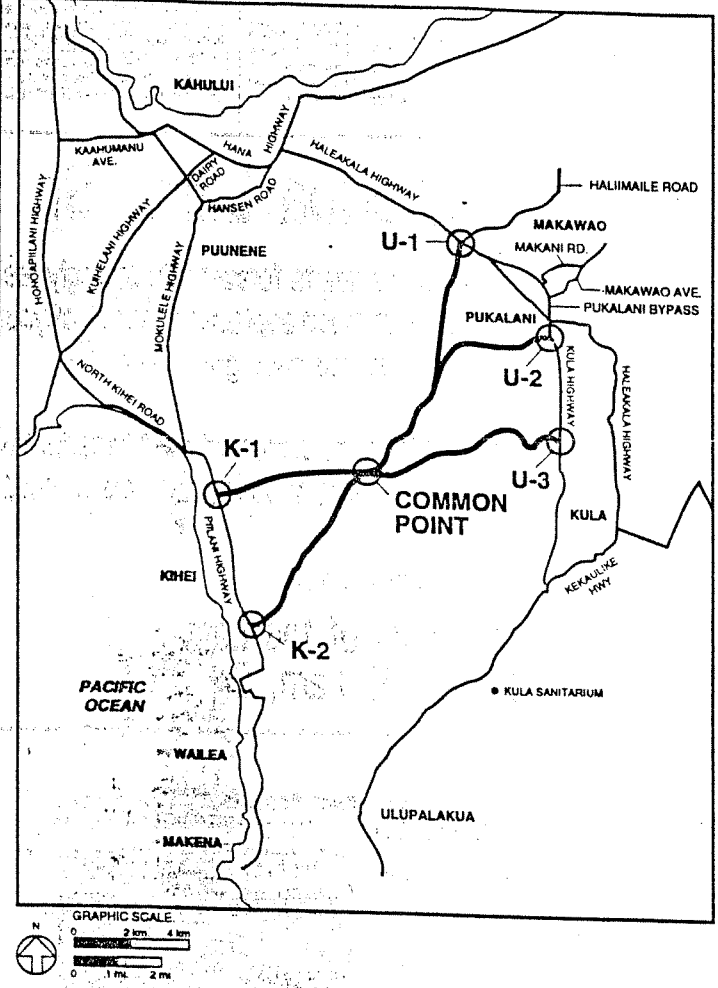
Project Alternative Alignments



Comments

If you wish to comment, please mail or deliver comments by May 31, 1996, to the following address:

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813



NOTICE

The latest information regarding the Kihei-Upcountry Maui Highway project follows below:

Due to comments received from our last public meetings, we have made adjustments to our then-recommended alignments No. 2A, 2B, 4B and 5. The new alignments are illustrated in the above map and are named by the U-(Upcountry) termini in combination with a K-(Kihei) termini.

U1 - Haleakala Highway at Haliimaile Road intersection
U2 - Kula Highway east of Pukalani Bypass Road
U3 - Kula Highway south of Pulehu Gulch
K1 - Piilani Highway at Kaonoulu Street intersection
K2 - Piilani Highway at proposed Road "F" intersection (south of Kihei Regional Park)

These alignments are currently being investigated in the Draft Environmental Impact Statement (EIS) now being prepared.

We wish to thank you for your input into this environmental process and look forward to your continued support and interest as this project develops.

Please contact the Highways Division, Planning Branch, at (808) 587-1843 if additional information is desired.

Glenn M. Okimoto for
KAZU HAYASHIDA
Director of Transportation

(Hon. Adv.: May 7, 1997) (A-44229)

NOTICE

The latest information regarding the Kihei-Upcountry Maui Highway project follows below:

Due to comments received from our last public meetings, we have made adjustments to our then-recommended alignments No. 2A, 2B, 4B and 5. The new alignments are illustrated in the above map and are named by the U-(Upcountry) termini in combination with a K-(Kihei) termini.

U1 - Haleakala Highway at Haliimaile Road intersection

U2 - Kula Highway east of Pukalani Bypass Road

U3 - Kula Highway south of Pulehu Gulch

K1 - Piilani Highway at Kaonoulu Street intersection

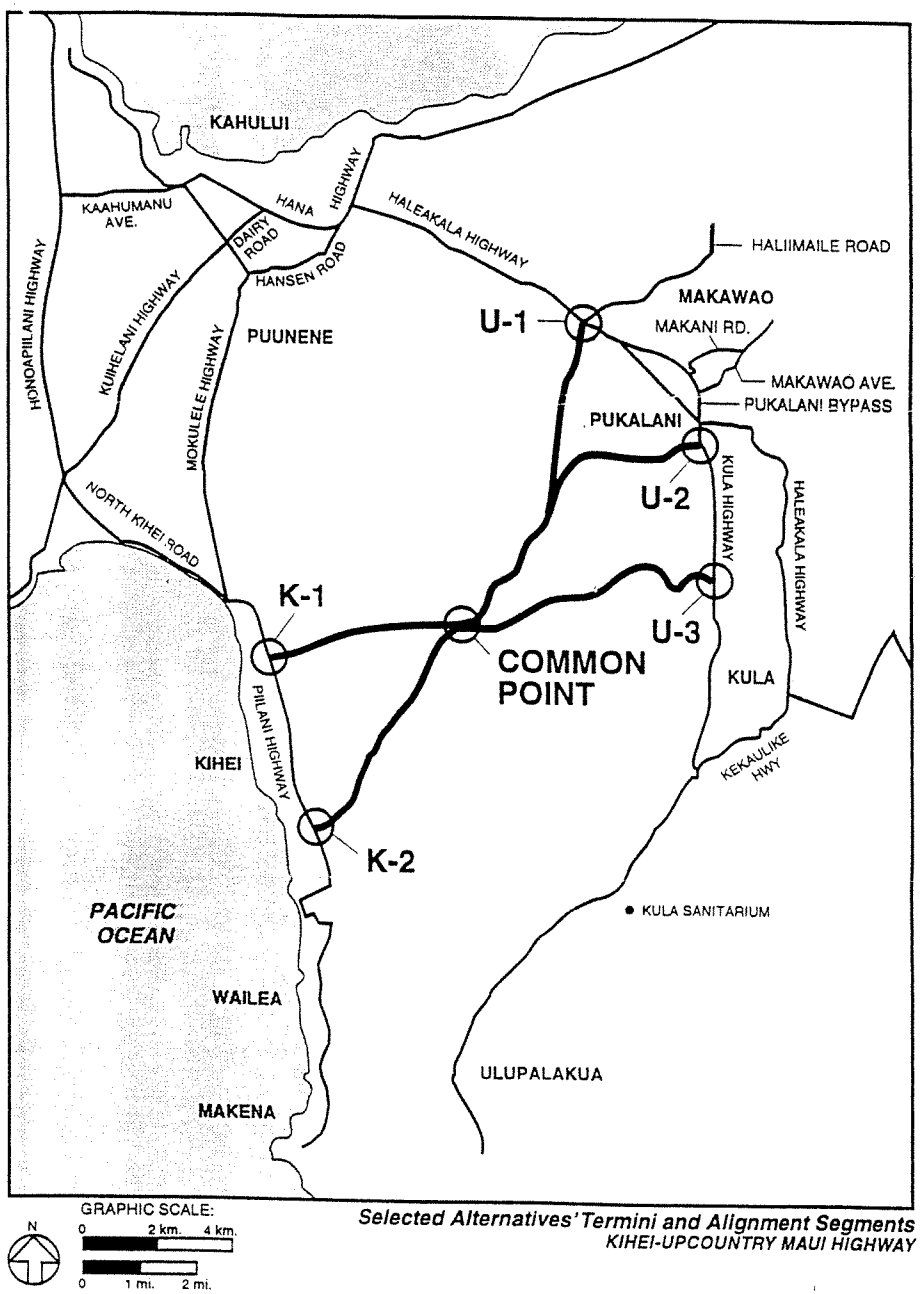
K2 - Piilani Highway at proposed Road "F" intersection (south of Kihei Regional Park)

These alignments are currently being investigated in the Draft Environmental Impact Statement (EIS) now being prepared.

We wish to thank you for your input into this environmental process and look forward to your continued support and interest as this project develops.

Please contact the Highways Division, Planning Branch, at (808) 587-1843 if additional information is desired.

KAZU HAYASHIDA
Director of Transportation



Selected Alternatives' Termini and Alignment Segments
KIHEI-UPCOUNTRY MAUI HIGHWAY

PO Box 122
Pukalani, HI 96788
May 8, 1997

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
MAY 9 10 20 AM '97

RECEIVED
MAY 9 11 10 AM '97
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Mr. Kazu Hayashida, Director of Transportation
Dept. of Transportation
869 Punchbowl St
Honolulu, HI 96813

RECEIVED
SEP 3 1997
WARREN S. UNEMORI ENGINEERING, INC.

Dear Mr. Hayashida:

Please keep me on the mailing list for information related to the Kihei-Upcountry Maui Highway.

I sincerely hope that you **don't build the U-1 or U-2 upcountry connections**. There is way too much congestion in these areas. Please spread out the traffic.

I STRONGLY urge you to look seriously at the **U-3 - K-2** option.

You have a tough job. No matter what is decided there will be a lot of people who don't agree with you. I wish you luck.

Sincerely,

Robert M. Butterfield

HIGHWAY DIVISION
PLANNING BRANCH
MAY 12 11 17 AM '97
STATE DEPARTMENT
OF TRANSPORTATION

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

SEP - 2 1997

SEP - 5

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
Brian K. Minaai

IN REPLY REFER TO:
HWY-PA
2.5978

RECEIVED
SEP 3 1997
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Robert M. Butterfield
P. O. Box 122
Pukalani, Hawaii 96788

Dear Mr. Butterfield:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for informing us of your position on the alternative alignments for the Kihei-Upcountry Maui Highway project. We will maintain your name on our mailing list and will consider your input during the ongoing environmental process.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

✓bc: Warren S. Unemori Engineering, Inc.

Kihei, Maui

Dear Kazu Hayashida;

I am against all your proposed "upcountry" roads as they dont make sense!

First, future growth will be towards Makena & past Wailea. Your main tourist areas in these areas all want to go to Haleakala and the "wine country."

Why put the road in Kihei where traffic is already congested and why to Pukalani? (Just to please the upcountry people?)

A road up at the end of Piilani highway would be the shortest, easiest and most [illegible] to all points so why [illegible]?

You sulged it out 2 years ago but its the best way!

pg 2

The State can acquire the needed land without that much environmental problems.

We need some action now on roads on this island as ours our the worse! Its way past time someone starting repairing and adding new roads to ease the traffic problems which are getting worse very fast. Its been way too long since roads have even been repaired and repaved!

We're the #1 island in the world to visit but can't even drive on decent roads! I can name dozens of main roads in and out of every city that are terrible to drive on and killing our cars!

3

I dont even remember seeing a road repaved in the last 4 years unless it was a new sub-division.

Please acquire and use all the funds possible to relieve this dangerous situation.

I've lived in Hawaii over 40 years and am watching everything I love slowly disappear with "progress" but new roads are vital.

It's been way too long so how about some action from there?

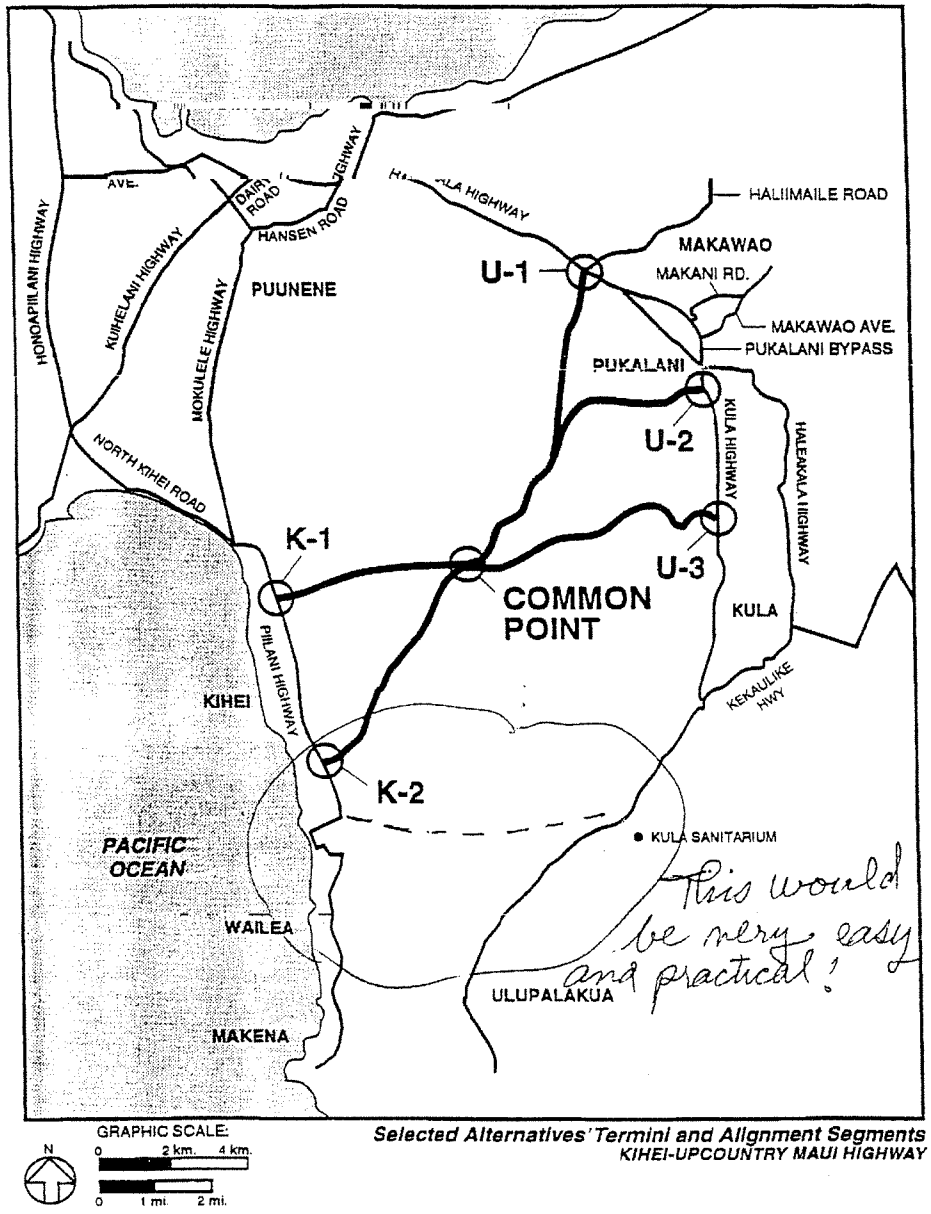
Mahalo + Aloha

Kimo Galbraith

BOX 1728

Kihei 96753

8796611



Selected Alternatives' Termini and Alignment Segments
KIHEI-UPCOUNTRY MAUI HIGHWAY

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
Brian K. Minaai

IN REPLY REFER TO:

HWY-PA
2.5734

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

AUG 19 1997

RECEIVED

AUG 20 1997

WARREN S. UNEMORI ENGINEERING, INC.

Mr. Kimo Galbraith
P. O. Box 1728
Kihei, Hawaii 96753

Dear Mr. Galbraith:

Subject: Kihei-Upcountry Maui Highway, Project No. HDPS-9203(1)

Thank you for your letter expressing your feelings on the proposed Kihei-Upcountry Maui Highway, Project No. HDPS-9203(1). We are always interested in the public's opinion to assist us in developing our project. However, "a road at the end of Piilani", while one of the original alignments under consideration, was dropped due to its low economic feasibility. Your input in the planning process is a vital link in our project development.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

A&B-HAWAII, INC.
HONOLULU, HI
G. STEPHEN HOLADAY
SR. VICE PRESIDENT

HAWAIIAN COMMERCIAL & SUGAR CO.
G. STEPHEN HOLADAY
PLANTATION GENERAL MANAGER
TELEPHONE: (808) 877-3081

HAWAIIAN COMMERCIAL & SUGAR COMPANY

P.O. BOX 266, PUUNENE, MAUI, HAWAII 96784

August 04, 1997

AUG 8 10 25 AM '97
RECEIVED
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

Mr. Kazu Hayashida, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: Proposed Kihei-Upcountry Maui Highway Project

Dear Mr. Hayashida:

In June 1997, as a result of comments received from public hearings held in 1996, we were informed of new alignments being proposed by DOT for the Kihei-Upcountry Highway project.

We are aware that these alignments will be included in the Draft Environmental Impact Statement for this project, which is currently being prepared. Accordingly, we would like to provide you with our preliminary comments for your consideration in the preparation of this document:

1) The points of origin in Kihei currently have no impact on HC&S' operations and therefore we have no concerns or preferences;

2) Haleakala Highway at Haliimaile Road intersection (U1): As we have commented upon in the past, this routing alternative would bisect HC&S' property. As a result, this route would serve to isolate 1,000 acres of cane land under the cultivation and would require the installation of underpasses or traffic lights to enable HC&S to continue to cultivate these acres. This alignment also intersects canehaul roadways which are primary thoroughfares for our haulers and crosses essential irrigation ditches and pipelines. Our ability to move equipment and to irrigate our crop must be preserved. As a side note, this alignment would also require the construction of bridges to cross the several gulches, which will increase the cost of the highway. Unless satisfactory mitigative measures are implemented, HC&S strongly opposes this route.

3) Kula Highway East of Pukalani Bypass Road (U2): This highway alternative also traverses through HC&S' property, although to a somewhat lesser degree than the above mentioned alignment (U1). This

alignment, which runs along the top edge of our farm land, would isolate approximately 60 acres of cane land, and again, would require mitigative measures to maintain HC&S' access to these lands. The route also crosses two major water ditches, the Hamakua Ditch and the Reservoir 40 Ditch, which will need to be protected and remain operative, even during construction. This alignment also crosses at least three major gulches and several smaller gulches, which again will require bridges and will add to the cost of the projects. Again, unless satisfactory mitigative measures are implemented, HC&S strongly opposes this route.

4) Kula Highway South of Pulehu Gulch (U3): Of the three alternatives being presented, this alternative (U3) has the least impact to HC&S. The route does not cross through any of our fields and therefore would have minimal effects on our operations.

We have attached a map to help illustrate the impacts of the roadway alignments on the plantation.

The alternatives U1 and U2 will cause significant impacts to HC&S and, this will require significant mitigative measures, which have been previously outlined to the department, to ensure minimal disruption to HC&S' current operations. We trust that these impacts and mitigations will be addressed in the upcoming draft EIS. If you need further clarification of these measures, please feel free to call me for the information.

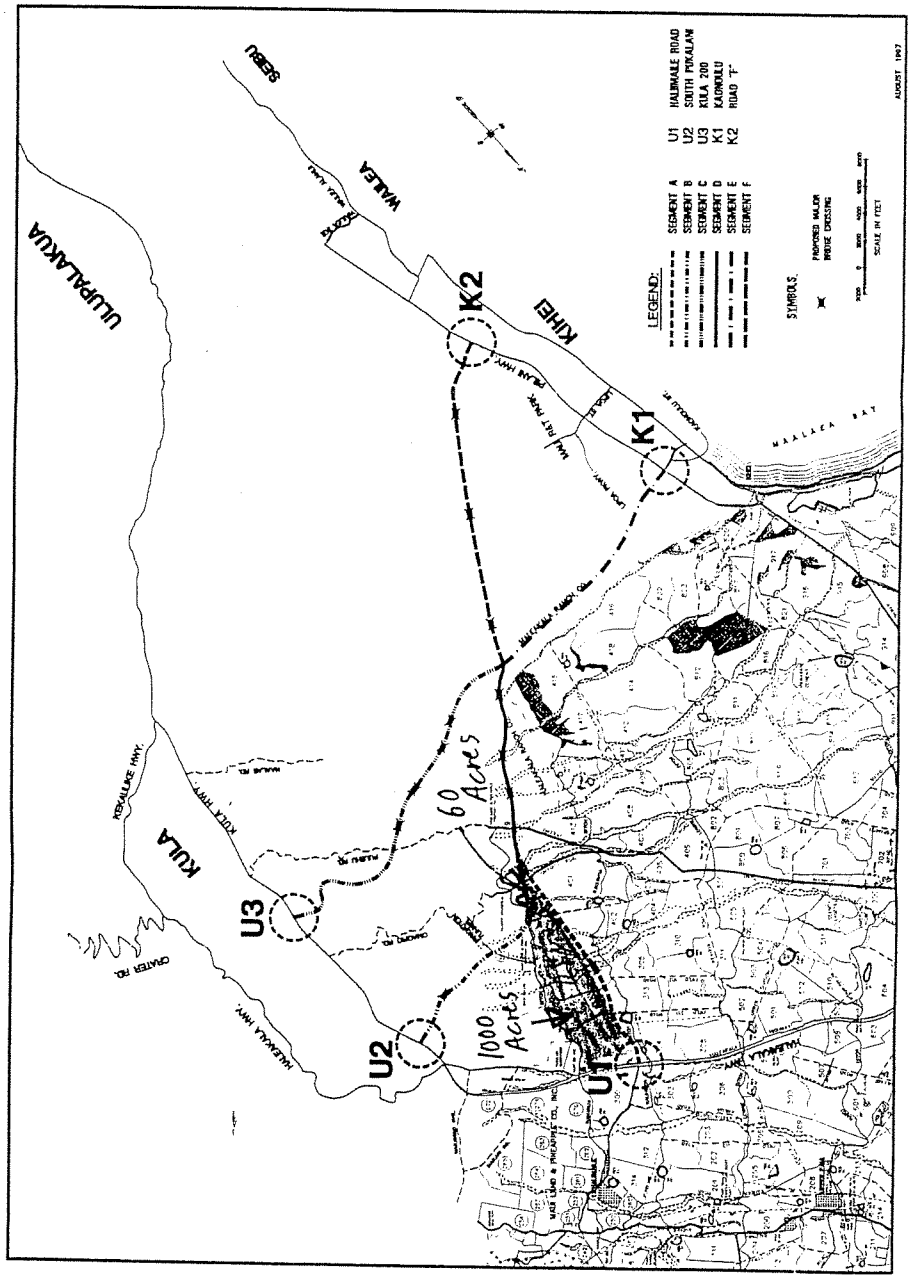
We continue to welcome open and early discussions with the DOT and its consultants on this highway project. Though our working together, early on in the process, we believe that an alignment which will benefit all parties--farmers, residents and businesses on Maui--can be identified. Over 1,000 employees at HC&S have a lot at stake on your choice of alignments.

Sincerely,

G. Stephen Holaday

Enclosure

cc: M. J. Ching



BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
Brian K. Minaai

IN REPLY REFER TO:
HWY-PA
2.5883

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

AUG 25 1997

RECEIVED
AUG 2[illegible] 1997
WARREN S. UNEMORI ENGINEERING, INC.

Mr. G. Stephen Holaday
Plantation General Manager
Hawaiian Commercial & Sugar Company
P. O. Box 266
Puunene, Hawaii 96784

Dear Mr. Holaday:

Subject: Kihei-Upcountry Maui Highway, Project No. HDPS-9203(1)

Thank you for your August 4, 1997 letter summarizing Hawaiian Commercial & Sugar Company's (HC&S) position on the proposed alternatives for the Kihei-Upcountry Maui Highway project.

We are confident that, through our previous meetings and correspondence, we have been made aware of HC&S' operations and position on the alternatives and will strongly consider them in our analysis of this project.

As stated previously, we will keep you informed of major developments in the project and look forward to any assistance you can provide.

Very truly yours,

HUGH Y. ONO
Administrator
Highways Division

√bc: Warren S. Unemori Engineering, Inc.

Kula Community Association
P.O.Box 417
Kula, Maui, Hawaii 96790

"The specific purpose of this corporation is to improve the quality of life for the residents of Kula, to promote civic welfare and generally to benefit the community of Kula."

RECEIVED
MAY 9 11 01 AM '97
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

To: Maui County Council
From: Alan Kaufman, KCA president
Date: 2 May 1997

The Board of Directors of the Kula Community Association has asked that I inform you about results of a just completed community survey. The survey was mailed to every household in the Kula area. A total of 318 surveys were returned, for a response rate of ~~15%~~ 18% AS OF 7 MAY

It has been the position of the KCA Board of Directors to support water rate increases provided that the proceeds are used to expeditiously initiate and complete needed system repairs. Of those responding, 81.2% agreed with this position, 8.9% disagreed, 6.7% were undecided, and 3.2% did not respond.

The community was also polled on the preferred location of the Upcountry terminus of the Kihei-Upcountry Road. Haliimaile was favored by 30.8%, the "No Build" option by 27.2%, Pulehu/Omaopio area by 19%, Five Trees/Kula 200 by 15%, Undecided by 5.7%, and 2.3% did not respond to the question. The position of the KCA Board of Directors has been to favor the "No Build" option, or if the road is to be built, to put it at Haliimaile. It appears this position accurately reflects the opinion of the Kula Community.

As these issues are addressed, the KCA Board of Directors hopes the opinions of our community will receive due consideration.

Sincerely,

Alan Kaufman

Copy: Mayor Linda Lingle
Bob Siarot, Division of Highways
Senator Dan Inouye
Kazu Hayashida

kcaersw.doc

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION
MAY 12 11 13 AM '97
HIGHWAYS DIVISION
PLANNING BRANCH

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS

GLENN M. OKIMOTO
Brian K. Minaai

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.5979

SEP -2 1997

RECEIVED
SEP 3 1997
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Alan Kaufman, President
Kula Community Association
P. O. Box 417
Kula, Hawaii 96790

Dear Mr. Kaufman:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for informing us of the Kula Community Association's position on the alternative alignments for the Kihei-Upcountry Maui Highway project. We will consider your input during the ongoing environmental process and in the development of this project.

Very truly yours,

Kazu Hayashida

KAZU HAYASHIDA
Director of Transportation

✓bc: Warren S. Unemori Engineering, Inc.

September 10, 1997

Mr. Kenneth Au
DOT Highways Division
869 Punchbowl St.
Honolulu, Hawaii 96813

Re: Kihei-Upcountry Highway Project
Dear Mr. Au,

This letter is long overdue. I spoke with you by phone several months ago about the above project. I still, as I conveyed to you, feel that the best route for the highway is from K-2 to the upper end of Kekaulike Highway. This is the most direct way to the crater, which over 2,000,000 people a year visit. This is also the most direct route for those working in the crater. Four hundred lots will be subdivided in the Hawaiian Homelands area in upper Kula in the very near future. This will necessitate the improvement of the roads in this area. Since a number of these people may be employed or seek employment in the Wailea area the upper Kula connection makes a lot of sense.

Recently we were informed a developer in our neighborhood is planning a town with a twenty acre shopping center. It appears on his maps with what looks like the U-2 alternative on your map. Since we have a not yet completed high school, King Kekaulike, only a few hundred feet below this proposed development, I question why the State would support such a situation. This man and his fellow investors have rubbed elbows with several State and County people, leading many of us to think a back room deal was struck. Although only a few weeks ago in a meeting with residents he stated he would be building 324 homes, he jumped to 400 and is now at 450. I'm enclosing a master plan of his project obtained from the County Planning Department here on Maui.

I hope you will look it over and understand as I have that the scope of this project is detrimental to the safe environment the students in Kekaulike deserve. I did a traffic study Monday, Sept. 8, 1997 from 2:00pm to 4:00 pm. The numbers I came up with were astonishing. The vehicles going in numbered 188, going out

262, students walking alongside (there is no sidewalk) the Kula Highway numbered 41, vehicles going up or down, 1,720, and industrial vehicles, 22, for a total count of 2,194 vehicles during the two hour period. I intend to do more traffic studies as I realize one is not sufficient to be a true study of traffic. The developer of the above project I mentioned, did a traffic study, however it was done in 1996 when two classes attended Kekaulike High. Since then a number of those students have obtained a drivers license. The high school at present contains freshmen through juniors, with it becoming a four year high school for the 98/99 school year. In speaking with the principal I was told the school is full with each class that comes in. The freshmen class this year consists of 400 students. There are a total of 1,040 students in the school at present. Since the school is bordered by Haleakala Highway on one side and Kula Highway on the other I believe adding another highway in the same area would be like sentencing a few students every year to certain death. While observing the traffic, a tourist made a U-turn on the highway while another went in the school turning lane, and realizing he made a mistake, quickly cut out almost hitting a town-bound vehicle.

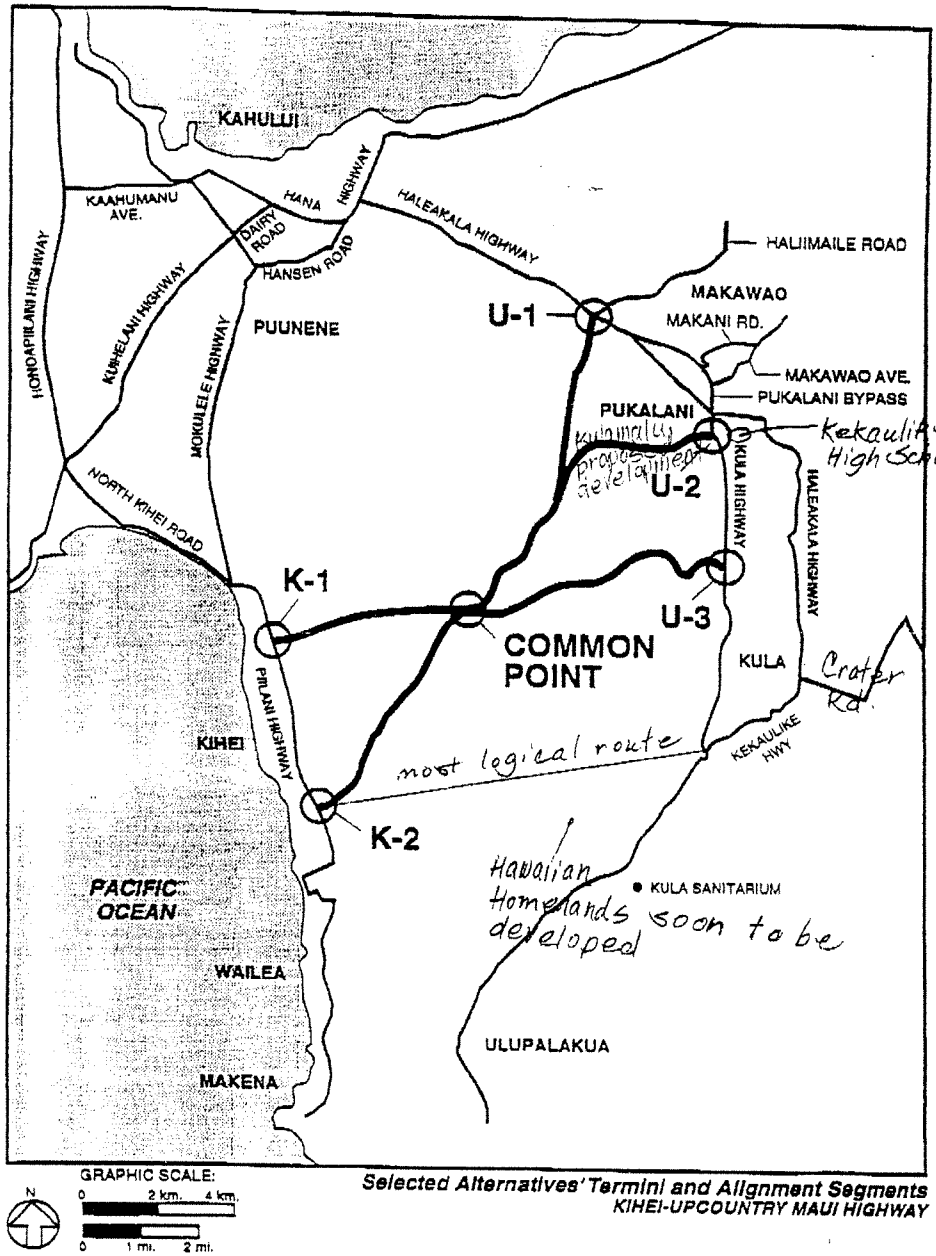
Some parents are upset and feel they can do nothing to stop this since this man seems to have everyone in his back pocket. They feel if anything happens to them or their children as a result of the tremendous amount of traffic coming into the neighborhood of the school, they will sue the developers of Kulamalu, the County of Maui and the State. I believe good planning is important and with good planning we can avoid the above.

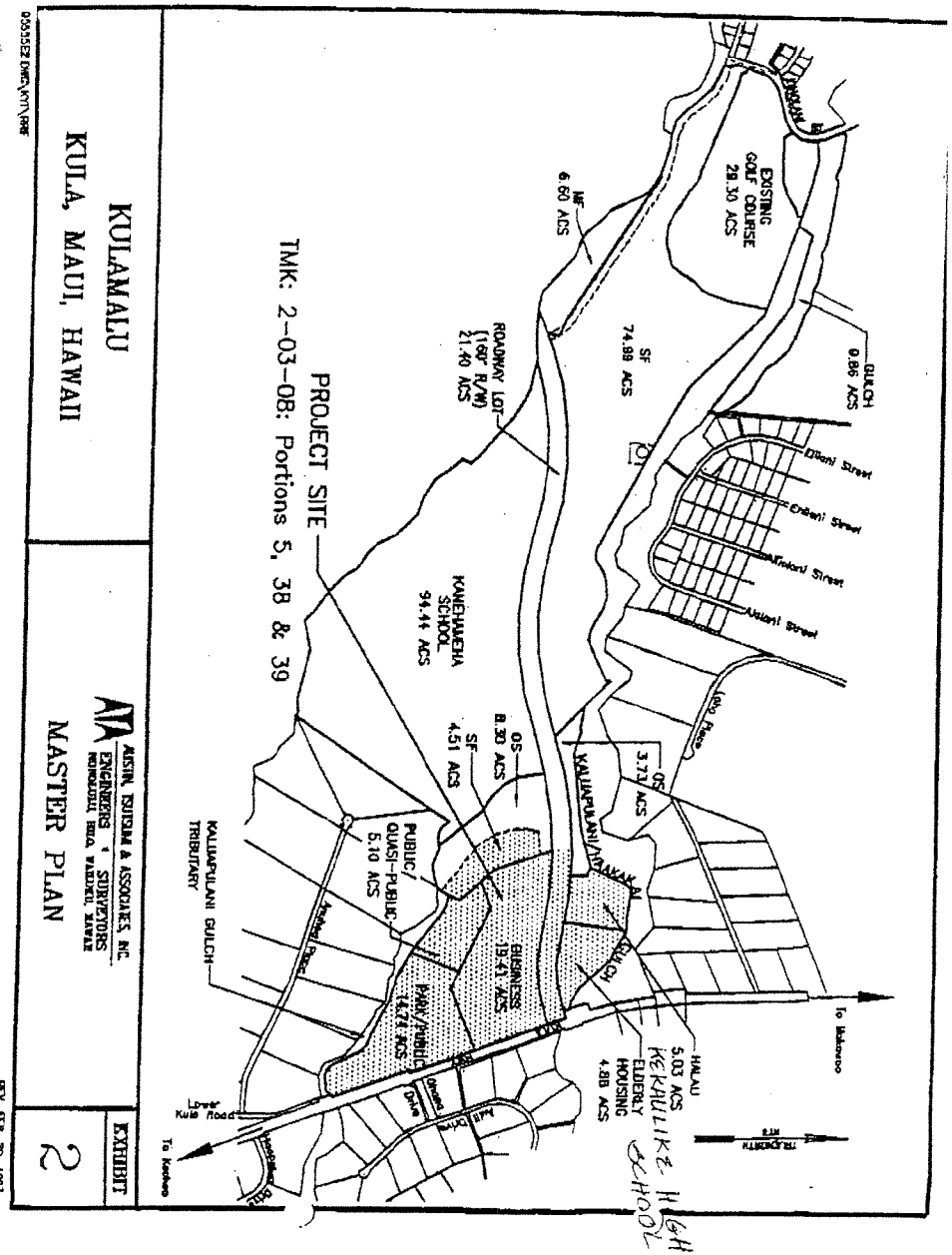
Since the Kihei to Upcountry Highway is a plan for the future the U-2 and U-3 areas are the least efficient at allowing for traffic flow. The U-2 site would be a good recipe for traffic gridlock.

If you would like to go over the area indepth I would be happy to meet with you. We have had several accidents in the area since the school opened. The most recent resulted in a death. My home phone is 572-0729.

Sincerely,

Barbara J. Luke





BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.6436

SEP 24 1997

RECEIVED
SEP 25 1997
WARREN S. UNEMORI ENGINEERING, INC.

Ms. Barbara Luke
111 Aulii Drive
Pukalani, Hawaii 96768-8207

Dear Ms. Luke:

Subject: Kihei-Upcountry Maui Highway Project,
Project No. HDPS-9203(1)

Thank you for your input on the Kihei-Upcountry Maui Highway Project. Through letters like yours, we hope to get an idea of the public's feelings during this environmental process.

In regards to the Kulamalu development, the Department does not favor one alignment over another at this time. A minimum of six alignment combinations are possible and viable. However, while an astute businessman will take advantage of areas opening up due to a new highway, the Department does not select an alignment specifically to encourage development.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

SUMMARY	Kihei Upcountry Road					Kula Vision				Water		
	Haliimaile	5 Trees	Pulehu	No build	Undecided	Agree	Disagree	No need	Revise	Agree	Disagree	Undecided
MEMBERS	12.33	3.33	1.33	8	1	23	0	0	2	23	0	3
N=27	49.4%	12.3%	4.9%	29.6%	3.7%	85.2%	0%	0%	8.7%	85.2%	0%	11.1%
NEW & RENEW MEMBERS	53.5	29	27	45.5	9	147	1	0	10	149	8	9
N=169	31.7%	17.2%	16%	26.9%	5.3%	87%	0 .6%	0%	5.9%	88.2%	4.7%	5.5%
NOT MEMBERS	30	16.5	31.5	32	8	99	3	2	5	83	20	9
N=118	25.4%	14 %	26.7%	27.1%	6.8%	83.9%	2.5%	1.7%	4.2%	70.3%	16.9%	7.6%
TOTAL	**96.83**	**48.83**	**59.83**	**85.5**	**18**	**269**	**4**	**2**	**17**	**255**	**28**	**21**
N=314												
%	**30.8**	**15.6**	**19**	**27.2**	**5.7**	**85.7**	**1.3**	**0.6**	**5.4**	**81.2**	**8.9**	**6.7**

Kula Community Association P.O.B. 417 Kula, Hi. 96790

Survey results as of 27 April 1997 [FINAL]

# of Kula residences [96790 zip code]: ~2100

surveys returned: 314

% returned compared to total of Kula residences: 15%

Questions asked:

1. I believe the Upcountry Terminus of the Kihei Upcountry Road should be: (circle one)

a. Haliimaile b. Five Trees/Kula 200 c. Pulehu/Omaopio d. No build e. Undecided

2. "The vision for the Kula Community is to preserve open space, support agriculture, maintain a rural ambianoe in residential areas and ensure that, as changes occur in the region, infrastruoture and services will support the rights and needs of all residents."

3. The position of the KCA Board of Directors has been to support water rate increases *PROVIDED that the Department of Water Supply use the proceeds to expeditiously initiate and complete needed system repairs.*

kcasurvm.doc

Kula Community Association
P.O.Box 417
Kula, Maui, Hawaii 96790
http://falcon.t-link.net/~kca/

"The specific purpose of this corporation is to improve the quality of life for the residents of Kula, to promote civic welfare and generally to benefit the community of Kula."

"The vision of the Kula Community Association is to preserve open space, support agriculture, maintain a rural residential atmosphere, and to work together as a community..."

To: Maui County Council Members, Everett Dowling, Kazu Hayashida (State Department of Transportation), Bob Siarot (Division of Highways), Mayor Lingle

From: Alan Kaufman, DVM, Kula Community Association President

Date: 8 November 1997

At the 6 November meeting of the Kula Community Association Board of Directors, I was directed to remind our elected representatives, and other interested parties, of the survey undertaken by our Association this year regarding the Kihei-Upcountry Highway. Survey results indicated that two thirds of our community either does not want this highway built, or if it is to be built, to have the upcountry terminus at Haliimaile. I am attaching a copy of the results of that survey for your review.

There is concern by the KCA Board that the Kulamalu development will encourage the placement of the terminus in Kulamalu, the approximate location identified as the 5 Trees area in the community survey. Because of this concern the Board has resolved:

"... that approval of the Kulamalu project be conditional on the Upcountry terminus of the Kihei/Upcountry highway not being located in the Kulamalu development area."

This resolution passed, 13 in favor, none opposed, with 2 abstentions.

At the meeting it was pointed out that the County may not have the authority to prevent the State from designating the preferred location of this highway. Regardless, the Board felt the Council should not grant approval of this development without the provision expressed above in place.

Thank you for your consideration.

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.7244

DEC - 3 1997

RECEIVED
DEC 03 1997
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Alan Kaufman, President
Kula Community Association
P. O. Box 417
Kula, Hawaii 96790

Dear Mr. Kaufman:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your November 8, 1997 letter informing us of the results of the Kula Community Association's survey. We appreciate the input on your community's opposition to U-2 and U-3 and will consider it in our project evaluation.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION
JAN 21 11 29 AM '98
HIGHWAYS DIVISION
PLANNING BRANCH

RSK Enterprise LLC
Pauahi Towers Ste. 1570
1001 Bishop St.
Honolulu, HI 96813
January 6, 1998

RECEIVED
JAN 20 2 34 PM '98
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Mr. Kazu Hayashida, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Kihei/Upcountry Highway

Dear Mr. Hayashida

As one of the General Partners of the Kulamalu Limited Partnership, I was dismayed to learn that your department has replaced alternative U2 (Kulamalu) with a new alternative, U2A. I feel that alternative U2 is a better route and should remain as the primary alternative for the following reasons:

1. Should alternative U2 be selected, the owners of the Kulamalu property have offered to dedicate the appropriate right-of-way land area and provide the design, to federal standards, for the section through the Kulamalu project area. Assuming a constant right-of-way width of 160 feet, we estimate that approximately 21.4 acres of land will be needed. Please note that in November of 1997 a 3 acre Kulamalu parcel was sold at a price of over $200,000 per acre. As such the dedication of a 21.4 acres right-of- way required for an alternative U2 will result in a significant savings to both federal and state taxpayers.

2. We are aware that your department is concerned about the approximately 1100 lineal feet (2% of the entire highway length) of alternative U2 which has a 10% roadway grade. The Kulamalu property has been classified as "urban" by the State Land Use Commission since October of 1969. Based upon the design criteria of the AASHTO Green Book ("A Policy on Geometric Design of Highways and Streets, 1990"), it would be appropriate to characterize the area as mountainous urban and to utilize a design speed of 40 mph (posted 35 mph) and a maximum grade of 10% (Table VII-4, page 525). A more detailed explanation from Austin, Tsutsumi & Associates is attached for your review.

3. Kulamalu will be proceeding with construction of a two lane roadway from Kula highway to the Kamehameha School campus in early 1998 at a cost of approximately $6,200,000. This substantial amount represents additional project savings should alternative U2 be selected.

4. Although alternative U2A provides for a more direct approach to Haleakala Highway, there are several major issues relating to this route.

A. Alternative U2A bisects an established residential community between Kaakakai Gulch and the terminus. This would require the condemnation of a number of parcels with various owners. Additionally, parallel roadways adjacent to the highway would need to be constructed to service the existing lots since the highway will be classified as a limited access highway.

B. Alternative U2A requires an additional gulch crossing over Kaakakai Gulch, adding substantial cost to this route. Additionally Kaakakai gulch is known to be rich in Hawaiian cultural artifacts.

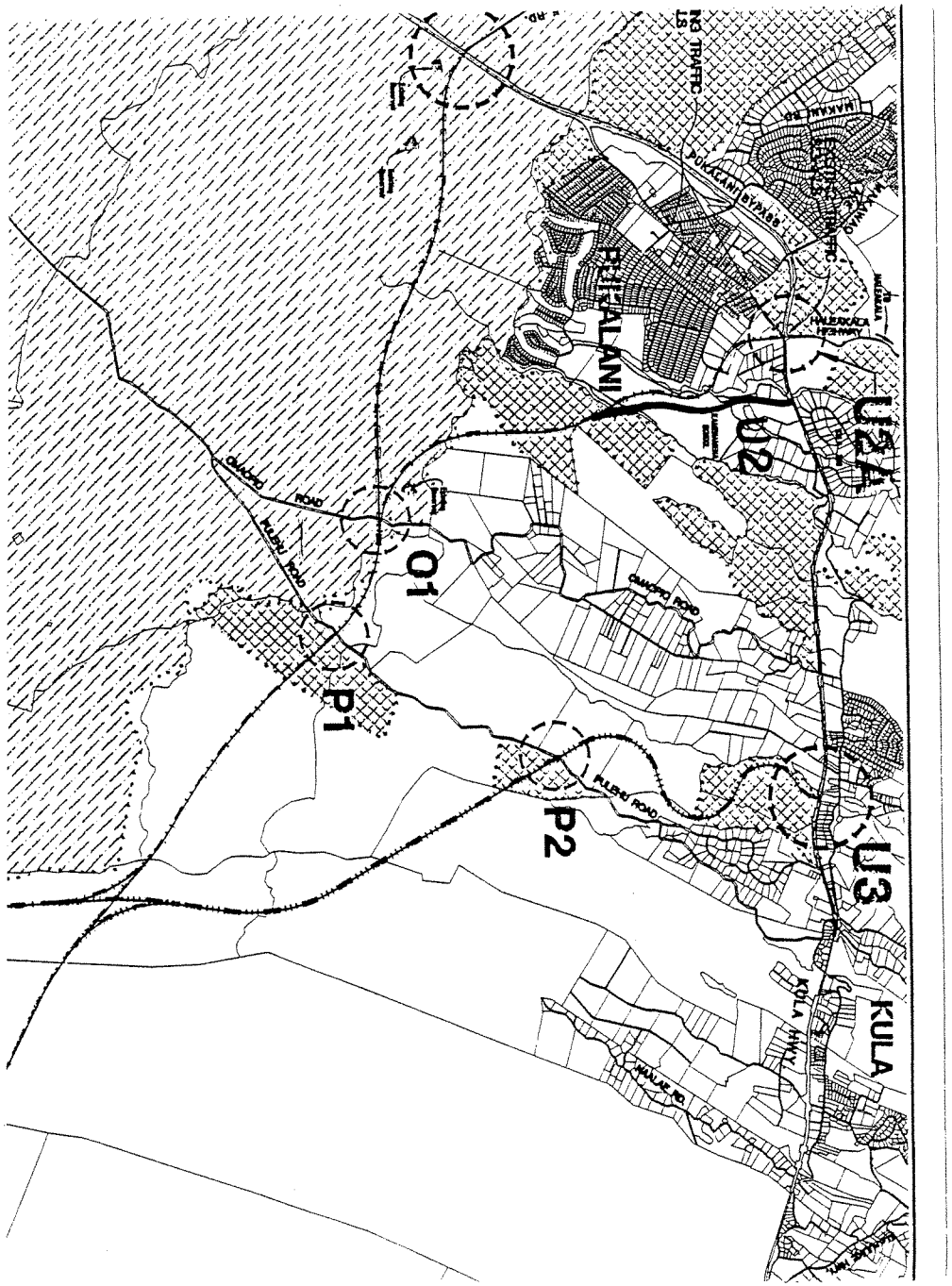
C. Kulamalu has developed their masterplan accommodating alternative U2. Should alternative U2A be selected, the section of this alignment traversing the Kulamalu property results in several remnant parcels that would be unusable to the developer and therefore should be included in the right-of-way acquisition. Due to the additional project replanning and redesign efforts, as well as the overall impact to the master plan, Kulamalu will not dedicate the right-of-way land area and design funds for the U2A alternative. Futhermore, Kulamalu will expect to receive condemnation proceeds based upon the fair market value of this urbanized and fully zoned property.

We feel that alternative U2 provides the Federal Highways Administration and the Department of Transportation with a far more economical route than alternative U2A and respectfully request that you reconsider designated alternative U2 as the primary route in the final EIS for the Kihei/Upcountry Highway project. Based on the above reasons we feel that this alignment is the only viable route through this area.

In closing we want to make it clear that Kulamalu will not support alternative U2A, but on the other hand is willing to be supportive of U2 due to it's minimal impact to the development. Thank you for your time and consideration. Please feel free to contact me should you have any questions or if you or your staff wish to further discuss this matter.

Sincerely,
RSK Enterprise LLC

Ronald Kobayashi,
Its Principal



Grades

The length and steepness of grades directly affect the operational characteristics of an arterial. Table VII-1 gives recommended maximum grades for rural arterials. When vertical curves for stopping sight distance are considered, there are seldom advantages to using the maximum grade values except when grades are long. Grades below the maximum are always desirable, the minimum grades being considered primarily to provide natural roadside drainage.

	Design Speed (mph)			
	40	50	60	70
Type of Terrain	Grades (percent)			
Level	5	4	3	3
Rolling	6	5	4	4
Mountainous	8	7	6	5

Table VII-1. Relation of maximum grades to design speed for rural arterials.

Number of Lanes

The number of lanes required is determined by volume, level of service, and capacity conditions. A divided arterial, as discussed in this chapter, refers to four or more lanes.

Superelevation

When the use of curves is required on a rural arterial alinement, a superelevation rate compatible with the design speed must be used. Superelevation rates should not exceed 0.12; however, where ice and snow conditions are a factor, the maximum superelevation rate should not exceed 0.08. Superelevation runoff denotes the length of roadway needed to accom-

plish the change in cross slope from a section with adverse crown remove a fully superelevated section and vice versa. Adjustments in design ru lengths may be necessary for smooth riding, drainage, and appeara Chapter III provides a detailed analysis and tables for superelevation for ous design speeds.

Pavement Crown

Pavement crown is constructed to provide cross-slope drainage for a p ment. Two-lane rural pavements are normally designed with a center crown and cross slopes ranging from 1.5 to 2 percent with the higher val being most prevalent. Multilane pavements are crowned at the pavement terline or sloped one way. When drainage is carried across adjacent lanes, cross slope may be increased from one lane to another.

Vertical Clearances

New or reconstructed structures should provide 16-ft clearance over entire roadway width. Existing structures that provide 14-ft, if allowed local statute may be retained. In highly urbanized areas, a minimum cl ance of 14-ft may be provided if there is one route with 16-ft clearance. St tures should provide additional clearance for future resurfacing of the un passing road.

Structures

The full width for the approach roadways should normally be provi across all new bridges. Long bridges, defined as bridges having an ove length in excess of 200 feet may have a lesser width. On long bridges, off to parapet, rail or barrier shall be at least 4 feet measured from the edge of nearest travel lane on both the left and right. See Chapter X for more infor tion on bridge widths.

Bridges to remain in place should have adequate strength and at least width of the traveled way plus 2-ft clearance on each side, but should be sidered for ultimate widening or replacement if they do not provide at 3-ft clearance on each side or are not capable of HS-20 loadings. As interim measure, narrow bridges should be considered for special nar bridge treatments such as signing and pavement marking.

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1924

TED S. KAWAMOTO, P.E.
KENNETH K. KUROKAWA, P.E.
IVAN K. NAKATSUKA, P.E.
LAMBERT J. YAMASHITA, P.E.
HOWARD H.W. MAU, P.E.

RECEIVED
MAR 26 1997
Dowling Company, Inc.

#97-514

March 24, 1997

Kulamalu Limited Partnership
P.O. Box 758
Wailuku, Hawaii 96793

Attention: Mr. Don Fujimoto

Gentlemen:

Subject: Justification for Variance From Route Design Criteria, Kulamalu Road

The design criteria utilized for designing new roadways is based upon the character of the terrain and adjacent land uses of the areas in which the roadway is located.

The new Upcountry-Kihei Road from Kihei to Kula is being planned and designed as a rural highway in mountainous terrain, since that is the general character of the route. Under that route description, the State Department of Transportation, Highways Division, has apparently selected a design speed of 50 miles per hour (posted 45 mph) and the maximum grade is 7 percent, as determined by Table VII-1, Relation of maximum grades to design speed for rural arterials, page 496, of the AASHTO Green Book ("A Policy on Geometric Design of Highways and Streets, 1990").

The mauka terminus of the new road is through the planned Kulamalu development. Through the development, the adjacent land uses will consist of a school and businesses, as well as subdivision roads connecting to the Upcountry-Kihei Road. Under these conditions, it would be appropriate to characterize the adjacent land use as mountainous urban and to use a lower design speed for the highway. Therefore, the design criteria could be adjusted to utilize a design speed of 40 mph (posted 35 mph) and maximum grade of 10 percent, as shown in Table VII-4, Maximum grades for urban arterials, page 525. Further, since the Kulamalu development is the upcountry terminus of the new road, it is desirable to reduce the highway speed limit approaching Kula Highway to provide the transition from the open highway to the Stop condition at Kula Highway.

Any variance from the general design criteria for the new roadway must be requested to and concurred by the State Department of Transportation, Highways Division. Attached for your information are copies of the tables cited above. If you have any questions, please feel free to call me.

Sincerely,

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

By
HOWARD H.W. MAU, P.E.
Principal Transportation Engineer

HHWM:CDC
Attachments
cc: Ken Kurokawa/ATA Maui - w/encls.

REPLY TO:
OFFICES IN:
HONOLULU, HAWAII
WAILUKU, MAUI, HAWAII

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.8227

FEB 27 1998

Mr. Ronald Kobayashi
Its Principal
RSK Enterprise LLC
1001 Bishop Street
Honolulu, Hawaii 96813

RECEIVED
MAR 02 1998
WARREN S. UNEMORI ENGINEERING, INC.

Dear Mr. Kobayashi:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your comments and recommendations for the Upcountry termini of the Kihei-Upcountry Maui Highway project. We have been in constant contact with your representative, Don Fujimoto of Kulamalu Limited Partnership, and have kept him abreast of all developments. A copy of our February 3, 1998 letter to him is attached.

I would like to clarify a couple of points in your letter.

1. Alignment U2 has been redesignated U2B.

2. Alignment U2B has not been dropped. Investigations are still ongoing. A decision of which alignment will be selected for further study will be made after the circulation and comment period of the Draft Environmental Impact Statement for our subject project.

Very truly yours,

Kazu Hayashida

KAZU HAYASHIDA
Director of Transportation

Attachment

bc: Warren S. Unemori Engineering, Inc.

Design Speed

Design speed for urban arterials generally range from 40 to 60 mph, and occasionally may be as low as 30 mph. The lower (40 mph and below) speeds apply in the central business district and intermediate areas. The higher speeds are more applicable to the outlying business and developing areas.

Design Traffic Volumes

The design of urban arterials should be based on traffic data developed for the design year, normally 20 years. The design hourly volume (DHV) is the most reliable method to determine design requirements. Sometimes, capacity is used as a design tool. The limitations and restrictions that are often encountered are recognized in capacity design, and a preselected level of service for those conditions is provided. Refer to Chapter II for information on traffic and capacity.

Levels of Service

For acceptable degrees of congestion, rural and suburban arterials and their auxiliary facilities, i.e., turning lanes, weaving sections, intersections, interchanges, and traffic control systems (traffic signals, etc.), should generally be designed for level-of-service C. Heavily developed sections of metropolitan areas may necessitate the use of level-of-service D. When level-of-service D is selected, it may be desirable to consider the use of one-way streets or alternative bypass routes to improve the level of service.

Sight Distance

The provision of adequate sight distance is important in urban arterial design. Sight distance affects normal operational characteristics, particularly where roadways carry high traffic volumes. The sight distance values given in Table VII-3 are also applicable to urban arterial design.

Grades

The grades selected for an urban arterial may have a significant effect on its operational characteristics. Steep grades affect truck speeds and overall capacity. On arterials having large numbers of trucks and operating near capacity flat grades should be considered to avoid undesirable reductions in speeds. Steep grades also result in operational problems at intersections, particularly during adverse weather conditions. For these reasons it is desirable to provide the flattest grades practicable while providing minimum gradients as required to ensure adequate longitudinal drainage in curbed sections. (See Table VII-4.)

Table VII-4. Maximum grades for urban arterials.

	Design Speed (mph)			
	30	40	50	60
Type of Terrain	**Maximum Grade (percent)**			
Level	8	7	6	5
Rolling	9	8	7	6
Mountainous	11	10	9	8

Alignment

Alignment of the urban arterial is ideally developed strictly in accordance with the design speed selected particularly when a principal arterial is located on a new location and is not restricted by normal right-of-way requirements. There are many cases, however, where this is not possible and deflections must be made in intersections. It is desirable to use the highest alignment design possible because urban arterials are often not superelevated to the low-speed range.

Cross Slope

Adequate cross slope for proper drainage is important on urban arterials. The normal problems related to splashing and hydroplaning are compounded in heavy traffic volume operations at intermediate to high speeds. Cross slopes should range from 1.5 to 3 percent, the lower value being in the center lanes with the cross slopes increasing about 1 percent for each additional lane over which water must drain until the maximum 3 percent is reached. Even

1981
HWY-PA
2.7874

FEB - 3 1998

Mr. Don S. Fujimoto
Vice President
Kulamalu Limited Partnership
P. O. Box 1417
Wailuku, Hawaii 96793

Dear Mr. Fujimoto:

Subject: Kihei-Upcountry Maui Highway, Project No. HDPS-9203(1)

We are still considering your proposed alignment for the U-2 terminus (Pukalani end) as part of our investigation into viable alternatives. However, as mentioned in our numerous meetings we still have several reservations. These include the following:

1. Safety. The problem of braking of vehicles especially a fully loaded truck on a downgrade of 10% and the proximity of an elementary school (Kamehameha feeder school) will create a potentially hazardous mix of pedestrians and motorists.

2. Your proposed alignment would be more acceptable with a curvilinear alignment to prevent excessive speeding on a downhill 10% grade.

3. If the right-of-way is limited to a 160' width exclusive of cut and fill for 4 lanes of through traffic plus turning and deceleration/acceleration lanes, costly retaining walls may be required.

4. The steep uphill grade will more than likely require a truck climbing lane.

5. Our investigation of your alignment indicates that the Kalialinui Gulch crossing will require piers in excess of 100 feet and a bridge span of 650 to 700 feet. This is far higher and longer than other alignments under consideration.

6. While the design speed can be lowered, this is applied in the Central Business District and immediate areas and only for urban arterials.

Thank you for your interest in our project. We will be continuing our analysis of various alternatives as part of our draft environmental impact statement process.

Very truly yours,

Kazu Hayashida

KAZU HAYASHIDA
Director of Transportation

Azeo Park
7th grade, Haleakala Waldorf School
214 Kawehi PL
Kula Maui Hi
96790
core@lava.net

Kazu Hayashida
The State Director of Transportation
757 Kinalau PL 1003
Honolulu Hi
96813-2638

Dear Mr. Hayashida,

I've written you to persuade you to reconsider building the roads U-1, U-2, U-3, K-1, K-2, from Kihei to the Upcountry area to prevent serious damage to the quality of life in Kula.

U-1 will cause more traffic in the Makawao and Pukalani areas. This will eventually force you to upgrade Makawao Avenue, which is now not ready to receive more traffic. If you haven't been in Makawao lately, you may not know it is also usually very crowded.

Ending Highway U-2 near the King Kamehameha High School is a bad idea. After school, this area is full of kids walking home, school busses and traffic. Students crossing the road may get hurt with the added traffic.

Tourists coming up Highway U-3 from the hotel and beach area will flood Kula. They will cause tourist stands to pop up every where and tourist bus stops. The result will be destroying one of the only areas with real rural life on the island.

Also, adding these roads will result in a population increase. This will directly affect our water supply. Sometimes, during the summer we receive notices to not use the water carelessly, and to not wash the cars until the semi-drought is over and even worse for the farmers not to water. More houses means more people will need water. We do not have the water for another subdivision.

The traffic increase will cause a buildup in traffic which during school hours will be dangerous and unpleasant on the Lower Kula Highway #37. Traffic moves slowly on that road near schools. Two schools are located in Kula, and both are right next to Haleakala Highway where the posted speed limit is 25 MPH. Every morning my brother and I bike to school. We travel north along the Upper Kula Highway. I don't want to see the road crowded since there is no bike lane.

Going in the downhill direction, people traveling from the Upcountry area traveling down to Kihei will result in Kihei being even more crowded. Kihei is already so crowded; I once saw this Lady in her car trying to turn right from the beach, and it took her twenty minutes. So, I assure you that the traffic and the bad air from it is unnecessary from the point of view of many.

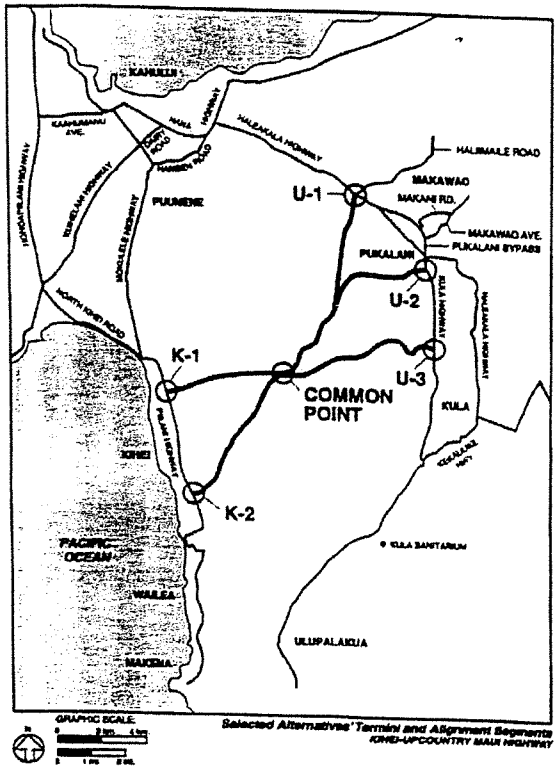
Some people want the road so they don't have to drive as much. This is not good reason to ruin a beautiful land.

In short, this is not the time to add a major new road into Upcountry. It would be good to put the time, money and resources into building up the upcountry so it can handle the highways in the future.

Please answer back with your input, Sincerely

Azeo Park

•Enclosure



BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.8228

FEB 27 1998

RECEIVED
MAR 02 1998
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Azeo Park
214 Kawehi Place
Kula, Hawaii 96790

Dear Mr. Park:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your interest in our Kihei-Upcountry Maui Highway project. We are in our environmental evaluation process and encourage public comments and recommendations on the alternative alignments.

We are preparing a Draft Environmental Impact Statement (EIS) for circulation later this year that will address your concerns. Copies will be available for review at your local libraries. A public hearing will also be held at locations in Kihei and Upcountry Maui where the public can again make known their comments on the EIS.

I believe the high school you mentioned at the U-2 terminus is the Kekaulike High School not the King Kamehameha High School.

If you have further questions, you can write to me at the following address: 869 Punchbowl Street, Honolulu, Hawaii 96813.

Again, thank you for your comments.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

Heinz Rominger
Diane Clarke
108 Kulalani Drive
Kula, HI 96790
(808)876-05575

RECEIVED
MAR 2 1 07 PM '98
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

February 24, 1998

Director Kazu Hayashida
Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Sir

On February 19, 1998 my wife and I attended a meeting of the Kula Community Association. One of the topics of discussion was the Kihei/Upcountry road.

We were informed that the Association has taken the following position:

1. There should be no road
2. If a road is to be build, it should be as far from Kula as possible.

There is a very vocal minority in favor of the 1st alternative, so much so that it really was not possible to voice a dissenting opinion. This is quite surprising in light of the fact that the Association itself undertook a survey of residents with the following result:

- 27% did not want a road at all
- 67% wanted a road, but were split between the different routes
- 6% had no opinion

While it is true that the single largest group did not want a road, one cannot help but be impressed by the overwhelming majority in favor of the project. However, this group was split among the various routes.

Having established that the vast majority of the respondents would like a road, it is probably wiser to leave the actual routing to the professionals working in and for the Department

The Kula Community Association is not speaking for us in this matter and we do not believe that the democratic process was helped by their stance. On our part we are going to speak to our friends and neighbors to make sure our views are also heard and to this end we would appreciate to be placed on the project mailing list.

Heinz Rominger

Diane Clarke

Diane Clarke

HIGHWAYS DIVISION
PLANNING BRANCH
MAR 3 11 07 AM '98
STATE DEPARTMENT
OF TRANSPORTATION
RECEIVED

FEB 30 10 24 AM '98
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.8513

MAR 24 1998

RECEIVED
MAR 25 1998
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Heinz Rominger
and Ms. Diane Clark
108 Kulalani Drive
Kula, Hawaii 96790

Dear Mr. Rominger and Ms. Clark:

Subject: Kihei-Upcountry Maui Highway, Project HDPS-9203(1)

Thank you for your interest in our Kihei-Upcountry Maui highway project. We encourage public comments and recommendations regarding the alternative alignments. Your February 27, 1998 letter will help us better gauge the public's feeling on our proposals.

We are preparing a Draft Environmental Impact Statement (DEIS) that is scheduled for distribution later this year. Copies will be available for review at your local libraries. Public hearings will then be held in Kihei and Upcountry Maui where the public can again make known their comments on this project. your names have been placed on our mailing list and you will be notified of the availability of the DEIS and the specific details of the public hearings.

If you have further questions you can write to me or contact Kenneth Au by calling Maui's toll free voice access number 984-2400 extension 71843.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

✓bc: Warren S. Unemori Engineering, Inc.

Helga Folkes
150 Holopuni Rd.
Kula Hi 96790

April 1, 1998

Department of Transportation
To Whom It May Concern:

I feel the new highway that you are considering of constructing from Kihei to Kula is needed, however, I hope you consider bringing it up from Kihei, Lipoa street area coming in at highway 37 where 377 comes in South of Pulehu Gulch near Kolaloa Gulch. It would make a quick way up to Haleakala for Kihei & Wailea residents and tourists. At the same time those from up country commuting to Kihei/Wailea to work would be traveling south on Kula Highway (37) where the ones commuting to Kahului, Lahaina would be traveling in the opposite direction. It would ease up some of the congestion in the mornings.

Sincerely,

Helga Folkes

Helga Folkes

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.8873

APR 23 1998

RECEIVED
APR 24 1998
WARREN S. UNEMORI ENGINEERING, INC.

Ms. Helga Folkes
150 Holopuni Road
Kula, Hawaii 96790

Dear Ms. Folkes:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

Thank you for your interest in our Kihei-Upcountry Maui Highway project. We appreciate your comments and recommendations regarding the project's alternative alignments. Your April 1, 1998 letter will help us better gauge the public's feelings on our proposals.

We are preparing a Draft Environmental Impact Statement that is scheduled for distribution later this year. Copies will be available for review at your local libraries. A series of public hearings will then be held at locations in Kihei and Upcountry where the public can provide us with their comments on this project.

Should you have any questions, please contact Kenneth Au at 984-2400 (ext. 71843).

Very truly yours,

Kazu Hayashida

KAZU HAYASHIDA
Director of Transportation

bc: Warren S. Unemori Engineering, Inc.

APPENDIX B

Environmental Impact Statement (EIS) Preparation Notice

Federal Register Notice of Intent

Environmental Assessment Distribution List

Agency and Public Comment Letters Responding to the EISPN and Responses

State Draft EIS Notice

Federal Register Notice of Availability of Draft EIS

Draft EIS Transmittal Letter and Recipients

Public Hearing Materials and Sign-In Sheets

EIS Preparation Notices

(15) Central Maui Expansion of Sanitary Landfill Project

District: Wailuku
TMK: 3-8-03:4
Applicant: County of Maui, Department of Public Works & Waste Management
200 South High Street
Wailuku, Hawaii 96793
Contact: Charles Jencks (243-7845)
Accepting Authority: County of Maui, Department of Public Works & Waste Management
200 South High Street
Wailuku, Hawaii 96793
Contact: Charles Jencks (243-7845)
Consultant: Masa Fujioka & Associates
99-1205 Halawa Valley Street, Suite 302
Aiea, Hawaii 96701-3281
Contact: Jennifer Kleveno (484-5366)
Public Comment Deadline: October 23, 1995
Status: First Notice, pending public comment.

The County of Maui has determined that the existing Central Maui Sanitary Landfill is reaching its capacity and that an additional solid waste disposal site is needed. Instead of searching for a new landfill location, the County proposes to expand the existing Central Maui Sanitary Landfill. The proposed project includes Phases IV, V and VI. Phase IV is currently being used by a quarry operation and Phases V and VI are currently occupied by sugar cane but are scheduled for quarry operations in the future. Expanding the landfill into areas where the quarry operation is completed eliminates the need for large-scale excavation, and is a good use of quarried areas.

This site is centrally located with respect to the major population centers of Maui, yet it is also in a rural, agricultural district. This combination of a central yet rural location and compatible physical characteristics makes the site operationally and environmentally well-suited for the expansion of the landfill.

The project will have both beneficial and adverse environmental impacts. The primary beneficial impacts are the continuation of a centrally located landfill site that will eliminate the difficulties of locating a new site, and the accommodation of the County's solid waste disposal needs through at least the year 2016. The landfill will also protect the public health by preventing the existing landfills from exceeding their design capacity.

Potential adverse impacts include contamination of groundwater and surface water resources and windblown litter, and effects on traffic, noise, air quality, historic and archeological features, scenic resources, and flora and fauna. Impacts to these resources and mitigation measures to eliminate or minimize adverse impacts will be thoroughly discussed in the EIS. Overall assessment of the impacts indicates that the benefits significantly surpass the adverse impacts.

(16) Kihei-Upcountry Highway Project From Piilani Highway to Haleakala Highway/Kula Highway

District: Makawao
TMK: Various
Applicant: Department of Transportation Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813
Contact: Kenneth Au (587-2150)
Accepting Authority: Governor, State of Hawaii
c/o Office of Environmental Quality Control
220 South King Street, Suite 400
Honolulu, Hawaii 96813
Consultant: Warren Unemori Engineering, Inc. (242-4403)
2145 Wells Street, Suite 403
Wailuku, Hawaii 96793
Public Challenge Deadline: October 23, 1995
Status: First Notice, pending public comment.

The Highways Division of the State of Hawaii Department of Transportation (DOT) and the Federal Highway Administration (FHWA) are preparing an environmental impact statement (EIS) addressing the construction of a new four-lane divided rural arterial with limited access. The length of the roadway would be approximately 15.4 kilometers (9.6 miles), and would link the coastal area of Kihei (Piilani Highway) to Upcountry Maui (either Haleakala Highway or Kula Highway, reducing the existing journey by approximately 15.3 kilometers (9.5 miles). The roadway, referred to as Kihei-Upcountry Maui Highway, would be generally aligned in an east-west (mauka-makai) direction. Ten alternative roadway alignments have been developed.

The roadway would satisfy several goals:

- Enhance access between the Maui Research and Technology Park and related scientific facilities at the summit of Haleakala, called Science City;
- Provide a more efficient route for commuters traveling between Upcountry and Kihei;
- Help alleviate traffic congestion on existing road ways by providing more roadway capacity; and
- Facilitate tourist travel between Kihei and the summit of Haleakala.

Potential impacts of the proposed highway are expected to be relatively minor in the areas of water quality, air and noise emissions, and visual impact. However, the level of impact could be more severe in the following areas:

- Social and Economic Activity - due to possible changes to the residential character of the Upcountry area; increased land values; and increased tourist activity.
- Traffic - due to the creation of new intersections and roadway crossings, and the redistribution of traffic volumes.
- Farmlands - due to possible disturbance of impor tant farmland soil types and farming operations.
- Endangered and Threatened Species - due to possible impacts on endangered plant species.
- Historic and Archaeological Resources - due to possible impacts on native Hawaiian archaeological resources.

An EIS is deemed appropriate because the project's potential level of impact in several areas is presently unknown, and could be significant. The EIS will evaluate ten alternative alignments and, on the basis of selection criteria, determine which to address in detail. The draft EIS will not select a preferred alternative from those analyzed in detail. Selection of the preferred alternative will occur after issuance of and public hearings on the draft EIS.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties.

Withdrawals

(17) Haiku Well Pump Station

The Final Environmental Assessment/Negative Declaration for the subject action has been withdrawn. The Notice of Availability of the Negative Declaration was published in the August 8, 1993 OEQC Bulletin.

The Maui Board of Water Supply has rescinded the negative declaration. For further information, please contact the County of Maui, Board of Water Supply, David Craddick (243-7816).

Environmental Impact Statement: Kihei-Upcountry, Maui, Hawai

[Federal Register: November 9, 1995 (Volume 60, Number 217)] [Notices]
[Page 56632-56633]
>From the Federal Register Online via GPO Access [wais.access.gpo.gov]

DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

Environmental Impact Statement: Kihei-Upcountry, Maui, Hawaii

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement (EIS) will be prepared for a proposed highway project to connect the Kihei and Upcountry areas of Maui, Hawaii.

FOR FURTHER INFORMATION CONTACT: Mr. Abraham Wong, Division Administrator, Federal Highway Administration, Office Address: 300 Ala Moana Boulevard, Room #3202, Honolulu, Hawaii 96813; Mailing Address: P.O. Box 50206, Honolulu, Hawaii 96850. Telephone: (808) 541-2700.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Hawaii Department of Transportation (HDOT), will prepare an EIS addressing a proposed new, four-lane divided rural arterial with limited access. The roadway would be approximately 15.4 kilometers (9.6 miles) long, and would link the coastal area of Kihei (Piilani Highway) to Upcountry Maui (either Haleakala Highway or Kula Highway), reducing the existing journey by approximately 15.3 kilometers (9.5 miles). This roadway, referred to as Kihei-Upcountry Maui Highway, would be generally aligned in an east-west (mauka-makai) direction. The roadway would satisfy several goals: enhance access between the Maui Research and Technology Park in Kihei and the related scientific facilities at the summit of Haleakala, called Science City; provide a more efficient route for commuters traveling between Upcountry and Kihei; help alleviate traffic congestion on existing roadways by providing more roadway capacity; and facilitate tourist travel between Kihei and the summit of Haleakala.

[[Page 56633]]

Alternatives under consideration include taking no action, ten alternative roadway alignments, and a Transportation System Management alternative.
Letters describing the proposed action and soliciting comments have been sent to federal, State and local agencies, and to private land owners, organizations, and citizens who have previously expressed or are known to have an interest in this project. A meeting to discuss the scope of the EIS was held October 26, 1994, in Honolulu, Hawaii. In addition, a public hearing will be held after publication of the draft EIS. Public notice will be given of the time and place of the hearing. The draft EIS will be available for public and agency review and comment prior to the public hearing.
To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the above address.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: October 31, 1995.

R.J. McCormick,
Field Operations Engineer.
[FR Doc. 95-27838 Filed 11-8-95; 8:45 am] BILLING CODE 4910-22-M

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KIHEI-UPCOUNTRY MAUI HIGHWAY
ENVIRONMENTAL ASSESSMENT DISTRIBUTION LIST

Advisory Council on Historic Preservation
National Park Service
730 Simms Street, Suite 401
Golden, Colorado 80401

Mr. Abe Aiona
Trustee
Office of Hawaiian Affairs
711 Kapiolani Blvd., 5th Floor
Honolulu, Hawaii 96813

Michelle Anderson
R.R. 2 Box 224-B
Kula, Hawaii 96790

Daniel Awai, Jr.
Homestead District Supervisor I
Maui District Office
Hawaiian Lands
1063 E. Main Street, Rm. C-206
Wailuku, Hawaii 96793

The Honorable Rosalyn Baker
Senator, 4th District
The Seventeenth State Legislature
State Office Tower, Rm. 411
235 S. Beretania Street
Honolulu, Hawaii 96813

Michael Buck, Administrator
Division of Forestry and Wildlife
1151 Punchbowl Street, Rm. 325
Honolulu, HI 96813

The Honorable Avery B. Chumbley
Representative, 11th District
The Seventeenth State Legislature
State Office Tower, Rm. 1202
235 S. Beretania Street
Honolulu, Hawaii 96813

Advisory Council on Historic Preservation
National Park Service
National Register of Historic Places
P.O. Box 37127
Washington, D.C. 20013

Dr. Herman M. Aizawa
Superintendent
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

Thomas Arizumi, Chief
Department of Health
Environmental Management Division
919 Ala Moana Boulevard, 3rd Floor
Honolulu, Hawaii 96814

Edward Ayau
Burial Program Coordinator
Maui Island Burial Council
Historic Preservation Division
33 So. King St., 6th Floor
Honolulu, HI 96813

David Blane, Director
Planning Department
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

Sam Callejo, State Comptroller
Department of Accounting and General Services
Kalanimoku Building
1151 Punchbowl Street
Honolulu, HI 96813

Nathaniel Conner, State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
300 Ala Moana Blvd., 4316
P.O. Box 50004
Honolulu, HI 96850

KIHEI-UPCOUNTRY MAUI HIGHWAY
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The Honorable Linda Crockett Lingle
Mayor
County of Maui
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Wailuku, Hawaii 96793

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& Tourism Library
250 S. Hotel
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Department of Water Supply
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

Economic Development Agency
County of Maui
200 South High Street
Wailuku, Hawaii 96793

John Harrison, Env. Coordinator
University of Hawaii at Manoa
Environmental Center
2550 Campus Road, Crawford Rm 317
Honolulu, HI 96822

Hawaii State Archives
Iolani Palace Grounds
Honolulu, HI 96813

Richard F. Cameron
Plantation General Manager
Hawaiian Commercial & Sugar Company
P.O. Box 266
Puunene, Maui, HI 96784

Department of Budget and Finance
250 South Hotel
Honolulu, HI 96813

Department of Parks and Recreation
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

Mr. Harry Eagar
The Maui News
P.O. Box 550
Wailuku, Hawaii 96793

Gary Gill, Director
Office of Environmental Quality Control
220 S. King Street, 4th Floor
Honolulu, Hawaii 96813

Bryan Harry, Director
U.S. Department of the Interior
National Park Service
P.O. Box 50165
300 Ala Moana Blvd.
Honolulu, Hawaii 96813

Hawaii State Library
478 S. King Street
Honolulu, HI 96813

Edward Henry, Jr., Administrator
Conservation and Environmental Affairs
1151 Punchbowl Street, Rm 131
Honolulu, HI 96813

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Historic Preservation Administrator
Department of Land and Natural Resources
33 So. King St., 6th Floor
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Hilo, HI 96721-0647

Honolulu Advertiser
City Desk
P.O. Box 3110
Honolulu, HI 96802

Honolulu Star Bulletin
City Desk
P.O. Box 3080
Honolulu, HI 96802

Mary Hopkins, Exec. Director
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

The Honorable Daniel K. Inouye
U.S. Senator
300 Ala Moana, Rm 7325
Honolulu, HI 96813

Charles Jencks, Director
Department of Public Works
& Waste Management
County of Maui
200 S. High Street
Wailuku, Hawaii 96793

James R. Judge
2233 Vineyard Street, Suite B
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90 School Street
Kahului, HI 96732

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1041 Koko Head Avenue
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Kaneohe Regional Library
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Kaneohe, HI 96744

Kauai Regional Library
4344 Hardy Street
Lihue, HI 96766

Mr. Charles Keau
Native Hawaiian Task Force
Parks and Recreation Department
2356A Main Street
Wailuku, Hawaii 96793

Kihei Public Library
131 S. Kihei Road
Kihei, HI 96793

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State of Hawaii
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Honolulu, HI 96814

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Kihei, Hawaii 96753

Kula Community Association
P.O. Box 417
Kula, Hawaii 96790

Lahaina News
P.O. Box 10427
Lahaina, HI 96761

Lahaina Public Library
680 Warf
Lahaina, HI 96761

Ms. Alice L. Lee
Council Chair
Council of the County of Maui
200 S. High Street
Wailuku, Hawaii 96793

Legislative Reference Bureau
State Capitol, Rm 004
Honolulu, HI 96813

Makawao Public Library
1159 Makawao Ave
Makawao, HI 96768

Maui Community College Library
310 Kaahumanu Avenue
Wailuku, Hawaii 96793

Maui Land & Pineapple Company, Inc.
P.O. Box 187
Kahului, Hawaii 96732-0187

The Honorable David Morihara
Representative, 10th District
The Seventeenth State Legislature
State Office Tower, Rm. 1210
235 S. Beretania Street
Honolulu, Hawaii 96813

The Honorable Bob Nakasone
Representative, 27th District
The Seventeenth State Legislature
State Office Tower, Rm. 1009
235 S. Beretania Street
Honolulu, Hawaii 96813

Dr. Seiji Naya, Director
Department of Business, Economic Development
& Tourism
250 S. Hotel Street, 5th Floor
Honolulu, HI 96813

Greggory Pai, Director
Office of State Planning
250 S. Hotel Street, 4th Floor
Honolulu, Hawaii 96813

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Senator, 6th District
The Seventeenth State Legislature
State Office Tower, Rm. 308
235 S. Beretania Street
Honolulu, Hawaii 96813

Mr. Hans Riecke
77 Apalapani Lane
Haiku, Hawaii 96708

Major General Edward V. Richardson
Adjutant General and Director of Civil Defense
State of Hawaii
Department of Defense
3949 Diamond Head Road
Honolulu, HI 96816

Mr. George Sano, Commissioner
State Highway Transportation Commission
409 High Street
Wailuku, Hawaii 96793

Robert Smith, Ecological Region Manager
U.S. Fish and Wildlife Service
Pacific Islands Office
300 Ala Moana Blvd., Suite 6307
P.O. Box 50167
Honolulu, HI 96850

Mr. Ray Soon
Administrator, Land Division
Hawaiian Home Lands
335 Merchant Street
P.O. Box 1879
Honolulu, Hawaii 96805

The Honorable Joseph M. Souki
Representative, 8th District
The Seventeenth State Legislature
State Office Tower, Rm. 904
235 S. Beretania Street
Honolulu, Hawaii 96813

South Maui Times
P.O. Box 40
Kihei, Hawaii 96753
Attn: Peter Wolf, Editor

Mr. Steve Sutrov
Kula Community Association
P.O. Box 417
Kula, Hawaii 96790

Edward S. Syrjala
P.O. Box 149
Centerville, MA 02632

The Honorable Joe Tanaka
Senator, 5th District
The Seventeenth State Legislature
State Office Tower, Rm. 304
235 S. Beretania Street
Honolulu, Hawaii 96813

Vicki H. Tsuhako, Manager
U.S. Environmental Protection Agency
Pacific Islands Contact Office
300 Ala Moana Blvd., Rm 1302
P.O. Box 50003
Honolulu, HI 96850

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U.S. Department of Defense
U.S. Army Corps of Engineers
Building 230
Fort Shafter, HI 96858-5440

U.S. Department of Energy
Division of NEPA Affairs
Forrestal Building, RM 3E-080
Attn: Carol Borgstrom
1000 Independence Ave., S.W.
Washington, D.C. 20585

U.S. Department of the Interior
Office of the Environmental Policy and Compliance
Interior Building, Rm 2024
1849 C Street, N.W.
Washington, D.C. 20240

Bryan Harry, Director
U.S. Department of the Interior
National Park Service
P.O. Box 50165
300 Ala Moana Blvd.
Honolulu, Hawaii 96813

William Meyer, District Chief
U.S. Geological Survey
Water Resources Division
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813

Jacqueline Wayland
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

U.S. Environmental Protection Agency
Office of Federal Activities (A-104)
401 M Street, S.W.
Washington, D.C. 20460

U.S. Environmental Protection Agency
Region IX Library
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University of Hawaii at Manoa
Sinclair Library
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Honolulu, HI 96822

University of Hawaii at Manoa
Water Resources Research Center
2540 Dole Street
Homes Hall 283
Honolulu, HI 96822

Wailuku Library
251 High Street
Wailuku, HI 96793
Attn: Susan Werner

Kali Watson, Chairman
Hawaiian Home Commission
P.O. Box 1879
Honolulu, HI 96805

The Honorable Michael B. White
Representative, 7th District
The Seventeenth State Legislature
State Office Tower, Rm. 1106
235 S. Beretania Street
Honolulu, Hawaii 96813

KIHEI-UPCOUNTRY MAUI HIGHWAY
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Michael D. Wilson, Chairman
State of Hawaii
Department of Land and Natural Resources
Kalanimoia Building
1151 Punchbowl Street, Rm. 310
Honolulu, HI 96813

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BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.4535

JUL 21 1999

RECEIVED
JUL 22 1999
WARREN S. UNEMORI ENGINEERING, INC.

SEE ATTACHED LISTING

Subject: Kihei-Upcountry Maui Highway, Maui, Hawaii
Draft Environmental Impact Statement

In accordance with the requirements of the State Environmental Impact Statement (EIS) rules (Title 11, Chapter 200 of the Hawaii Administrative Rules) and Chapter 343 of the Hawaii Revised Statutes, we are providing you a copy of your letter submitted during the Kihei-Upcountry Maui Highway project's EIS Preparation Notice comment period, along with a response to your letter, if necessary. Comments have been numbered to identify the points made in each letter, and the associated response.

Your letter and our responses are included in the upcoming Draft EIS for this project. As some of our responses may reference sections in this Draft EIS, we will send you a copy upon its publication.

Thank you for your participation in this project. If you have any question, you may contact Kenneth Au at (808) 587-1843 or you can reach him by calling Maui's toll free voice access number 984-2400 extension 71843.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

Enclosure

SC:gm

bc: Abraham Y. Wong (FHWA), OEQC
Warren S. Unemori Engineering, Inc.
HWY-PA

Various

HWY-PA 2.4535

Similar letter sent to the following:

Planning and Operations Division
U. S. Army Corps of Engineers
Building 230
Fort Shafter, Hawaii 96858-5440

Mr. Donald W. Reeser, Superintendent
United States Department of the Interior
National Park Service
P. O. Box 369
Makawao, Hawaii 96768

Mr. Don Hibbard, Deputy State
Historic Preservation Officer
Historic Preservation Division
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

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Dowling Company, Inc.
P. O. Box 1417
Wailuku, Hawaii 96793

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Kula, Hawaii 96790

Mr. Stephen Holaday
Plantation General Manager
Hawaiian Commercial & Sugar Company
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Puunene, Hawaii 96784

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International Longshoremen's &
Warehousemen's Union
896 Lower Main Street
Wailuku, Hawaii 96793

Mr. Kevin Johnston
2780 Olulani Street
Pukalani, Hawaii 96768

Mr. Buck Joiner
Kihei Community Association
3443 Malina Place
Kihei, Hawaii 96753

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2233 Vineyard Street, Suite B
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Makawao, Hawaii 96768-0115

Ms. Nancy Kanady
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Kizmet Brokerage
P. O. Box 1028
Kula, Hawaii 96790

Various HWY-PA 2.4535

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Kula, Hawaii 96790

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Vice President
Maui Land and Pineapple Company, Inc.
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Kahului, Hawaii 96732-0187

Mr. L. Douglas MacCluer
Plantation Manager
Maui Pineapple Company, Ltd.
870 Haliimaile Highway
Haliimaile, Hawaii 96768

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Mr. Christopher Perreira
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Mr. Frederick W. Rohlfing
Executive Director
Maui Open Space Trust
RR1, Box 398
Kula, Hawaii 96790

Mr. Dennis Smith
Box 1089
Kula, Hawaii 96790

Mr. Gordon Stellway
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Pukalani, Hawaii 96788

Mr. Edward S. Syrjala
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Ms. Leah Wesson
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Pukalani, Hawaii 96768

Ms. Sally Raisbeck
427 Liholiho Street
Wailuku, Hawaii 96793

Mr. Hans Reicke
77 Apalapani Lane
Haiku, Hawaii 96708

Mr. Fred Petersen
277 Ohina Place
Kihei, Hawaii 96753

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813-2419

EISPN Commentors Who Do Not Require Responses

Darice B. N. Young
Realty Contracting Officer
Federal Aviation Administration
U.S. Dept. of Transportation
P.O. Box 50109
Honolulu, HI 96850-4983

Sam Callejo, Comptroller
Department of Accounting and General Services
1151 Punchbowl St.
Honolulu, HI 96813

David Blane, Director
Office of Planning
Department of Business, Economic Development & Tourism
235 South Beretania St., 6th Flr.
Honolulu, HI 96813

Dennis Edward Bell, President
Hawaiian Classic Perfumes, Inc.
P.O. Box 2184
Kihei, HI 96753

Suzanne Lee Freitas
221 Lalo Pl. B-5
Kahului, HI 96732

Lenda McGehee-Simon
(provided substantive comments but address could not be located)

Edwin S. Murai
2791 Olulani St.
Pukalani, HI 96768

O Cole
3300 Alanui Wailea Ekahi 1 3d
Kihei, HI 96753

Frank F. White
Pua Kea Farm
206 Cooke Road
Kula, HI 96790

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO ATTENTION OF

October 17, 1995

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
Oct 19 3 17 PM '95

Planning and Operations Division

DEPT OF TRANSPORTATION
STATEWIDE TRANS. PLANNING OFFICE
Oct 20 11 33 AM '95

Mr. Kazu Hayashida, Director
Department of Transportation
Highways Division
State of Hawaii
600 Kapiolani Boulevard
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Thank you for the opportunity to review and comment on the Final Environmental Assessment and Environmental Impact Statement Preparation Notice for the Kihei Upcountry Road Project, Kihei, Maui. The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. Based on the information provided, a DA permit will be required as there are intermittent streams located within the project area. Please contact our Regulatory Section at 438-9258 for further information and refer to file number PO96-016. 1

b. The flood hazard information provided on page 13 of the environmental assessment is correct.

Sincerely,

H. Paul Mizue, P.E.
Acting Chief, Planning
and Operations Division

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION
Oct 20 2 23 PM '95
HIGHWAYS DIVISION
PLANNING BRANCH

U.S. Department of the Army, Army Engineer District, Honolulu

1. Thank you for the information. Because of its regulatory jurisdiction, the U.S. Army Corps of Engineers is a cooperating agency for the project's EIS.

United States Department of the Interior

NATIONAL PARK SERVICE
Haleakala National Park
P.O. Box 369
Makawao, Maui, Hawaii 96768

IN REPLY REFER TO

L76

November 3, 1995

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 13 10 14 AM '95

Mr. Kazu Hayashida, Director
State of Hawaii, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Thank you for asking the National Park Service to comment on the **KIHEI-UPCOUNTRY MAUI HIGHWAY ENVIRONMENTAL ASSESSMENT.**

1 Enclosed are our initial comments of 10/25/95 and additional information, including that submitted by the National Biological Service, concerning resources that could be impacted by the alternatives (2, 4A, 6A and possibly 6B) through or near Pu'u Kali. The Pu'u Kali area is being considered by State of Hawaii, Natural Area Reserve Commission as a potential Natural Area Reserve.

Regarding the other proposed highway routes, we have no comment.

Sincerely,

Donald W. Reeser
Superintendent

cc: Natural Area Reserve Commission

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HIGHWAYS DIVISION
Nov 14 8 47 AM '95

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OF TRANSPORTATION
HIGHWAYS DIVISION
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Nov 14 11 43 AM '95

United States Department of the Interior

NATIONAL PARK SERVICE
Haleakala National Park
P.O. Box 369
Makawao, Maui, Hawaii 96768

IN REPLY REFER TO

October 25, 1994

RECEIVED
OCT 26 7 59 AM '94

Rex Johnson, Director of Transportation
State of Hawai'i Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Johnson:

Thank you for the invitation to the October 26, 1994 scoping session for the proposed Kihei-Upcountry Maui Highway. Due to the temporary absence of Haleakalā National Park Superintendent Don Reeser and several other key staff, we are unable to attend this session. However, we hope to be involved as consultants as the proposed development evolves. Please accept the following comments in lieu of our attendance at tomorrow's meeting.

Alternative 6 and 6A pass through or very near what is generally recognized by biologists as one of the most intact and diverse lowland dry forests remaining in the Hawaiian Islands that contains a number of listed or proposed Endangered plant species recognized by the US Fish and Wildlife Service, *i.e.*, the Pu'u-o-kali lava flows. The other alternative to the west appear to pass through areas of relatively little known biological value and hence may be more acceptable from that perspective versus the alternatives to the east.

Direct displacement of dryland forests in this area by highway easements are not the only threats posed by the proposed development, however. Non-native plants and animals and the effects of wildland fire are other severe causes of loss. It is well know in Hawai'i that the preponderance of wildland fires are human-caused. In general the native shrublands that persist in this region are nearly invariably found in areas of rough 'a'ā lava. However, the fire history of the past 50 years has shown that even in these discontinuous fuels, fire fed by surrounding or intermixed flash fuels (principly alien grasses and kiawe) burns aggressively inspite of barriers more than 60 feet wide, *e.g.*, Honopiilani Highway. Increased public access to areas that are peripheral to dryland forests may affect them by increasing fire frequencies in the region -- a severe perturbation.

Our assessment that the more western alternative routes may be "generally more acceptable" from a biological perspective is somewhat subjective, because these are private ranchlands without easy legal access. The private lands are largely unexplored and relictual populations of endangered species may be found among any of the proposed routes. Hence these areas largely lack the basis of biological survey which would allow approval or disapproval of particular routes on that basis. Scientists of the National Park Service and the National Biological Survey have a strong interest in assisting exploration of the proposed alternatives so that values at risk can be identified and appropriate mitigation efforts made in the planning and route selection process.

Road planners recognize that without stringent limited-access rules road development is the purveyor of a sequence of growth. We recommend considering the proposed roadway carefully so as to centralize development, thereby providing some protection to Maui's rural and wild areas.

Sincerely,

Karen Ardoin
Acting Superintendent

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OCT 31 8 44 AM '94

U.S. Department of the Interior, National Park Service, Haleakala National Park

1. The information about the lowland dry forest, a resource containing a number of endangered plant species, is included in the Draft EIS. Alternatives 6A and 6B would have passed through or near this forest. However, both of these alternatives were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E). The build alternatives addressed in detail in this Draft EIS would not affect individuals of endangered plant species in this forest. A botanical survey conducted for this project (see Sections 3.8.1 and Appendix J) found no other endangered or threatened plant species along the alternative alignments. Under Section 7 of the Endangered Species Act, the FHWA has determined that the proposed project will have no effect on listed endangered or threatened plant and animal species in the project area. The U.S. Fish and Wildlife Service has concurred with this determination.

U.S. Department
of Transportation
**Federal Aviation
Administration**

Real Estate & Utilities Branch
Western-Pacific Region
P.O. Box 50109
Honolulu, Hawaii 96850-4983

October 18, 1995

Mr. Kazu Hayashida, Director
State of Hawaii
Department of Transportation
Highways Division
600 Kapiolani Boulevard
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Your "Notice of Public Informational Meetings and Availability of Environmental Assessment (EA)" for the proposed Kihei-Upcountry Maui Highway project also forwarded a copy of the EA of May 1995 for our review.

The Federal Aviation Administration has no objections or comments regarding your proposed project.

We appreciate this opportunity to review your proposal. Please contact me at 541-1236, if there are ways we may be of assistance.

Sincerely,

Darice B. N. Young
Realty Contracting Officer, AHNL-56

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 24 8 25 AM '95

DEPT OF TRANSPORTATION
STATEWIDE TRANS.
PLANNING OFFICE
Oct 24 3 08 PM '95

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 24 8 39 AM '95

(P)1720.5

OCT 23 1995

TO: Governor, State of Hawaii
Office of the Governor

SUBJECT: Kihei-Upcountry Maui Highway Project
Piilani Highway to Haleakala Highway/Kula Highway
EIS Preparation Notice

Thank you for the opportunity to review the subject document. We have no comments to offer at this time.

Should there be any questions, please have your staff contact Mr. Ralph Yukumoto of the Public Works Division at 586-0488.

SAM CALLEJO
State Comptroller

RY:jy
c: State Department of Tranportation, Highways Division
Warren S. Unemori Engineering, Inc.

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STATE DEPARTMENT OF TRANSPORTATION
Oct 25 10 43 AM '95
HIGHWAYS DIVISION
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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
DEPUTY
ROBERT COLOMA-AGARAN
AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 14 1 59 PM '95

PLANNING

October 30, 1995

MEMORANDUM

LOG NO: 15677
DOC NO: 9510KD23

TO: ROGER C. EVANS, Administrator
Office of Conservation and Environmental Affairs

FROM: DON HIBBARD, Deputy State Historic Preservation Officer
State Historic Preservation Division

SUBJECT: **National Historic Preservation Act, Section 106 Review of an Environmental Impact Statement Preparation Notice**
Kihei-Upcountry Highway, Makawao District, Maui
Highway Project No HDPS-9203 (1) OCEA File No: 96-135

We have previously reviewed the preliminary plans for the proposed Kihei-Upcountry Federal Highway project, and submitted comments to R. D. Johnson (Memorandum dated October 20, 1994). At the time of our review, eight alternative highway corridors were proposed. The number of potential corridors is now ten, however, the project location region has not been substantially modified.

The information provided in the final EA regarding historic and archaeological resources (3.36, page 15) is extracted primarily from our memo to Mr. Johnson. Regarding the process of identifying significant historic sites that may be impacted by the project, the EA states that "An archaeological inventory survey would be required to determine the potential level of project impacts on archaeological resources" (page 15). It is not stated in the EA whether the inventory survey will be conducted as part of the EIS.

1 While we agree that an archaeological inventory survey will be required once the road corridor is selected, it is not cost effective to have an archaeological inventory survey of each road corridor alternative. It would be far too expensive. Instead, we have recommended that an overview study be conducted as part of the corridor selection process, with a survey to follow later for the selected corridor. The overview should be included in the EIS, assuming a highly expensive inventory survey of all corridors is not being planned as part of this document.

The overview study would basically (1) review archival records and review prior archaeological survey work in the corridors and in adjacent and similar environmental areas, (2) and then predict likely land use and historic site patterns for prehistoric/early historic times and later 1800s times, so types of sites and densities of sites can be predicted for each corridor, (3) determine if some corridor areas have had their land surface extensively altered, making the survival of sites unlikely, and (4) determine through prior archaeological studies and through new aerial reconnaissances and/or brief foot reconnaissances if the predictions of the remaining corridors are accurate. This would provide a basis for evaluating likely site patterns and densities in each corridor and for selecting the final corridor. Some interviews with knowledgeable Hawaiians who are familiar with past land use of the region would also help in this overview, so traditional cultural places and/or archaeological sites that might have considerable significance could be identified. Final corridor selection can take this issue into consideration. 2

Thus, we urge the Department of Transportation to conduct an overview study as part of the corridor selection and feasibility process. The overview study should be included among the documents available for public and agency review prior to the final corridor selection. An archaeological inventory survey would then be conducted for the selected corridor area.

As a state funded undertaking, the project must comply with Chapter 6E, H.R.S. Also, as a federally funded project, the Kihei-Upcountry Highway project must comply with Section 106 of the National Historic Preservation Act. We recommend that DOT and FHWA coordinate with our office as soon as possible, so state and federal compliance concerns can be met in a timely and cost-efficient manner.

KD:jen

c: Kazu Hayashida, Director of Transportation-Federal Highways Administration

State of Hawaii, Department of Land and Natural Resources, State Historic Preservation Division

1. Archaeological and historical reconnaissance surveys were conducted on the alternatives considered in the Draft EIS, as recommended by the commentor, and the results are provided in Sections 3.10 and 4.10, and Appendix I. An inventory survey will be conducted on the Preferred Alternative to be identified after issuance of this Draft EIS.

2. The recommended scope of work provided by the commentor was used in the project's archaeological and historical reconnaissance surveys.

HN. WAIHEE
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813

October 21, 1995

Mr. Kazu Hayashida, Director
Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Hayashida,

Subject: Environmental Impact Statement Preparation Notice for the Kihei-Upcountry Maui Highway

Thank you for the opportunity to review the subject document. We have the following comments.

1. The proposed highway is expected to increase visitor traffic to the Haleakala National Park. The Draft Environmental Impact Statement (EIS) must analyze the impacts of this project on Haleakala National Park.

2. The proposed highway would facilitate access to Upcountry Maui and affect the character of the existing residential areas. The Draft EIS must examine the impacts of the roadway on the existing communities in Upcountry Maui.

3. The proposed highway would provide potential access to new areas and increase the use of lands adjacent to the roadway. The Draft EIS must analyze the extent of development with and without this new roadway. Please also determine the significance of these impacts in relationship to the existing community plan.

If you have any questions, please call Jeyan Thirugnanam at 586-4185. Mahalo.

Sincerely,

Gary Gill
Director

c: Warren Unemori

State of Hawaii, Office of Environmental Quality Control

1. As described in Section 4.11, the proposed project would improve access to Haleakala National Park. According to a Park official, approximately one million people visit the summit annually, an already substantial number in spite of the circuitous route many visitors must travel. However, the direct influence of the proposed project on the number of visitors who visit the summit would be less than the overall health of Maui's visitor industry.

2. The impacts to existing communities and neighborhoods in Upcountry are discussed in Section 4.3.1.

3. Land use development impacts are discussed in Section 4.1.1. The project's consistency with the existing community plans is discussed in Section 4.1.2.2c.

OFFICE OF STATE PLANNING
Office of the Governor
BENJAMIN J. CAYETANO, Governor
MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR
TELEPHONE: (808) 587-2846, 587-2800
FAX: Director's Office 587-2848
Planning Division 587-2824

Ref. No. C-1480

November 1, 1995

MEMORANDUM

TO: The Honorable Kazu Hayashida, Director
Department of Transportation

FROM: Gregory G.Y. Pai, Ph.D.
Director

SUBJECT: Environmental Assessment (EA) -- Kihei-Upcountry Maui Highway

We have reviewed the subject project and do not have substantive comments at this time. The EA satisfactorily addresses our concerns.

We appreciate the opportunity to review and comment on the document. If there are any questions, please contact the CZM Program at 587-2876.

P. O. Box 122
Pukalani, HI 96788
October 4, 1995

DOT Highways Division
869 Punchbowl St
Honolulu, HI 96813

Dear Sir:

Please send me information on the Kiehi-Upcountry Highway project. I would like to become a consulting party to the project. I want to make comments regarding the project but need your background information.

Must all comments be postmarked or received - the newspaper was not clear- by October 23?

Thanks.

Sincerely,

Robert M. Butterfield

Robert M. Butterfield

1. Thank you for your interest in this project. Your name has been placed on the project mailing list. You will receive the Draft EIS and information on the scheduling of the project's public hearings.

P. O. Box 122
Pukalani, HI 96788
28 October 1995

RE: Kihei - Upcountry Road

Mr. Kazu Hayashida
Director, State Dept. of Transportation
869 Punchbowl St
Honolulu, Hi 96813

Dear Mr. Hayashida:

My personal preference is that a Kihei-Upcountry road not be built. The money should be used to improve the existing roads. Maui needs this road about as much as a whale needs a bathing suite. I could not attend the meetings. I wrote for a map showing the proposed routes but I have not received it yet. I wanted to get in my comments before the deadline, so . . .

1 1. Roads from the Airport to Kaanapali and Kihei need to be 4 lanes.
2. Something needs to be done about the terrible design of the Hana/Dairy Road area. Ever try to make a left out of K-Mart? There needs to be a left turn lane from K-Mart all the way to Hana Highway.
3. And my personal pet peeve: to get to Kanaha Beach Park via the shortest least congested route from east Maui, I have to travel around the airport loop. Why can't Aalele Street cross Keolani Place and connect directly to Amala Place?

2 If a road must be built Please, Please, Please, Please, Please Don't have it connect anywhere near lower Pukalani or "5 trees" (Haleakala Hwy - Kula Hwy). There is much to much congestion in that area already. The connection should be south of 377 - 37 (south of Naalae Road). Over a million visitors a year visit the summit of Haleakala, most coming from Kihei-Lahaina. This will give them an alternate route and spread out traffic so no one road is totally impacted. Mile 14.5 on Hwy 37 looks good to me for a connection point if it must be done.

Thanks for listening. Good luck.

Sincerely,

Robert M. Butterfield

Robert M. Butterfield

1. The improvements suggested are included in the Maui Long-Range Land Transportation Plan (February 1996) and are therefore included in this project's No Build condition.

2. The alternative suggested is similar to Alternatives 6a and 6b (see Section 2.2.1.1). These two alternatives were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because they had inadequate benefit-cost ratios.

R.R. 2, BOX 86-A
KULA, HAWAII 96790
Phone/Fax: (808) 878-1338

November 9, 1995

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

We wish to add our voices to the many in our community who strongly object to the proposed Kihei-Upcountry Highway Project on Maui. Taking the list of "Purposes of the Project" in your order, following are our opinions:

1. The defense-related activities in Kihei and Science City on Haleakala will never involve the number of personnel to justify the expenditure of $33.7 million to $72.8 million! When speed of transport is necessary helicopters can and will be used. The legislative mandate, if such has been passed, is in error and should be repealed.

2. A roadway linkage to Kihei will encourage the growth of a suburban bedroom community to Kihei while destroying the last agricultural area for small farmers left on Maui! Our farmers and their produce are important to Hawaii. There is no question that many small farmers will not be able to survive the economic impact of the growth that would ensue.

3. The existing transportation demand and capacity for Upcountry is just fine. There are no traffic delays on Kula Highway since the Pukalani By-Pass opened. Putting in a Kihei link will create a capacity problem.

4. Economic development is addressed in #2. Upcountry needs to be protected from regional growth of population and tourist activities to protect the agricultural jobs!

5 With funds for human services, education, control of crime, etc. being severly cut or removed, this is not the time to build new highways. There

6 is great need for improvement of highway service from Kahului and Kihei to Lahaina. Should a severe storm, a tsunami or an airplane crash occur, those arteries would be paralyzed..as they have been from simple traffic congestion in the past.

7 It is clear that the "Purposes of the Project" are diametrically opposed to the life of Upcountry Maui as a rural-farm community. It is equally clear that the work of your department is needed elsewhere. Our plea is for reason to prevail in the protection of Upcountry and that sound planning and work be done to correct existing problem areas.

Sincerely,

R. Dougal Crowe

Ann F. Crowe

cc: Sen. Daniel K. Inouye

R. Dougal and Ann F. Crowe

1. The Draft EIS does not contain information on the number of workers traveling between the Maui R&T Park and Science City. However, this number is probably very small in comparison to the one million visitors who travel to the summit annually, and residents who travel between their Upcountry residences and employment/recreation areas in Kihei-Makena and West Maui. These latter two travel markets would benefit from a Kihei-Upcountry Maui Highway, with improved transportation for workers traveling between the Maui R&T Park and Science City being a byproduct of the new road.

2. Potential land use development impacts are discussed in Section 4.1.1. Potential impacts to large agricultural businesses and the small Kula farms are discussed in Section 4.2.1.

3. Section 1.2.3 describes the existing traffic conditions at major intersections and roadway segments along the route between Kihei and Upcountry. As described in Section 4.4.1.1, the proposed project would improve overall regional traffic conditions because the new highway would divert a large portion of the travel demand that would have used the Haleakala Highway-Kula Highway-Mokulele Highway route between the Kihei and Upcountry regions.

4. As described in Section 1.2.2, economic development activities are expected to occur in the Kihei-Makena and West Maui regions, as part of efforts to expand Maui's visitor industry and to diversify its economy by developing high technology industries. None of these economic development activities are being proposed in the Upcountry region where agriculture is expected to remain the primary source of employment. However, the Upcountry region, particularly the Pukalani, Makawao and Haliimaile areas, is expected to accommodate more residences. Therefore, the link between Upcountry's residential communities and the employment centers of Kihei-Makena and West Maui will become more important in the future.

5. Highway projects are funded by federal and State fuel taxes. By law, these funds can only be used for highway projects and operation. Highway funds cannot be used for non-highway purposes, and therefore highway projects do not compete against other government services, programs and projects, such as education, crime control, etc.

6. The Maui Long Range Land Transportation Plan includes widening sections of Honoapiilani Highway and construction of a Lahaina Bypass. Both projects are considered part of the proposed project's No Build Alternative.

7. The project's purposes and needs, as described in Chapter 1, are based on existing and future travel demand, land use and economic development patterns, defense-related needs and the need to increase evacuation capacity of the Kihei-Makena region. However, it is understood that in achieving or satisfying these purposes and needs, the highway could have adverse effects on the "rural-farm community" of Upcountry. It is, therefore, the purpose of the Draft EIS to disclose all potential impacts as best as possible so that full information is available prior to identification of the project's Preferred Alternative.

Kihei-Upcountry Maui Highway
Draft Environmental Impact Statement *Responses to EISPN Comments*

Dowling Company, Inc.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 14 10 12 AM '95

November 9, 1995

Mr. Kazu Hayashida, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida

Re: Kihei-Upcountry Highway

1 We support the Department's proposal to link the Upcountry area with Kihei, however, we have some reservations regarding alignments 4A and 4B. Based upon the map provided in the Environmental Assessment, it appears that these alignments pass through TMK 2-3-8:05. We are currently under contract to purchase this property. This parcel has been urbanized and zoned (R-2, PD, and MF) since the late 1970's. It would be more beneficial to the State to route the highway through non-urbanized lands, thus, lowering the cost of right-of-way acquisition.

Thank you for allowing us to comment on this project. Please call me if you have any questions regarding our position.

Sincerely,

Don Fujimoto
Vice President

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P. O. Box 1417 · Wailuku, Hawaii 96793 · (808) 244-1500 · Fax (808) 242-2777 · Internet Dowling@Maui.Net

Dowling Company, Inc.

1. The concern expressed by the commentor is noted. However, land acquisition cost is only one factor among many in the identification of the project's Preferred Alternative.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 13 10 46 AM '95

Dear Sir,

As a resident of Kula for twenty-eight years my comment is we have no new highway.

1 My choice if I were to make one choice it would be to connect close to Pukalani # 8.

It seems the most CENTRAL and cost effective.

Please don't ruin Kula like the rest of the island has been!

2 Please keep me posted w/ all news of this project.

Thank yr.

Sincerely

Jamie Fenseca

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Jamie Fenseca

1. Alternative 8 was eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it is constrained to an existing government right-of-way that does not conform to modern highway design standards.

2. Your name has been placed on the project mailing list. You will receive the Draft EIS and information on the scheduling of the project's public hearings.

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
869 PUNCHBOWL STREET
HONOLULU, HI 96813

OCTOBER 20, 1995
LADIES AND GENTLEMEN:

I WISH TO EXPRESS MY STRONG SUPPORT FOR ANY KIHEI TO UPCOUNTRY HIGHWAY.

I DO WANT TO ADD THAT I HOPE THAT ANY SUCH ROAD WILL CONNECT KIHEI WITH THE KULA HIGHWAY, TO MAKE THE MOST DIRECT ROUTE POSSIBLE FROM KIHEI TO THE SUMMIT OF HALEAKALA, AS WELL AS AFFORDING EASY ACCESS TO UPPER KULA AND ULUPALAKUA.

IT IS TIME FOR US TO FACE THE FACT THAT THIS IS 1995, AND THAT WE DO OURSELVES AND OUR CHILDREN A GREAT DISSERVICE TO IMPEDE PROGRESS.

THE POPULATION OF MAUI MUST CONTINUE TO GROW AT LEAST AS FAST RELATIVELY AS THAT OF THE REST OF THE USA. HOUSING WILL BE NEEDED AND IT IS LOGICAL THAT MORE AND MORE PEOPLE WILL NEED TO LIVE UPCOUNTRY.

A KIHEI TO KULA DIRECT ROAD WILL EASE TRAFFIC PRESSURE ON HANSEN ROAD, DAIRY ROAD, THE MOKULELE HIGHWAY, AND THE HALEAKALA HIGHWAY.

LET US FACE THE FUTURE AND MOVE INTO THE TWENTY FIRST CENTURY.

YOURS TRULY,

DENNIS EDWARD BELL
PRESIDENT
HAWAIIAN CLASSIC PERFUMES, INC.
PO BOX 2184
KIHEI, MAUI 96753
TEL/FAX 808 874 5500

A&B-HAWAII, INC.
HONOLULU

TELEPHONE: (808) 877-0081

HAWAIIAN COMMERCIAL & SUGAR COMPANY

P. O. BOX 266, PUUNENE, MAUI, HAWAII 96784

October 17, 1995

Mr. Kazu Hayashida
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Re: Proposed Kihei-Upcountry Maui Highway Project
Environmental Assessment

Thank you for this opportunity to provide comments on the Kihei-Upcountry Maui Highway Environmental Assessment. My name is Richard Cameron, Executive Vice President and General Manager of Hawaiian Commercial & Sugar Company (HC&S). HC&S cultivates 36,000 acres of sugar cane here in the central valley of Maui.

Allow me to highlight a few of our general areas of concern at this time and leave with you an attachment which more fully describes our concerns with several of the proposed alignments for this proposed highway.

1 We find that the Environmental Assessment fails to adequately address the impacts the several of the proposed alignments will have on HC&S' farming activities. In particular, alternatives 1,2,3, and 8, which dissect HC&S' fields, roadways, irrigation systems and drainage systems, in addition to taking cane land out of production, will significantly disrupt our operations. The result will be the need for operational changes by HC&S which will be extremely costly and will decrease our efficiency. Accordingly, mitigating measures will be needed to

2 keep HC&S "whole". The Environmental Assessment fails to identify and address these costs, which should be considered as costs of the highway project, in addition to the cost of acquiring the right-of-way itself.

For example, throughout Section 3.0, impacts, HC&S' sugar operations appear to be ignored as an existing "agricultural activity" in the subject (impacted) areas. Section 3.3.3, Farmlands, makes no mention of sugar as a major crop in the area. Just as the alignments which transverse grazing lands are identified, it
2 should be pointed out that alignments which 1,2,3, and 8 transverse lands currently being cultivated in sugar. Additionally, the conclusion stated in Section 3.1, that "agricultural, social and economic activity may be enhanced by providing a more direct route between agricultural areas and the Kihei urban center" is completely untrue for HC&S. In fact, just the opposite is true - - HC&S prefers a highway route that does not divide our agricultural operations.

Accordingly, we request that the potential impacts on HC&S' existing operations be addressed in the Environmental Impact Statement for this project and that
3 HC&S be consulted and recognized in the preparation of the EIS. Mitigating measures should be identified in the EIS, as these will be bona fide costs of the respective alignments. We offer Attachment 1 to this testimony as a summary of the impacts to HC&S of four of the identified alignments.

We look forward to future discussions with the DOT and its consultants on this proposed highway project. We believe that by working together, we can identify an appropriate roadway alignment which will benefit all parties -- farmers, residents and businesses on Maui. The over 1,000 farmers at HC&S have an important stake in the chosen alignment.

Thank you for this opportunity to express our concerns.

Sincerely,

Richard F. Cameron
Plantation General Manager

Attachment

ATTACHMENT 1

Kihei-Upcountry Maui Highway
Environmental Assessment

The Environmental Assessment illustrates ten alternate roadway alignments for the proposed highway. Alternatives 1, 2, 3 and 8 would have a serious effect on HC&S' operations.

Alternative 1 -- From Haleakala Highway at Haliimaile Road to Piilani Highway at Kaonoulu Street.

a. Land area for right-of-way is 116 acres; transverses 6 miles through HC&S property.
b. This route crosses six primary (paved) hauler roads and two secondary hauler roads.
c. This route crosses the Kauhikoa Ditch, six small ditches and numerous drip irrigation pipelines.

Alternative 2 -- From Haleakala Highway at Haliimaile Road to Maui R&T Park at Kihei.

a. Land area for right-of-way is 78 acres; transverses 4 miles through HC&S property.
b. This route crosses one primary (paved) hauler road and two secondary hauler roads.
c. This route crosses three small ditches and numerous drip irrigation pipelines.

Alternative 3 -- From Haleakala Highway, between Haliimaile Road and Pukalani to Piilani Highway at Kaonoulu Street.

a. Land area for right-of-way is 78 acres; transverses 4 miles through HC&S property.
b. Hamakua Ditch -- This alternative passes close to the Hamakua Ditch. Serious costs associated with its relocation or replacement by a pipeline. Large siphon pipes cross two deep gulches and some long tunnels pass under pineapple fields. Several existing drip irrigation systems would be adversely affected if the ditch was relocated at a lower elevation. If the highway is located directly below the ditch, several existing drip irrigation pipelines, filter stations and pump stations would be affected.

Alternative 8 -- Route is along "old government right-of-way" from Haleakala Highway to Mokulele Highway.

a. Land area for right-of-way is 165 acres, transverses 8.5 miles through HC&S property.
b. This route crosses four primary (paved) hauler roads and one secondary hauler road.
c. This route crosses the Hamakua Ditch, the Kauhikoa Ditch, the Lowrie Ditch, five small ditches and numerous drip irrigation pipelines.

In each of the above mentioned alternatives, the disruption would require mitigative measures such as:

- Land for right of way -- HC&S' lands needed for the highway would be "prime" agriculture land that will need to be purchased.
- Splitting of fields -- Compensation for the increased cost of field operations due to the additional hauling time mileage, concrete crossings for haulers and tracked equipment. Field isolation and possible abandonment may also have to be compensated for.
- Cane hauler roads intersects -- There will be a need for underpasses or traffic lights at these hauler roads to minimize hauling delays and provide a measure of traffic safety. Additional cane hauler roads that are parallel to the new road may be necessary.
- Proximity to highway -- Compensation for the additional costs of operation to control dust and cane smoke and the potential to restrict the use of chemicals currently being used would reduce operating efficiencies.
- Irrigation system intersects -- Several pipelines, ditches, supply lines and mainlines would need to be relocated and cross the new road.
- Drainage -- These highways will cross at least three major gulches, Waiakoa, Pulehu and Kalialinui Gulches, and several smaller ones which will require the State to build bridges to traverse these gulches adding additional cost to these projects.

Hawaiian Commercial & Sugar Company (HC&S)

1. Alternatives 1, 2, 3 and 8 were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E). Alternative 1 was eliminated because this alternative would produce a substantially greater displacement of cultivated fields than any other alternative. Alternative 2 was eliminated because it would bifurcate the Maui Research & Technology Park. However, modifications to this alternative (Alternatives 2B and 2C) were developed in response to this and other letters from HC&S. These two alternatives are still under consideration (Alternatives U1,K1 and U1,K2). Alternative 3 was eliminated because of its poor operational aspects and because it would displace a substantial amount of cultivated fields. Alternative 8 was eliminated because it is constrained to an existing government right-of-way that does not conform to modern highway design standards.

2. The impacts to HC&S sugarcane land are discussed in Section 4.2.1 and measures to minimize or mitigate impacts to sugarcane operations are discussed in Section 4.2.4. The costs of these measures are included in the cost estimates presented in Section 2.1.2.3.

3. Additional consultation with HC&S was conducted during the preparation of the Draft EIS. Information provided by HC&S in this and other letters, and through consultation, was valuable in preparing the Draft EIS. While Alternative U1 still adversely impacts HC&S, it has been refined to reduce somewhat the level of impact.

ALTOR®

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 13 10 04 AM '95

Hawaiian Estates Realty Ltd.

22 Lalo Pl. B-5 Kahului, Maui Hawaii 96732 (808) 871-8855 Fax 871-2166

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MR. KAZU HAYASHIDA, DIRECTOR NOVEMBER 3, 1995
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

DEAR MR. HAYASHIDA:

RE; KIHEI-UPCOUNTRY HIGHWAY PROJECT, MAUI

I AM A REAL ESTATE DEVELOPER AND HOME OWNER IN UPCOUNTRY MAUI, THEREFOR VERY AWARE OF THE NEED TO HAVE A ROAD CONNECTING KIHEI WITH UPCOUNTRY. I ENCOURAGE YOU TO DO ALL THAT IS POSSIBLE AS DIRECTOR TO SUPPORT THIS PROJECT.

THANK YOU FOR ALL YOU DO.

SINCERELY,

SUZANNE LEE FREITAS

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Kihei-Upcountry Highway Project
Maui, Hawaii

State of Hawaii • Department of Transportation • Highways Division
U.S. Department of Transportation • Federal Highway Administration

About the Project

The Hawaii Department of Transportation and the Federal Highway Administration (FHWA) are sponsoring the construction of a rural, limited access arterial roadway that would connect the coastal area of Kihei to the Upcountry area of Maui. The proposed 15.4 kilometer (9.6 mile) highway would link the coastal area of Kihei (Piilani Highway) to Upcountry Maui at either Haleakala Highway or Kula Highway. The highway would be generally aligned in an east-west (mauka-makai) direction (see map). Two lanes of an ultimate four-lane highway is being proposed for initial construction.

WONDERFUL

Purposes of the Project

FACTS

- legislative mandate: provide improved connection between defense-related activities at the Maui Research and Technology Park and Science City at Haleakala.
- roadway system linkage: provide more efficient travel between the employment center of Kihei and residential areas upcountry:
- existing transportation demand and capacity: ease congestion and traffic delays
- economic development: support future regional growth of population, jobs, and tourist activities.

What is Proposed

- an ultimate four-lane rural arterial that would connect Piilani Highway with either Haleakala Highway or Kula Highway within an area bounded on the east by Haleakala and Kula Highways, starting at the Haleakala/Haliimaile Road intersection, continuing south past the Kula Sanitarium, toward Ulupalakua, and turning northwest to adjoin Piilani Highway, the western boundary.

Ten alternative alignments are presently being analyzed. Based on potential impacts on social and economic activity, traffic, farmlands, air emissions, visual environment, endangered and threatened species, and historic and archaeological resources, DOT has determined that preparation of an environmental impact statement (EIS) is appropriate.

TIME IS MONEY

Major Project Milestones

Activity	Completion
• Planning	September 1996
• Design	1997 - 1999
• Construction	1999 - 2003

ASAP

Comments

An Environmental Assessment has been issued, and the public comment period ends November 10, 1995. If you wish to comment, please mail or deliver comments to the following address:

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Sam S. Hironaka
99 Naniluna Place
Wailuku, Hi. 96793
Phone: 808 244-5136
October 4, 1995

Mr. Kenneth Au, Advance Planning Engineer
State of Hawaii Department of Transportation, Highways Division
869 Punchbowl Street
Honolulu, Hi. 96813

Dear Mr. Au:

Re: Your Invitation for Written Comments
Highway for the Up-Country-Kihei Link

1 Thank you for your willingness to review comments for the above. We believe very strongly that the most important road to encourage and benefit tourism, ease growing traffic problems and help local residents and farmers is the COMPLETION OF THE PIILANI HIGHWAY AT WAILEA. The very short and relatively inexpensive road to complete the circle around Haleakala from Hana to Wailea will do more to satisfy our tourists than any other project. On the other hand, each day of delay means a growing number of disgruntled visitors, particularly after a long day of driving to Hana, Kipahulu and Ulupalakua. Best estimates are that there are about 12,000 guests at the Tedeschi Winery a month. Many people could save an hour of driving time back to Wailea or Kaanapali with the Piilani extension.

The local people who work or play at Wailea from the Kula-Makawao area will also benefit with less traffic problems, shorter driving time, etc. Residents from South Maui and Lahaina will also benefit in going to see friends or relatives at Kula Hospital, visit Haleakala or going fishing on the other side. Farmers will benefit too.

It may be of interest for you to learn that the 85 year old road which connected Makena to Ulupalakua was closed in March 1984 because "TOO MANY TOURISTS BEGAN USING THE ROAD TO HAVE A TASTE OF WINE, AND THE COUNTY COULD NOT MANAGE TO MAINTAIN THE ROAD IN A PROPER MANNER . Liability was a major concern and Oil to bind the dirt together was too expensive in those days. Closing an exisiting road because too many people began using the road doesn't make much sense.

Yes, ultimately, a road from the Pukalani or Kula area down to Kihei makes sense.
1 But we understand that such a project will require unforeseen difficult solutions.

In the meanwhile, the Environmental Impact Study completed on February 15, 1977 by Your Department and the U.S. Dept. of Transportation known as "PIILANI HIGHWAY PROJECT NUMBERS F-031-1 (4), F-031-1 (1) and F-037-1 (10) Kihei to Makena Road/ Kula Highway, Maui, Hawaii, provides all the answers. The study made sense in 1977, and today it is mucn, much stronger because of ever growing traffic problems with the greatly increased number of hotels, condos, tourists and residents of Maui. If you are unable to find a copy of this somewhat ancient study in your files, I shall be glad to make of copy of this 152 page Report to you.

Thank you for your consideration of this very important matter.

Very truly yours,

Sam S. Hironaka

Sam S. Hironaka

cc: Mr. Robert Siarot, District Director
Rep. Joseph M. Souki, Speaker of the House

Encl.: Copy of Letter dated June 3, 1994 from William Kennison, Business Agent ILWU Local 142, Maui Division

896 Lower Main St.
Wailuku, Hi. 96793
Phone 244-9191

Editor, Maui News

It is the goal of the ILWU to improve the life of its members, and at the same time, help our employers as well as the community in General.

According to the State Highway Dept. the road from Keokea to Ulupalakua was greatly improved recently - the first time in nearly 100 years, after the road was transferred from the County to the State last year. All that remains now is only a short 4 miles to hookup the Up Country Area to the growing employment center of hotels in Wailea.

We learned from the State DOT that the Piilani Highway was scheduled to be completed to Ulupalakua in March 1980 after the first section in Kihei was completed. The State Legislature appropiated more than $7 Million in 1992 to complete Piilani to the Kula Highway.

The Benefits are many:

1. Up Country employees of Wailea will save as much as 68 miles each day from Ulupalakua; 52 miles from Keokea; about 40 miles from Kula and 15 miles from Pukalani and Makawao.

2. Our Tourists, whose goodwill and business we need to provide jobs to our members will love the short cut when they go to Haleakala and Hana. They will save 34 miles just one way, when they go around the island to Hana and return to Wailea.

3. Even the Maui Hi Tech Park staff will save 25 miles round trip to Haleakala from Kihei. Tourists from Kaanapali will also save mileage and time when going to Haleakala and Hana.

Every car taking Piilani Highway will mean one less car to alleviate the traffic jams now on Pukalani and Mokulele highways.

We're for the Kihei to Up Country Road too. But it may be many years before we see the road. In the meantime, Piilani is easy, short and cheap by comparison. It goes through 100% pasture land. The right of way is all set. Basic engineering was done in 1977 when the EIS was completed and approved by both the Federal and State Highway Departments. The terrain is relatively smooth with no gulches. The uphill climb is good - it goes up to only the 1,800 ft. elevation at Ulupalakua. We, of the ILWU wish to preserve our sugar and pineapple lands for our workers and companies, and also to support our employees who work in the Wailea area. Preservation of farm lands for our farmers is a must.

The 4 Mile Piilani Extension is a WIN, WIN situation for everyone, including our construction workers who need jobs on Maui. We need the support of Everyone on Maui!

William Kennison, Business Agent, PAC Chairman
ILWU Local 142, Maui Division

June 3, 1994

Sam S. Hironaka

1. The alternative suggested is similar to Alternative 7 for this project. This alternative was eliminated in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it had an inadequate benefit-cost ratio.

8 November 1995

Kazu Hayashida, Director
State of Hawaii Dept. of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hayashida,

I am writing with reference to the proposed Kihei-Upcounty highway project now under study. As a longtime resident of Kula in Upcountry Maui, I have had ample opportunity to observe the obvious: that a more direct link between the Upcountry area and Kihei/Makena would have a very considerable impact on the nature of the mainly rural and agricultural community which I call home.

1

I view the building of such a link as eventually inevitable, and I also think that there is much to the argument that the highway would put an end to the rural/agricultural nature of Kula, Keokea and Ulupalakua. There are very few residents or farmers in the area who want the road to bring to their community the urbanization that might ultimately occur. On the other hand, there are many residents of Makawao, Pukalani and Haiku who now commute daily to Kihei and who would very much benefit from a more direct link to their places of employment.

2

I therefore think very strongly that if the road must be built, it should be along the corridors set forth currently as Alternates 1,2 or 3. There is hardly any useful purpose in spending <u>far more</u> money to produce a route which will divert traffic up into the Kula area and force the great majority of those who will use the highway to have to drive further <u>up</u> Haleakala in order to then go <u>down</u> to Kihei. Keeping the eastern terminus of the road close to where most Kihei-bound traffic now actually originates will best serve both those who use the road and those who wish to preserve the country character of the greater Upcountry community.

3

Thank you for reading and taking note of my views.

Sincerely,

David J. Baar
Managing Director

cc: Warren Unemori Eng.

THE INCENSE WORKS
POST OFFICE BOX 427, KULA, HAWAII 96790
PHONE (808) 877-7753 • FAX (808) 878-2122

The Incense Works

1. Potential impacts to Upcountry's communities and agricultural activities are discussed in Sections 4.3.1 and 4.2.1, respectively.

2. The proposed project would not cause urbanization in Kula because development in Kula is constrained by water availability (see Section 4.1.1.2).

3. Alternatives 1, 2 and 3 were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E). Alternative 1 was eliminated because this alternative would produce a substantially greater displacement of cultivated fields than any other alternative. Alternative 2 was eliminated because it would bifurcate the Maui Research & Technology Park. However, Alternative 2 was modified to Alternatives 2B and 2C, and these two alternatives are still currently under consideration and are now called Alternatives U1,K1 and U1,K2. Alternative 3 was eliminated because of its poor operational aspects and because it would displace a substantial amount of cultivated fields.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 8 10 37 AM '95

INTERNATIONAL LONGSHOREMEN'S & WAREHOUSEMEN'S UNION
LOCAL OFFICE 451 ATKINSON DRIVE • HONOLULU, HAWAII 96814 • PHONE 949-4161
HAWAII DIVISION: 100 West Lanikaula St., Hilo, Hawaii 96720 • OAHU DIVISION: 451 Atkinson Drive, Honolulu, Hawaii 96814
MAUI COUNTY DIVISION: Lower Main Street, Wailuku, Maui 96793 • KAUAI DIVISION: P. O. Box 1910, Lihue, Kauai 96766

LOCAL 142

November 6, 1995

Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Re: Kihei-Upcountry Highway Project on Maui, Hawaii

Dear Mr. Hayashida:

1 The ILWU Local 142, Maui Division enthusiastically endorses the Alternative 4-B to the Kihei-Upcountry Highway Project. We have many members who live in the upcountry area who work in Kihei. This highway will be very beneficial to these members as well as for the economy of Maui.

We have looked at other alternatives but find that this Alternative 4-B will have the least amount of impact on our sugar cane lands.

Therefore, we would appreciate your support on the Alternative 4-B project.

Sincerely,

ILWU Local 142
Maui Division

William Kennison
Business Agent

WK:jkn

HIGHWAYS DIV
PLANNING BR
NOV 3

NOV 8 12 PM '95

"AN INJURY TO ONE IS AN INJURY TO ALL"

International Longshoremen's and Warehousemen's Union, Local 142

1. Alternative 4B was modified to Alternatives U2-A,K1 and U2-B,K1. The major change to this alternative is that its Upcountry terminus was shifted north to the "Five Trees" intersection.

2780 Olulani St.
Pukalani, HI 96768
November 1, 1995

Mr. Kazu Hayashida
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr. Hayashida:

1 I think that the road from Wailea - Kihei should be tie in around Koekea. It seems the most direct from Kihei and ties in closely for those going to Haleakala Crater. It spreads the use out and gets congestion away from the new Pukalani high school area.

Sincerely,

Kevin Johnston

Kevin Johnston

1. Alternatives 6A and 6B both had an Upcountry terminus in Keokea. Both alternatives were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because they had inadequate benefit-cost ratios.

3443 Malina Pl., Kihei, HI 97653, phone (808) 874-BUCK, Nov. 13, 1995

OPINION – *To The Maui News*

While I was in the Caribbean and Florida doing hurricane relief, I missed the two meetings on the Upcountry/Kihei Highway. However, there seems to have been a few unfavorable letters in The Maui News regarding this project and some people seem to think this is a brand new idea. Having been involved in road and traffic issues more or less for the past decade, I'd like to refresh some memories.

First of all, we recognize some bananas in the commentaries, (build almost nothing anywhere near anything). It is truly difficult to grant much credibility to such extremist.

Roger I. Knox of Kula suggested that the Kihei Community Association or somebody conduct a survey of public opinion. I'd like to reference the Final Report by the Upcountry/Kihei Task Force which covered a period of sixteen months, involved more than 90 people on the task force, and numerous public meetings. We did surveys out the wazoo! We surveyed hotel employees in South and West Maui. We surveyed all major businesses. We put a survey in The Maui News. We had about 1500 responses. There was, and I believe, continues to be almost unanimous support for this project. Those 1500 votes from people who would use the road, vastly outweigh the few nay sayers that are now showing up. The main contention was, and continues to be, the location of the terminus for the highway and it is absolutely necessary to consider all possibilities, even those that are blatantly ridiculous.

To recognize the need for this road, it is necessary to be a bit of a visionary. Maui is growing and it will continue to grow, hopefully in an intelligent, planned, managed manner. Someday we hope to have a four year college or university. Someday South Maui will need a High School. Someday we will need a second hospital. All of these projects could easily go above the R&T Park. And South Maui will soon have a 150 acre recreational park. It would seem reasonable that the people Upcountry would want, and should have, access to all of these facilities. The Upcountry/Kihei Highway would do that.

Of a more pressing nature, please consider the safety aspect of this Highway. For years I have preached about the extreme vulnerability of South Maui to catastrophe. If a large fire started in North Kihei, fanned by trade winds blowing South, it could easily block both S. Kihei Rd. and Piilani. There is no escape route from Kihei! A fire of this magnitude is a possibility, and we do not have the resources available to control it. Remember the Oakland fire consumed almost 4000 homes and apartments and it can happen here. A highway to Upcountry leaving Kihei at the R&T Park or South of that point, would provide an exit route to save lives as well as access for fire fighters to get in front of the fire. 1

Also, if Maui takes a direct hit by a major hurricane, large sections of South Kihei Road will cease to exist, Piilani Highway will be in constant grid lock and relief and recovery efforts will be severely impacted. An Upcountry/Kihei Highway would be invaluable in this situation. Similarly, the highway could provide an additional exit/access route for Upcountry disasters.

It is easy to be a nay sayer and throw verbal rocks. It is much more difficult to recognize the need for managed growth and appropriate disaster preperation, and to make it happen. Recognize also that the political and financial climate is changing drastically. If the Upcountry/Kihei Highway is not built now, in the future, the cost will be higher and the availability of funds will be considerably less. The Upcountry/Kihei Highway will be a long range benefit to Maui, expensive, but worth it.

Buck Buchheimer, Kihei

Buck is Chairman of the Maui County Traffic Safety Council, Chairman of the Kihei Traffic Safety Committee, a member of the State Traffic Safety Council, and participates in all County and State Road and Highway Planning groups for many years.

cc KAIU HAYASHIDA
WARREN UNEMORI ENG.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Nov 17 9 57 AM '95
RECEIVED

Buck Joiner

1. Increasing the coastal evacuation capacity of the Kihei-Makena region is one the purposes of the project.

JAMES R. JUDGE
2233 VINEYARD STREET, SUITE B
WAILUKU, MAUI, HAWAII 96793
TELEPHONE: (808) 242-4955
FAX: (808) 242-4368

October 23, 1995

Department of Transportation
Highways Division
Attention: Mr. Kenneth Au
Aliiamoku Hale, 5th Floor
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Kihei/Kula proposed highway

Gentlemen:

1 I would like to become a consulting party and go on record with the following comments about the environmental effects of the proposed highway:

2 The routing of any proposed highway that would cross both Pulehu and Omaopio Roads would destroy the rural character of the area.

The topography of the Pulehu and Omaopio areas is that of a natural amphitheater, such that all of the road and traffic noise would be clearly broadcast to the higher areas.

3 At the present time, when any of the sugar cane fields are burned and harvested, you can distinctly hear the crackling of the flames and the squeaking of the heavy equipment operating over three miles away. All traffic noise would be similarly amplified.

In addition, having a proposed highway bisect both Pulehu and Omaopio Roads would create a traffic hazard. You must understand that both Pulehu and Omaopio Roads are used by many farmers, either taking their products to market or moving heavy equipment from field to field. Farming requires heavy, slow

2 moving equipment, which would make crossing a higher speed limit highway extremely difficult, if not extremely dangerous.

The most important thing to understand about the proposed highway is that both Pulehu and Omaopio Roads are very narrow, winding roads that simply were not engineered or built to take the increased traffic that would feed into any new highway.

Department of Transportation
Page two
October 23, 1995

It is obvious that all Pukalani and Kula residents who live or work south of the Kula 200 subdivision would utilize either Omaopio or Pulehu Roads to gain access to any new highway, as it would be closer for them.

4

Traffic presently backs up at the bottom of Pulehu Road, at Hansen Road, and we could expect the same to occur at any intersection with the proposed new highway. Attempting to cross a 55-mile an hour highway would create a worse backup than the present crossing of a 35-mile an hour Hansen Road.

Please contact me if you have any questions regarding the above.

Very truly yours,

JAMES R. JUDGE

JRJ:jfoa675

pc: Mr. Masa Uradomo

James R. Judge

1. Your name has been placed on the project mailing list. You will receive the Draft EIS and information on the scheduling of the project's public hearings.

2. Potential impacts to travel patterns on Omaopio and Pulehu Roads are discussed in Section 4.4.1.1. Mitigation measures to address these impacts are discussed in Section 4.4.4.

3. Traffic noise levels were predicted at a site representative of Omaopio residences. For the results, see Section 4.6.2.

4. See #2.

10/23/95

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'95 OCT 26 11:34 AM
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

To whom it may concern:

I am writing concerning the proposed upcountry - Kihei road. We do need this road, and a lot of upcountry folks feel this way.

I like the idea of people from out in Haiku and the Hali'imaile people benefiting from this road. Therefore, a route that starts on Hakalaka Hwy and heads towards Kihei is the preferred route. Side roads will intersect this highway via Omaopio, Pukalu, or wherever it goes off, feeder road, so those folks will benefit too.

1

As far as the arrival in Kihei, I see many points on all sides. The long term will need to have a leg head towards the Wailea area, and so I think Central/North Kihei arrival is the best.

2

Just know that it will be well used and appreciated by many people, upcountry and down.

Thank you for your consideration,

MR. HALE D. JUDSON III
P.O. BOX 115
MAKAWAO, HI 96768-0115

ph # 572-0839

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STATE DEPARTMENT OF TRANSPORTATION
OCT 26 2 29 PM '95
HIGHWAYS DIVISION
PLANNING BRANCH

Hale D. Judson III

1. The U1 and U2-A alternatives connect with Haleakala Highway.

2. There is no central Kihei terminus option. Alignment alternatives ending at the Piilani Highway/Lipoa Street intersection, which is roughly in central Kihei, were considered earlier but dropped in the alternatives screening analysis (see Section 2.2.1 and Appendix E). Maui Research & Technology Park officials requested that the highway not bifurcate the Park, which would occur if the highway's Kihei terminus is at the Piilani Highway/Lipoa Street intersection.

November 3, 1995

State Department of Transportation
Highways Division
869 Punchbowl St.
Honolulu, Hi 96813

RE: New road between Kihei and Upcountry

Dear Dept. of Transportation:

I am strongly in favor of having this road completed as soon as possible. The newspaper coverage of the hearings made no mention of what I perceive as the most serious reason for having this road. Should Kihei ever be subjected to tsunami flooding, we would have no way of reaching other
1 parts of the island. All of our grocery stores are in the flood plain, and could be wiped out. We need another road to provide us a way of exiting to higher ground in case of disaster.

Why are we looking a gift horse in the face. Lets take advantage of this wonderful opportunity to expand our road system with help of federal funding and reap the fringe benefits of opening a new part of the island for sightseers, visitors and residents. Kihei deserves this. We are the last community on the island to get a public swimming pool and a decent community center and decent school buildings. Please don't deprive us of this chance to bring increased infrastructure to our area with the help of the federal government funds.

Aloha from Maui,

Nancy Kanady

I favor the route from Makena to Keokea area but would support ~~the~~ any of the alternate routes

Nancy Kanady
2274 So. Kihei Rd.
Kihei, Hi 96753

879-5595

Nancy Kanady

1. Improving the coastal evacuation capacity of the Kihei-Makena region is one of the purposes of the project (see Section 1.2.6).

Department of Transportation
Highways Division
869 Punchbowl ~~Branson~~ St.
Honolulu, HI 96813

November 10, 1995

RECEIVED
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DEPT OF TRANSPORTATION

Ladies and Gentlemen:

I strongly support a Kihei to Upcountry, Maui Highway.

There are so many reasons why I feel this is urgently necessary. The population on Maui is only going to increase. Over the past 20 years I have seen amazing growth, and unfortunately a tremendous lack of planning for this growth.

We rely and encourage tourism as a lead source of our economy. With these tourists come huge numbers of automobiles on the road, and accidents due to sightseeing. To be able to by-pass the lead roads for Kamaaina's--so they can just drive to the Crater and beyond--quickly from their hotels in Kihei, would significantly reduce highway deadlock, and I believe road fatalities and insurance claims (thereby lowering rates---hopefully).

Now with the Hawaiian land claims on the planned new extension by-passing Dairy Road by the new shopping center, the traffic lights on Dairy Road and Hana Highway should be unpassable during AM & PM commutes times, as well as the lunch hour....Which basically means only a few hours per day, will traffic flow normally through that section. By opening the Upcountry road---we could re-route a significant number of vehicles.....The land debate could continue for years, but not be intolerable. (Plus better negotiating for the state on land swaps--if it isn't urgent).

I will be joining many Upcountry residents soon, and hope to one day soon save the 45 to 60 minutes I will be forced to drive by driving so far around.

Please guide us into the 21st Century safely and efficiently, by extending Lipoa Road up from the Research and Tech park in Kihei to Kula in the most direct and cost efficient manner. If you have a better plan -- I will support the one that goes in the fastest.

I encourage you to do this Now----Not in ten years. It will create much needed jobs and lessen the impact on our environment (via reduced gas purchasing, shipping and pollution). Please plan for planting of trees and bike pathways. (Link to Kihei 2000 and the Kealahohu (Student benchmark project)). 1

With Regards,

Sunny Crowley

Sunny Crowley - President
Kizmet Brokerage
P.O. Box 1028
Kula, Maui, HI 96790

Sunny Crowley, Kizmet Brokerage

1. The roadway would include landscaping and paved shoulders that are 1.8 m (6 ft) and 2.4 m (8 ft) wide, sufficient for use by bicyclists.

KULA COMMUNITY ASSOCIATION
P.O. BOX 417 KULA, HAWAII 96790

November 10, 1995

Mr. Kazu Hayashida, Director
State Dept. of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

Thank you for this opportunity to allow our Association to offer input on the proposed Kihei-Upcountry Highway. Our board of directors has been canvassing our community for opinions on the different alignments and options. Our current conclusions are very similar to the recommendations we submitted to the SDOT on 10/10/94 (copy enclosed). We found support for a single alignment, the 'NO BUILD' option, along with a (TSM) and Public Transit Alternative. We also came up with varied comments on the Environmental Assessment of this project.

Please allow us to continue with our observations and suggestions.

We understand the reasoning behind the 'Legislative Mandate,' and agree the defense-related activities at Science City and Kihei's MRT Park should have no bearing on preference on which alignment is studied. Even the 'no build' option should qualify for the funds by getting the workers to and from the summit in a safer and more efficient manner.

1 We believe that a new highway between Kihei and Upcountry would greatly improve the traffic flow up and down the mountain. We also agree that the 'NO BUILD' road improvements and a future public transportation system would do the same, and more likely be the logical first step to take. Public transportation might only help a small percentage of the commuters, but it would guarantee to eliminate thousands of rented cars, adding road room for years to come.

2 Our board had trouble with the high estimates of growth stated in the E.A. from 1987 to 2010, jobs on south side up 83%, population Upcountry up 41%, and the visitors count up 122%.

In the past 8 years unemployment has doubled, hotels and many other businesses have streamlined operations, laying off many workers. Along with a fairly flat tourism market, no new hotels are being planned for the future for the Kihei-Wailea-Makena area.

Most agree that the more Maui is developed the sooner our visitor counts and related jobs will stabilize, not increase.

3 Growth Upcountry in the Kula to Ulupalakua region will be restricted because of the lack of water. Hawaiian Homelands, farmers, and drought protection for the current residents are the priorities for any future water source development.

4 Maui's real attraction is its open space. Our parks will hopefully be protected and increase in size and number, but our Ag lands; sugarcane, ranches, and truck farms are the most important assets of our unique community for the resident and visitor alike. We all must consider the trade-off if this highway is plotted through these areas.

5 In our current Upcountry Community Plan Recommendations, commercial and light industrial lands are being designated to supply jobs and services to limit the need to travel down the hillside. We also expect a major increase in home run businesses. This concept of Upcountry becoming a more complete community is a realistic one.

6 Our Board of Directors has concluded that we would support only the alignment connecting Haliimaile Road and a northerly connection in Kihei, with conditions. We are
7 concerned as many residents and farmers are that this alignment will cause unsafe and undesirable traffic to filter off the new highway onto Omaopio and Pulehu Roads. This potential impact would have to be resolved with those concerned to gain our full support.

8 Our Board of Directors has also concluded that we support a 'No Build' Alternative as stated in the Maui Long-Range Plan. We believe all of these road improvements should be studied and funded except for one, Alternative 7 (Piilani Highway to Ulupalakua). The State should in no way consider this connection within the No Build plan, or otherwise. Our Association and community have voiced steady opposition to this roadway, knowing full well the major social impacts it would cause. Our serene low density agriculture areas would experience a change in character threatening our country communities across the mountainside. Those few that support this road alignment can never justify the harm it would do.

We hope these thoughts and recommendations help clarify some areas that we believe to be important, and possibly overlooked in the assessment of the Kihei-Upcountry Highway Project.

Sincerely,

Steve Sutrov, President
Kula Community Association

KULA COMMUNITY
ASSOCIATION

October 10, 1994

Mr. Rex Johnson, Director
State Dept. of Transportation
869 Punchbowl Street
Honolulu, Hi. 96813-5097

Subject : Kihei-Upcountry Maui Highway
Project # HDPS-9203 (1) HWY-PA 2.2552

Dear Mr. Johnson,

Thank you once again for inviting the public into this important process. Our Association appreciates the opportunity to further study this project along with the DOT and all those who might benefit. We know this plane will never fly without widespread community acceptance. To achieve this acceptance it must be shown to benefit the many residents who travel down to work daily in a safe, efficient direction. Military purposes, visitor traffic, and definitely Hawaiian Home Lands are all important concerns, but loosing our small farms, awakening our rural communities of Omaopio, Keokea, and Waiakoa with the screams of development and transient traffic flows will be unacceptable to all but a few who live on this mountainside.

CONDITIONS OF OUR SUPPORT

We stand ready to support a final alignment only if;

1. The highway benefits the main upcountry resident commuter population base (Pukalani, Makawao, Haiku)
2. Impacts to the future Socio-Economic environment of Kula is minimal
3. The route is safe and efficient (overpasses and underpasses, where needed)
4. Small farms and residents will not be displaced or disadvantaged
5. The route connects directly with Halealaka Highway (to eliminate the potential use of many narrow, steep, neighborhood roads as shortcuts.
6. The Kihei termini should be located to aid Westside commuters and a future spur road access to the Hawaiian Homes Development if possible.

General Comments, Concerns, and Information On Schematic Plan of Alternative Alignments (W. Unemori Map Revised Aug. 19, 94)

ALT 1, 2, & 3

These routes would satisfy most of our conditions if all intersections were made to be safe. The Kula C.A. would favor them in numerical order,

Alt. 1 only intersects Pulehu Rd. and intersects directly into Haliimaile Rd, routing traffic from Makawao and Haiku straight to Kihei.

Alt. 2 crosses both Pulehu and Omaopio but intersects with Haliimaile Rd.

Alt. 3 would not benefit as many people, lacking the efficiency of 1 & 2 , crossing both Pulehu and Omaopio, also not connecting with Haliimaile Rd, but again meeting most of our conditions

Alt 4, 5, 6,7

These suggested alignments would fail to meet most or all of the Kula C.A.'s conditions of support for the Kihei / Upcountry Highway

With much thought and debate the Kula C.A. concurs with the:

Distinguished members of the Makawao / Pukalani / Kula Citizens Advisory Committee (Re.Kihei / Upcountry Highway)

And

The Maui Country Planning Departments recommendations of the revisions of the M.P.K. Community Plan Update (Re.Kihei / Upcountry Highway.

That ;

Kihei-Upcountry Highway: The proposed highway between Kihei and the Upcountry region is significant in terms of its land use and transportation impacts. The CAC recognized that the selection of an alignment must consider the growth inducing impacts to the region's agriculture, rural character and open spaces. The need to maintain the unique Upcountry ambiance is an essential parameter in analyzing alternative routing schemes. Recognizing that the evaluation of alternatives should weigh transportation costs and benefits as well as community and land use impacts, the CAC recommends that the Upcountry terminus intersect Haleakala Highway in the vicinity of Hali'imaile Road. The CAC further recommends that a spur off of the proposed Kihei-Upcountry Highway be provided to facilitate access to the Department of Hawaiian Home Lands development area.

The Kula C.A. also agrees with both the Upcountry CAC and the Maui Planning Dept. that the Makena-Ulupalakua Connector road be dropped as a capital improvement project thus, all planning, design, and funding be suspended.(ALT 7)

We also believe this route (ALT 7) would benefit very few, worsen traffic safety, disrupt quiet communities, and only benefit visitor traffic and private landowners.

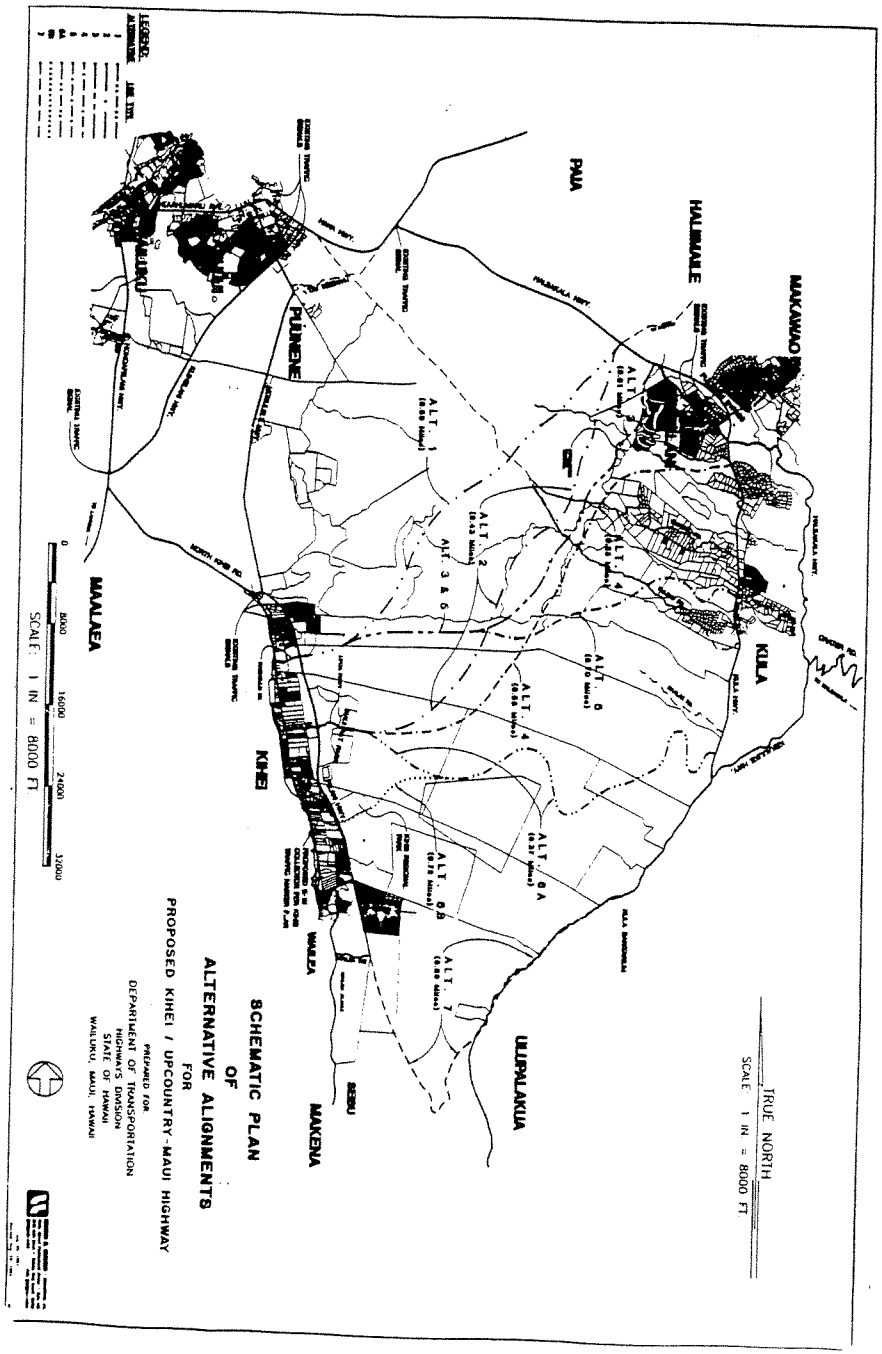
Some citizens in our association do believe the losses outweigh the gains connecting these mauka and makai communities, and funds should be used to improve existing roads and highways to aid the traffic flow between Upcountry and the South / West Side. The Kula C.A. also believes this is a realistic alternative and should be studied.

The Kula Community Association has followed the Upcountry Highway discussions through the Toll Road concept of former Mayor Tavares (Dec. 1990) and the hard work of the Upcountry / Kihei Highway Task Force. We are full aware of the importance of choosing a workable alignment versus one plagued with problems or weighted by special interests.

Thanks again for listining, and could you please forward the origin / destination studies and any reports filed to you on this project to help us stay current.

Much Aloha
Sincerely,

Steve Sutrov
President,
Kula Community Association



Kula Community Association

1. The transportation systems management (TSM) alternative, which includes improvements to Maui's para-public transit system, was eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it would not satisfy the project's goals.

2. The projections in the environmental assessment were taken from socioeconomic forecasts prepared for the County of Maui in 1994. Since that time, State of Hawaii Department of Business, Economic Development and Tourism (DBEDT) completed their year 2020 projections, which are an update of previous projections for the year 2010. In comparing both projections for the year 2010, the County population, employment and daily visitor census projections are 3.5 percent, 5 percent, and 14 percent higher than the DBEDT projections, respectively. Therefore, the comment is justified in questioning the County of Maui projections. However, more recent DBEDT projections indicate that the county's population, employment and daily visitor census would still increase substantially, by 22 percent, 25 percent and 52 percent from 1990 to 2010, respectively.

3. We agree that water availability has historically and will continue to be the major constraint to development in Kula (see Section 4.1.1.2).

4. One of the impacts of the proposed project is the conversion of open space, currently used for sugarcane and pineapple cultivation and cattle grazing, to a paved roadway (see Section 4.1.1).

5. Travel demand between Upcountry and the rest of Maui for employment, shopping, or other trip purposes is still expected to remain relatively high for the foreseeable future because no new major employment centers or commercial facilities are being planned for Upcountry, except those within the proposed Kulamalu development.

6. Both an Upcountry terminus at the Haleakala Highway/Haliimaile intersection and a Kihei terminus at the Piilani Highway/Kaonoulu Street intersection are still under consideration.

7. Potential impacts to travel patterns on Omaopio and Pulehu Roads are discussed in Section 4.4.1.1. Possible mitigation measures to address these impacts are described in Section 4.4.4.

8. Alternative 7 was eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it has an inadequate benefit-cost ratio.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 23 10 10 AM '95

October 19, 1995

Mr. Kazu Hayashida
State Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

The October 18, 1995 article in THE MAUI NEWS, "Upcountry-to-Kihei road has its ruts" gave some shocking figures. The cost of this highway between Kihei and Upcountry was quoted as $50 million. The time saved for individuals traveling this route was quoted as (a whopping!) 25 minutes. The cost for agricultural companies involved is described as "extremely costly".

1 Why can we not look at the situation more creatively? The travel time to Kihei is prolonged by the lack of the fourth lane of Haleakala Highway, the intersection of Hana Highway/ Dairy Road, and the need to improve Piilani Highway to four lanes beginning at Dairy Road. Surely the addition of the fourth lane to the Haleakala Highway; an imaginative and ingenious improvement of the Dairy Road intersection, perhaps an overpass; and adding the two lanes to Piilani Highway would alleviate the traffic congestion that is a headache for everyone, both those in Kihei and upcountry residents.

I am sure the Waiohuli Hawaiian homelands community would be relieved to know that a large construction project and highway was not crossing their land.

2 Maui has the basis of a very successful public transportation system run by Maui Economic Opportunity. It would be a simple matter of upgrading their funding and expanding their facilities to have a full-scale public system. In view of our shaky economy, would it not be more economical and sensible to use our highway funds in a wise and responsible manner? Do we really need an "H-3" on Maui?

Very truly yours,

Elizabeth Marciel

Elizabeth Marciel
(Mrs. David Marciel)

cc: THE MAUI NEWS, THE HONOLULU ADVERTISER/ STAR BULLETIN, State Department of Transportation, Senator Daniel Inouye

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HIGHWAYS DIVISION

Elizabeth Marciel

1. Many of the improvements suggested are recommended in the Maui Long Range Land Transportation Plan and therefore are considered part of the proposed project's No Build Alternative. The impacts of the No Build Alternative are evaluated in the Draft EIS.

2. Improvements to Maui's para-public transit system were considered under the Transportation Management Systems (TSM) Alternative. The TSM Alternative was eliminated in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it would not satisfy the project's goals.

MAUI LAND & PINEAPPLE COMPANY, INC.

November 6, 1995

Mr. Kazu Hayashida, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hi 96813

Dear Mr. Hayashida:

Subject: Kihei-Upcountry Maui Highway
Environmental Assessment

Pursuant to our review of the Environmental Assessment (EA) for the proposed highway project and our attendance at the public informational meeting held at the Upcountry Community Center on October 17, 1995, we offer the following comments:

1. Alternatives 2, 3, 4A, 4B, 5 and 8 will adversely impact the operations of Maui Pineapple Company, Ltd. (MPCo) in varying degrees. For each of the alternatives the EA should address the adverse impacts on existing farming operations and efficiency, existing irrigation systems, existing planting layouts, existing farm roadway systems, existing pineapple hauling operations, etc. In addition, for those alternatives that will bisect existing pineapple fields, the question on whether or not it would be economically feasible to continue to farm the smaller remnant parcels created by the proposed highway should be answered. 1

2. The EA should analyze the negative cost impacts on the existing pineapple farming operations for each alternative.

3. The EA should address the mitigating measures that will be necessary due to the adverse impacts on the existing pineapple farming operations.

4. The economic state of pineapple operations has been marginal. There is a current shortage of viable pineapple farming lands and the loss of any lands caused by the proposed highway will have further negative impacts.

P.O. Box 187, Kahului, Hawaii 96732-0187 • (808) 877-3351 • Fax (808) 871-0953

Mr. Kazu Hayashida
November 6, 1995
Page 2

We appreciate the opportunity to provide our comments. If you have any questions or wish to discuss any of our comments, please feel free to contact me.

Sincerely,

Warren A. Suzuki
Vice President/Land Management

/dc
c: Gary Gifford
Doug MacCluer
Wes Nohara
Doug Schenk

Maui Land & Pineapple Company, Inc.

1. Potential impacts to Maui Land & Pineapple Company, Ltd. fields are discussed in Section 4.2.1. Measures to minimize these impacts are discussed in Section 4.2.4.

Maui Pineapple Company, Ltd.
Haliimaile Division

October 3, 1995

DOT Highways Division
869 Punchbowl St.
Honolulu, HI 96813

Attention: Kenneth Au

Dear Mr. Au:

SUBJECT: COMMENTS ON UPCOUNTRY-KIHEI HIGHWAY LINK

It is my opinion that the link between Upcountry and Kihei is unnecessary and will have a negative effect on the Upcountry
1 area. Crime reports indicate that the Upcountry area still has the lowest crime rate on the island of Maui.

The road between Kihei and Upcountry will lead to the expansion of development in the area which is now the buffer between the
2 tourist and commercial areas of Kihei and the quiet bedroom communities of Kula and Pukalani. To create this corridor will be to the detriment of the Upcountry and is, in my opinion, unnecessary.

The present traffic is manageable and growth in the future will be
3 dependent upon additional water which does not now, or in the very near future, seem to be available.

Thank you for your consideration.

Sincerely,

L. D. MacCluer

/sj

870 Haliimaile Highway • Haliimaile, Maui, Hawaii 96768 • Telephone (808) 572-7211 • FAX (808) 572-8229

Maui Pineapple Company, Ltd.

1. Section 3.3.6 provides information about current crime rates for both the Kihei-Makena and Upcountry communities. In comparison to Kihei-Makena, Upcountry has lower overall crime rates. The effect of the road on crime rate is discussed in Section 4.3.3.

2. Potential land use development impacts are discussed in Section 4.1.1.

3. Section 1.2.3 describes existing traffic conditions. Consultation with the Maui Board of Water Supply supports the comment that future development in Upcountry depends on the water supply.

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Nov 14 10 14 AM '95

8 November 1995

Kazu Hayashida, Director
State of Hawaii Dept. of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hayashida,

I am writing with reference to the proposed Kihei-Upcounty highway project now under study. As a longtime resident of Kula in Upcountry Maui, I have had ample opportunity to observe the obvious: that a more direct link between the Upcountry area and Kihei/Makena would have a very considerable impact on the nature of the mainly rural and agricultural community which I call home.

1

I view the building of such a link as eventually inevitable, and I also think that there is much to the argument that the highway would put an end to the rural/agricultural nature of Kula, Keokea and Ulupalakua. There
2 are very few residents or farmers in the area who want the road to bring to their community the urbanization that might ultimately occur. On the other hand, there are many residents of Makawao, Pukalani and Haiku who now commute daily to Kihei and who would very much benefit from a more direct link to their places of employment.

3 I therefore think very strongly that if the road must be built, it should be along the corridors set forth currently as Alternates 1,2 or 3. There is hardly any useful purpose in spending <u>far more</u> money to produce a route which will divert traffic up into the Kula area and force the great majority of those who will use the highway to have to drive further <u>up</u> Haleakala in order to then go <u>down</u> to Kihei. Keeping the eastern terminus of the road close to where most Kihei-bound traffic now actually originates will best serve both those who use the road and those who wish to preserve the country character of the greater Upcountry community.

Thank you for reading and taking note of my views.

Sincerely,

Lenda McGehee-Simon
Artist/Teacher

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PLANNING BRANCH

Lenda McGehee-Simon

1. Potential impacts to Upcountry's communities and agricultural activities are discussed in Sections 4.3.1 and 4.2.1, respectively.

2. The proposed project would not cause urbanization in Kula because development in Kula is constrained by water availability (see Section 4.1.1.2).

3. Alternatives 1, 2 and 3 were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E). Alternative 1 was eliminated because this alternative would produce a substantially greater displacement of cultivated fields than any other alternative. Alternative 2 was eliminated because it would bifurcate the Maui Research & Technology Park. However, Alternative 2 was modified to Alternatives 2B and 2C, and these two alternatives are still currently under consideration and are now called Alternatives U1,K1 and U1,K2. Alternative 3 was eliminated because of its poor operational aspects and because it would displace a substantial amount of cultivated fields.

October 20, 1995

State Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

COMMENTS ON THE PROPOSED KIHEI/UP-COUNTRY HIGHWAY
by William W. Monahan
RR2 Box 250A Kula, Hawaii 96790

To gain a perspective on the proposed highway link from Kihei to Up-Country, Maui, one must go back to the creation of the Kihei Research & Technology Park. For five years I worked for the Maui Economic Development Board (MEDB) where my chief responsibility was the development of the Park. From its very inception, we knew that it was critical to attract to the Park the defense contractor that manages the satellite tracking facility on Haleakala. During the negotiations, it became evident that the contractor and the Air Force were vehemently opposed to placing their administrative center in the Park. They could see no advantage to the Park location until Senator Inouye along with MEDB pursuaded them that the move would be in their best long term interest.

The infrastructure of the Park was completed, an office building was constructed, and the defense contractor and Air Force dutifully relocated. Now after the fact came the opportunity to get funds through the defense budget for a highway to link the R&T Park with Haleakala. The military significance of the road was always recongnized as negligible if not non-existent. The money to build it was what you would call pure "pork". MEDB was then "appointed" to coordinate efforts to determine the best route.

The issue really came before the public during the planning sessions of the Up-Country Community Advisory Council (CAC) to the Maui Planning Department. I was a member of that CAC. The entire report of the CAC, which met over twenty times, is replete with the message that Up-Country Maui is a precious environmental resource that should be protected for the benefit of all who live in or visit Hawaii.

1 A highway that would create a loop from Kihei to Kula and then back down Haleakala Highway was totally rejected because it would encourage sub-division development, and it would create a tourist attraction that would change the entire nature of Up-Country. For esxample, it is estimated that some 500-900,000 tourists now drive annually out and back to Hana. The road to Hana has become a popular tourist attraction. The number driving a Kihei/Kula loop could well be over two million. After considering the

2 options presented by MEDB, the CAC stated its preference for no highway at all. If construction of the highway was inexorable, then its Up-Country link should be placed as far north as possible at the junction of Haliimaile Road and Haleakala Highway. I fully concur with this conclusion by the CAC.

One need only look as far as Oahu to see what happens to rural areas when they are accessed by highways. Development is not very far behind and the rural nature of the area is gone forever. Kula should be viewed as a park. It is not just for the pleasure of those who live there, but for everyone. I have been a life time resident of Hawaii, first on Oahu and now on Maui. I have watched beautiful Oahu turn into a congested nightmare. Please, resist the pressure of developers and land owners and do something right for these islands. Don't allow a Kihei/Kula loop to happen.

William W. Monahan

1. The alternatives (6A, 6B and 7) that would create a "loop" were eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E). The two U3 alternatives would create a semi "loop" because their Upcountry terminus would be located near the Pulehu area. However, it is unlikely that a U3 alternative would induce residential subdivision development in Kula because of limited water availability (see Section 4.1.1.2).

2. An Upcountry terminus at the Haleakala Highway/Haliimaile intersection is still under consideration.

October 20, 1995

STATE DEPARTMENT OF TRANSPORTATION
Highways Division
869 Punchbowl Street
Honolulu, HI 96813

Re: The Upcountry-to-Kihei Road

Dear Sir:

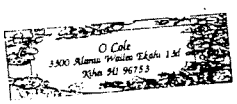
My name is Edwin S. Murai. I am a resident of Pukalani, Maui. I am in favor of an Upcountry-to-Kihei road.

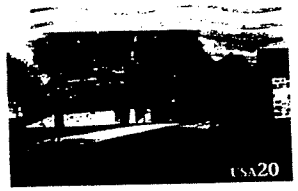
This road would be the link between Upcountry-to-Lahaina and a means of bypassing the Kahului/Wailuku hub.

Yours truly,

Edwin S. Murai
2791 Olulani Street
Pukalani, HI 96768

P.S. The choice of the best route, I leave up to professionals like yourself; Keeping in mind that it is a link between Upcountry and Lahaina.





Hazu Hayashida
Director, State Dept Transportation
869 Punchbowl
Honolulu HI 96813

Dear Hon Hayashida + State Dept of Transportation

Yes Maui needs a road up + down for Kihei + Kula! (Yes Kihei Upa + Makawao Pukalani Kula Kula Kula)
Traffic is terrific Pukalani - Makawao Junctions
& several occasions accidents happen + jam roads to Kahului, Wailuku, Lahaina & Airport.
as well as Kula - Kihei Wailea are loaded in for hours

There are people working in Kihei / Wailea who live in Kula Pukalani & probably Makawao & Paia area in Hawaii is going up + mainland goes down. Road save some small people money. Tourist + visitors would be happier too less time + traffic - traffic is bad now + more later traffic to come avoid there get tension and other who drive are careless Vans, Buses, etc Kids Others people be in Crash without a Parade

Christopher Perreira
P.O. box 2324
Kihei, HI 96753

Comments on the Kihei-Upcountry Highway

I'm very glad to see the State of Hawai'i Transportation Dept. building a four-lane highway with a median strip. This will be the first highway on Maui that meets federal highway standards. It will be a safe highway and we're right to start the lifesaving upgrading on Maui. The Kihei-Upcountry highway will benefit the tourist and residents of Maui. I would prefer the Route 31 or Route 3 alignment of the highway.

1

I would prefer if the Transportation Dept. build this highway in only one phase. This would save the State of Hawai'i money, and the people of Maui wouldn't have to put up with the construction hassles of building the second phase. Finally, this Upcountry to Kihei highway will really be appreciated by the citizens of Maui and its many visitors.

2

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HIGHWAYS DIVISION

Christopher Perreira

1. Alternative 3 was eliminated from further study in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because of its poor operational aspects and because it would displace a substantial amount of cultivated fields. Alternative 5 is still under consideration, and is now called Alternative U3,K1.

2. As described in Section 2.1.2, right-of-way would be reserved for a four-lane divided highway, even though the proposed project would only construct a two-lane highway. It is not anticipated that a four-lane divided highway will be needed by the design year 2020. The design of the two-lane highway would be such that the future expansion to a four-lane divided highway would have minimal impacts to traffic conditions.

Conference Memo 10-1-95
Kihei

Dear Kenneth

Jibison

Id like to comment on the road from, Kula to Kihei, just do it!

I think you sould put the road thought the Ulupalakua Ranch (the old road) to come out near makena I think alot of the people that would use the road are workers and tourist. That would put all these people in the wailea area and not in Kihei. Kihei is very crowded aready

1

Aloha

Fred Petersen

Kapalua Bay Hotel

Fred Petersen

1. The alternative suggested is the proposed project's Alternative 7 (see Section 2.2.1.1). This alternative was eliminated in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it has an inadequate benefit-cost ratio.

file: kihei to kula link

427 Liholiho Street
Wailuku HI 96793

October 1, 1995

Kenneth Au
State DOT Highway Division
869 Punchbowl Street
Honolulu HI 96813

Dear Mr. Au:

1 I would like to be a consulted party for the Environmental Impact Statement for the Kihei to Kula highway link. Please send me a copy of the Draft EIS, if it exists, or of the Environmental Assessment.

Thank you for your assistance.

Sincerely yours,

Sally Raisbeck

Sally Raisbeck

Sally Raisbeck

1. Thank you for your interest in this project. Your name has been placed on the project mailing list. You will receive the Draft EIS and information on the scheduling of the project's public hearings.

SALLY RAISBECK
427 Liholiho Street, Wailuku HI 96793 (808)244-9604

October 19, 1995

kiheikula 1

Mr. Kazu Hayashida, Director
State of Hawaii, Department of Transportation
869 Punchbowl Street
Honolulu Hi 96813
(808)587-2150

RE: DRAFT EIS FOR KIHEI-UPCOUNTRY MAUI HIGHWAY

Dear Mr. Hayashida:

I attended the Upcountry Information Hearing on the Kihei-Upcountry Highway, and have also read the Environmental Assessment. I have the following comments.

A. RATIONALE FOR FEDERAL INVOLVEMENT

I worked four years as a computer programmer on a laser project for Massachusetts Institute of Technology, dividing my time between the facilities in Science City and the base facilities at that time in Puunene. At that time and I suspect now, most of the people working at Science City went up for their shift, stayed there the entire shift, and returned to their homes. Only a handful needed to travel between Science City and the base facility during the course of the day, for purposes connected with work.

The base facilities were transferred from Puunene to the Kihei Maui R&T Park, 10 miles further distant from Science City, primarily for the pork-barrel reason that after the state had spent millions to build the R&T Park, they lacked tenants. By agreeing to transfer the base facility, the defense contractors did a favor for the state.

The following questions should be considered in the Draft EIS:

1. How many people work at Science City? At the base facility in Maui R&T Park?

Note that only a small part of the people working at Maui R&T park are connected with the facilities in Science City.

2. What estimate can be made of how many will be working there in 10 years, 20 years?

The estimate should consider the fact that Science City lies within a National Park and is not able to expand spatially.

3. How many of those now working at Science City have a need to travel to Kihei for the purposes of their work during their shift? From Kihei to Science City?

At present data communication facilities are out to bid for a link between Science City and the base facilities at Maui R&T Park.

Given the fact that people living on Maui do work by computer in London, i.e. doing currency trading on the London market, and also given the fact that modern telescopes can be remotely controlled from laboratories all over the world, it would seem that the need for people to travel from the base facilities to Science City is considerably less now than when the base facilities were in Puunene. In ten years that need will be considerably less than it is now.

4. What time saving would be made in the entire trip from Science City to Kihei by any of the new proposed highways?

Section 1.2 of the EA says that a 45 mile journey would be reduced by 9.5 miles. The time consuming part of the journey is the twisting switchbacks of Crater Road, which must still be traversed regardless of the new road. The roads eliminated are mostly high speed roads, Piilani Highway, Mokulele Highway, Hana Highway, Haleakala Highway. Only the stretch of Hansen Road is two-lane and slow.

If we estimate an average speed of 55 mph for 7.5 miles and 30 mph for 2 miles, the saving of 9.5 miles in distance would mean a time saving of about 12 minutes.

5. If the federal defense benefit of this highway consists of saving 12 minutes on a journey for only a handful of people, is it worth the 80% federal funds for this highway? Is the highway needed for the stated reason, or is it a purely pork-barrel project?

As a federal taxpayer, I would much rather have my federal taxes go for health care than for this highway. As a state taxpayer, I would much rather have my state taxes go for schools and libraries than for this highway.

The true driving force for this highway is to open Upcountry to the kind of real-estate development that has taken place in Kihei. Most people Upcountry do not want that to happen.

6. If only a few people need to travel between the two sites for work-related purposes, is a new highway the best way to facilitate their travel?

At the Information Hearing, I suggested half-jokingly that helicopter trips between Kihei and the edge of the National Park, plus a van shuttle to the top, would be faster and more cost-efficient than a new highway, for the federal defense linkage requirement. The National Park begins at about 7000 feet elevation, and this alternative would eliminate a portion of the time-consuming Crater Road, as well as the portion of the route the new highway is expected to cover.

7 The EA does not specify elevations for the various alignments, but most seem to end between about 2000 feet elevation and 3000 feet elevation. The difficulty of travelling between Kihei and Science City lies primarily higher than that, from 4000 feet up to the summit at 10,000 feet.

The helicopter or equivalent alternatives should be explored, especially since the data link may cause the need for such transportation to dwindle even further in a few years. Such a transportation link would avoid the impacts on farmland, lifestyle, and archaeological sites that a highway would have.

8 Another No-Build Alternative would be to improve Hansen Road (Mokuicle Highway), and possibly improve various intersections on the current route. This also should be explored.

9 As suggested by someone at the Information Hearing, another quick and cheap way to reduce travel time between Science City and the base facilities would be to relocate the base facilities to their old home near Puunene, or even to Pukalani.

B. OTHER QUESTIONS

7. What are the criteria that will be used to decide on the alternatives to be considered in the Draft EIS?

10 At the Information Hearing, the slide showing these criteria was very difficult to read. Could the criteria be mailed to all those who attended the Information Hearings or who requested the EA?

8. Will those charged with preparing the EIS include conclusions of the relevant Community Plans now being considered by the Maui County Council?

11 A number of very public-spirited citizens spent large amounts of time preparing the General Plan, the Upcountry Community Plan, and the Kihei-Makena Community Plan, as part of the official planning process of Maui County. They have been reviewed by the Planning Department, the Planning Commission, and are now being reviewed by the County Council. Public hearings were held at each stage of the process.

The principles enunciated in those documents represent the consensus among the citizens of Maui for the future of their areas and should be considered in the EIS.

9. 12 As noted by Dick Mayer at the Information Hearing, will the Draft EIS consider the entire four-lane proposal, as required by law, not merely the interim two-lane proposal?

13 The EIS on the airport expansion attempted to break the project into 22 discrete pieces, in order to avoid considering the impacts of the whole project. This was improper, and care should be taken to assess the entire impacts of this project.

10. 14 Will the Draft EIS include detailed information about the sources of funding for the proposed highway? Also detailed information about the proposed costs?

I hope these questions and comments will be of assistance in the Draft EIS.

Sincerely yours,

Sally Raisbeck

Sally Raisbeck

Sally Raisbeck

1. We have no information about the number of persons employed in Science City. As of June 1997, there were 315 people employed in the Maui R&T Park. We have no information on the number of persons employed in the R&T Park's "base facility" (assuming the Air Force tenant). Science City receives technical support from key defense contractors located in the Maui R&T Park. We have no information on the number of persons providing this technical support.

2. We have no information allowing us to estimate the number of persons that would be employed in Science City in 10 or 20 years. The commentor is correct to note that Science City has limited growth potential. The Maui R&T Park is projected to grow to 168 ha (415 acres) by the year 2020. Assuming the same employee density, the number of employees in the R&T Park may grow to close to 4,000. This estimate has not been corroborated by Maui R&T Park officials.

3. We assume that everybody who travels between Science City and the Maui R&T Park has to make these trips. Whether the number of persons making these trips would decrease in the future because of improvements to Maui's telecommunications system is not known.

4. Sections 4.4.1.1 and 4.14 contain information on trip lengths with or without the proposed project. The analysis in Section 4.14 compares trip lengths under each of the alternatives using two selected centroids: "Five Trees" Intersection and the Piilani Highway/Lipoa Street intersection. The route offered by the alternatives would be one leg of the trip from Kihei to Science City. Under present conditions, the travel distance of this leg is approximately 36 km (22.5 miles), and at an average speed of 64 km/h (40 mph), this trip would take approximately 34 minutes. Assuming the same travel speed, the Build alternatives would reduce the duration of this trip by a range of 11 to 17 minutes. Therefore, depending on the alternative selected, the trip duration from Kihei to Science City would be reduced by the same amounts.

5. If the proposed project qualifies for 80% federal funding, the decision of whether the project is "worth" its cost rests with the State Legislature and the Governor. The proposed project has other benefits, as described in Chapter 1 of the Draft EIS, which would be taken into account during this decision. State and federal funds for highway projects are raised through fuel taxes. By law, these funds can only be used for highway projects and operations. They cannot be used for projects or programs that are not highway related.

6. Reducing the travel distance and time between Science City and the Maui R&T Park is only one use of the highway. The highway would also reduce travel distance and time for visitors traveling between Kihei-Makena/West Maui and Haleakala National Park, and residents traveling between Upcountry and Kihei-Makena/West Maui for employment, entertainment and other purposes.

7. The use of helicopters to transport personnel between Science City and the Maui R&T Park is beyond the scope of this study. Currently, there are no plans to develop heliport facilities that would make this suggestion possible.

8. While improvements to Mokulele Highway are included in the No Build Alternative, improvements to Hansen Road are not.

9. Relocating the base facilities to Puunene or Pukalani is beyond the scope of this study. We know of no plans for such a relocation.

10. The criteria that were used to select the alternatives under consideration in the Draft EIS are described in Sections 2.2.1.2 and 2.2.2.

11. Information on County plans is provided in Section 3.1.4.2. Project consistency with these plans is discussed in Section 4.1.2.2.

12. The proposed project would only construct a two-lane highway because traffic projections indicate that two lanes should be sufficient by the design year 2020. However, we are planning at this time to reserve right-of-way for a four-lane divided highway so that we can lessen the impacts when two additional lanes are needed beyond 2020. The impact analyses of the EIS are based on this proposed action.

13. To ensure that a highway project is not broken into smaller discrete pieces, the proposed action must (1) connect logical termini and be of sufficient length to address environmental matters in a broad scope; (2) have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and (3) not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. The Build alternatives under consideration meet these criteria.

14. Section 2.1.2.3 provides information on the estimated costs of the Build alternatives. The expected sources of funding would be the federal highway fund (80%) and the State highway fund (20%).

HANS RIECKE
77 APALAPANI LANE
HAIKU, MAUI, HAWAII 96708

October 30, 1995

State Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: **Kihei-Upcountry Maui Highway**

Gentlemen:

I support the planning and construction of the Kihei - Upcountry Highway and urge you to consider the following:

1. Plan the Upcountry terminus in such a way that residents living in Makawao and beyond will also benefit from this new highway. I found it significant that Makawao Avenue which terminates just above Pukalani was not even shown on the map (Figure 1-1) in your Environmental Assessment. This is a major road serving thousands of people and should be considered in your assessment.

2. Make the present Lipoa Street intersection the Kihei terminus of the new highway. It is centrally located in Kihei and has already some of the necessary infrastructure in place.

3. Route the new highway to make the Hawaiian Homeland area accessible from it without going through it.

4. Design the shoulders as bikeways.

5. Take advantage of the scenic and aesthetic opportunities the location of this highway has to offer. Provide lookouts and rest stops in as many places as possible. In the design of this highway the aesthetic quality should be considered as important as the customary engineering aspects. Top designers should be engaged to design the landscaping, signage, bridges, embankments, etc. Excessive cuts and fills should be avoided so that the road blends into the existing countryside rather than dominate it.

Very truly yours,

Hans Riecke

Hans Riecke, FAIA
Member of the State/County Joint Task Force

cc: Mayor Linda Crockett-Lingle

\word\highway.hhr

Hans Riecke

1. Residents of Makawao would benefit from the proposed project because it would improve their transportation to and from Kihei-Makena and West Maui. The figure has been corrected.

2. Lipoa Street will not be a Kihei terminus because Maui R&T Park officials requested that the highway not come through the Park.

3. None of the alternatives considered in the Draft EIS would be located on or near Department of Hawaiian Home Land (DHHL) homesteads in Keokea. DHHL would have to construct their own access road to the new highway if they desire a connection and SDOT would have to provide permission for the connection.

4. The roadway would have 1.8 m (6 ft) and 2.4 m (8 ft) paved shoulders (see Section 2.1.2.2), sufficient for bicyclists. Whether the roadway would be designated as a bikeway has not been determined.

5. Opportunities would be explored to develop scenic lookouts. Landscaping would also be provided to improve the aesthetics of the highway (see Section 4.8.4) both for travelers and those viewing the highway from downslope areas. The roadway would be designed to minimize and balance cuts and fills.

Frederick W. Rohlfing

RR # 1, P.O. Box 398
E-mail: <rohlfing@maui.net>
Kula, (Maui), Hawaii 96790

Telephone 808-878-6927
Fax 808-878-2159

November 7, 1995

State Dept. of Transportation
Highways Division
869 Punchbowl St.
Honolulu, HI 96823

COMMENTS ON PROPOSED KIHEI-UPCOUNTRY MAUI HIGHWAY

Having been a property owner on Maui since 1970; a resident of Kula, Maui since 1984; President and/or member of the Board of the Kula Community Association since 1991; and a member of the Joint Task Force of the State and County of Maui that has studied the project, I have major concerns with this multi-million dollar proposal. The initial rationale for a new road grew out of an alleged defense requirement to connect the Air Force defense contractor office building in the Kihei R & T Park with the satellite tracking facility on the summit of Haleakala. The location of the defense contractor was itself a "bootstrap operation" to assist in shoring up the R & T Park rather than the choice of the contractor or the USAF. Hence from the outset the "defense" case for the road has rested on a foundation of senatorial "pork". (Indeed, some have characterized the project as Maui's H-3 boondoggle). 1

There has, moreover never been any significant demonstration of support for such proposed road by people living in Upcountry Maui. In fact, in prior discussions at public meetings of a possible toll road connecting the two areas during the administration of Mayor Hannibal Tavares, the overwhelming majority of the people of Kula strongly opposed any connecting route with small minorities favoring a Makena-Ulupalakua connection along the route of the dirt road that formerly was utilized by local people or the connection to Pukalani. In statements at recent meetings and letters to the editor and the like, it is clear that the people of Kula, Keokea, Omaopio, and Ulupalakua are even more concerned today that their rural/farm area life style would be negatively impacted by thousands of Maui's visitors tooling through the area in their rent-a-cars not only on the new highway but also on existing narrow and, in some cases dangerous substandard county roads. One has only to look to the traffic to and from Hana - estimated at slightly less than one million vehicles a year- to realize even more would drive the circle route through Upcountry if it was made easier for them. 2

The task force report and EA pose a dilemma to the people of Upcountry. The various alternatives that provide a routing straight up the hill, from selected points in Kihei to several Kula points would clearly cause the aforesaid undesirable influx of tourists and

3 | the inevitable "Oahu-ization" (urbanization) of Upcountry Maui. If , on the other hand the road were built across Haleakala from Kihei to the Haliimaili/Haleakala Hwy intersection it would bisect numeous large and small farms and existing back roads such as Omaopio
4 | and Pulehu and require construction of overpasses to avoid the kind of poor transportation planning that was demonstrated in connection with the Pukalani Bypass project. (That performance led to a number of accidents and severe injuries before traffic signals were installed at Makawao Rd.).Farmers on the lower slopes of Haleakala would at the least be inconvenienced and at worst put out of business. Despite this latter possibility, The Upcountry Citizens Advisory Committee in its comprehensive Community Plan Review took the view, *with which I concur* that "If there HAS TO BE a new Kihei-Upcountry road",(e.g. despite opposition from the people directly affected),
5 | its Upcountry terminus should be at the junction of Haliimaili Rd.and Haleakala Hwy. It would then at least service the people living in the largest Upcountry Maui population centers of Makawao and Pukalani.

The ***BOTTOM LINE*** , however is that the best alternative in the EA is # 2.1– e.g. the NO BUILD ALTERNATIVE.

In this day of "budget shortfalls" and cuts in Federal and State funding across the gamut
6 | of social programs and the lack of funding to alleviate the impacts from overcrowded prisons it is both ironic and sad that an unnecessary, largely unwanted and wasteful highway project has gotten as far as it has.

Without admitting to the rationality of the political reality driving the expenditure of taxpayer funds for construction work, if the money contemplated for this project were devoted to improving Mokulele Hwy , Hansen Road and Haleakala Hwy. it would make
7 | travel between Upcountry and Kihei, *and also Kahului and Kihei* much safer and less time consuming without the extremely disruptive socio-economic impacts that would inevitably result from the major disruptive new route. I urge that the E.I.S. examine the benefits from applying the federal and State funds sought for this project for
8 | improvement of existing routes in Maui County or for other more necessary public construction projects in our State.

As with the "Field of Dreams" - ***if you build it, they will come***! Please don't let that happen to our Upcountry home.

Sincerely,

Frederick W. Rohlfing

Frederick W. Rohlfing

1. As described in Chapter 1, there are other purposes and needs for the proposed project than the R&T Park/Science City connection.

2. Potential impacts to Kula's agricultural activities, communities and neighborhood roads are discussed in Sections 4.2.1, 4.3.1 and 4.4.1.1.

3. As described in Section 4.1.1.2, land development in Upcountry, particularly in Kula, would continue to be constrained by water availability. The proposed project would not change this condition.

4. Overpasses would not be constructed at the intersections with Omaopio and Pulehu Roads. Measures to mitigate changes in traffic patterns due to the new highway intersecting these roads are discussed in Section 4.4.4.

5. An Upcountry terminus at the Haleakala Highway/Haliimaile intersection is still under consideration.

6. Highway projects are funded by federal and State fuel taxes. By law, these funds can only be used for highway purposes. Therefore, highway projects do not compete against other government services, programs and projects, such as prison construction and education.

7. Improvements to Mokulele and Haleakala Highways are included in the Maui Long Range Land Transportation Plan (February 1996), and therefore are included as part of the project's No Build Alternative. The proposed Kihei-Upcountry Maui Highway is not a competing project.

8. The project's EIS is required to consider all reasonable alternatives that would address its purposes and needs, as described in Chapter 1 of the Draft EIS. Consideration of other projects that do not relate to the stated purposes and needs are beyond the scope of this EIS.

COPY HAYASHIDA

Dennis Smith
Box 1089
Kula, HI 96790

878-3859

October 30, 1995

Letters to the Editor
Maui News
100 Mahalani
Wailuku, HI 96793

Dear Editor:

The Upcountry Road info meeting recently held in Pukalani was hopefully a wake-up call to the Department of Transportaion from numerous Upcountry residents who clearly oppose this misguided project. The DOT hasn't exactly distinguished itself on Maui and a lot of us suspect Mr. Magoo is alive and well somewhere inside the department busily influencing policy.

1 How can we possibly justify spending 70 million dollars to enable a handful of big boys to more quickly reach their big toys on the summit of Haleakala? The 70 million is just for openers, and, get this, does not include the cost of land acquisition and/or right of ways. As indicated in a letter to the editor last week this whole thing smells like a Maui version of Oahu's H-3 disaster.

Your voice can make the difference. Public input is being sought through November 10th so it's important you quickly share your outrage with Senator Inouye (the road's prime mover) and with Kazu Hayashida (DOT chief) in the form of a letter or phone call demanding the abandonment of this expensive folly.

2 If we have that kind of money to throw around let's throw it at something infinitely more important like education and human services, both of which continue to suffer from crippling budget cuts.

Dennis Smith

Dennis Smith

1. Facilitating improved access between the Maui R&T Park and Science City is only one purpose of the project. See Chapter 1 of the Draft EIS for the other purposes and needs. Roadway cost information is provided in Chapter 2.

2. Highway projects are funded by federal and State fuel taxes. By law, these funds can only be used for highway purposes. Therefore, highway projects do not compete against other government services, programs and projects, such as prison construction and education.

October 2, 1995

DOT Highways Division
869 Punchbowl St.
Honolulu, Hi. 96813

ATTENTION: KENNETH AU

Dear Kenneth,

I noticed that the EIS for the ten alternate bypass routes for the new Kihei to Upcountry highway have been recently published. I AM OPPOSED TO ALL TEN ROUTES FOR ARCHEOLOGICAL, TRAFFIC, COST, SAFETY, AND LOSS OF QUALITY OF LIFE REASONS.

It is incredible to learn that the ONE AND ONLY reasonable routing for this highway has not even been considered! Here is the route that is cost effective, sensible, and capable of delivering the least impact to traffic on Maui:

1 The route should start at the intersection of Highway 350 and the new Piilani Highway in Kihei. Thereafter, two new lanes should be built on sugar land, parallel to Highway 350, with a dividing median . This would create a safe four lane highway. Proceeding north to Puunene, the new highway would fork prior to Puunene, and maintain four lanes through sugar lands to the bottom of Highway 37. This would avoid more impact on Hansen Road. At the bottom of Highway 37, a new fourth lane would be added, turning Highway 37 from a three lane debacle into a safer four lane highway. Thereafter, the four lanes would narrow at the new Pukalani Bypass above Haliimaile and proceed from there AS IS into the greater Upcountry area.

Cheaper, because the highway goes through sugar land, and the route is level. Most of the roadbed is already down, and widening would be so easy to do.

Safer, because Highway 350 would become a divided highway, while now it is very unsafe. Safer and cheaper, because now Highway 37 is a three lane death trap, and the cost of daily coning is exhorbitant.

Environmentally safe, since the existing roads and new roads would not create any disturbances to heiaus and other significant archeological structures.

TAKE ADVANTAGE OF WHAT WE ALREADY HAVE! CORRECT THE TRAVESTY YOU HAVE CREATED WITH THREE LANING HIGHWAY 37! KEEP OUR EXPENSIVE BYPASSES AS BYPASSES FOR THEIR INTENDED USE! GET RID OF THESE AWFUL PROPOSED ROUTES!

Please feel free to call me for more information or clarification. I will provide my consultation free of charge for the public good.

Sincerely,

Gordon Stellway

Gordon Stellway
572-1377

Gordon Stellway

1. The alternative suggested is similar to the No Build Alternative (see Section 2.1.1), except for the connection between Mokulele Highway and Haleakala Highway. A similar alternative that would improve the No Build condition was developed called the "Widening of Existing Roadways Alternative" (see Section 2.2.1.1). This alternative was eliminated in the alternatives screening analysis (see Section 2.2.1 and Appendix E) because it would not satisfy the project's goals.

Edward S. Syrjala
P.O. Box 149
Centerville, Ma.
02632
November 24, 1995

Mr. Abraham Wong
Federal Highway Administration
P.O. Box 50206
Honolulu,Hawaii 96850

Dear Mr. Wong:

1 I have only recently become aware of the proposal for a new limited access highway to the up-country area of Maui. I am requesting that my name be added to the Service and Distribution List for this project through the Record of Decision. I would also be interested to know if scoping
2 documents were prepared for the public hearing in October. If so are they available? My specific comments will be reserved pending a review of the draft Environmental Impact Statement.

I appreciate any assistance that you may be able to tender to me with this request.

Sincerely,

Edward S. Syrjala

Edward S. Syrjala

1. Your name has been placed on the project mailing list. You will receive the Draft EIS, and information on the scheduling of the project's public hearings.

2. Chapter 5 and Appendices A and C of the Draft EIS contain information about the project's scoping activities.

Leah Wesson
84 Kilakila Place
Pukalani HI 96768
572-7889

November 3, 1995

State Department of Transportation
Highways Division
869 Punchbowl St.
Honolulu, Hi 96813

RE: New road between Kihei and Upcountry

Dear Dept. of Transportation:

I am strongly in favor of having this road completed as soon as possible.

For Maui to continue to support it's population we must have safe roads. It is ridiculous to drive 20 miles and overcrowd other roads to get to a place 8 miles away. Living upcountry and working in Kihei, I have driven coned highways for years. We must continue to improve our out-dated highway system.

Please take advantage of any opportunity to expand our road system with help of federal funding and reap the benefits for our residents. Please don't deprive us of this chance to bring increased infrastructure to our area, it is so outdated and we need this road so badly. I favor the
1 Haliimaile to Lipoa connection points as it accesses Makawao and Haiku as well as the rest of upcountry.

Warmest Aloha,

Leah Wesson

Leah Wesson

1. An Upcountry terminus at the Haleakala Highway/Haliimaile intersection is still under consideration. However, a Kihei terminus at the Piilani Highway/Lipoa Street intersection is not being considered (see Section 2.2.1).

PUA KEA FARM 206 COOKE ROAD KULA, HAWAII 96790 808-878-6705

11/8/95

STATE DEPT of TRANSPORTATION

I wish to state that the proposed Kihei - Upcountry Highway is not necessary, especially in these austere times. As a "Defense Highway" it makes no sense, and neither the State of Hawaii nor the federal government has the money to build it — both are unable to balance their books.

Mahalo,

Frank W. White
FRANK W. WHITE

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

LAWRENCE MIIKE
DIRECTOR OF HEALTH

RECEIVED

STATE OF HAWAII
DEPARTMENT OF HEALTH '95 NOV 15 P12:15
P.O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to

OFC. OF ENVIRONMENTAL
QUALITY CONTROL

November 9, 1995 95-188/epo

To: The Honorable Benjamin Cayetano
Governor, State of Hawaii
c/o Director, Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

From: for Lawrence Miike
Director of Health

Subject: Final Environmental Assessment
Upcountry Highway Project
Kihei, Maui

Thank you for allowing us to review and comment on the subject document. We have the following comments to offer:

1 Any work in any of the streambeds may require approval from the U.S. Army Corps of Engineers (COE). The applicant should contact the COE to identify whether a federal permit is required. If a federal permit is required, a Section 401 Water Quality Certification is required from the Department of Health's, Clean Water Branch.

If you have questions, you may call Mr. Herbert Matsubayashi, Chief Sanitarian, Maui District Health Office at 243-5255.

c: H. Matsubayashi (MDHO)

State of Hawaii Department of Health

1. The U.S. Army Corps of Engineers (USACE) has indicated that the project would require U.S. Department of Army Nationwide permit. Therefore, a Water Quality Certification would be required from the State of Hawaii Department of Health. The USACE is a cooperating agency for this project.

Maui Notices

AUGUST 8, 1999

Construction of the project will commence upon the receipt of applicable regulatory permits and approvals. Pursuant to Chapter 343, HRS, an Environmental Assessment has been prepared since the subject property is within the boundaries of the Lahaina National Historic Landmark.

Draft Environmental Impact Statements

(4) Kihei-Upcountry Maui Highway

District:	Makawao
TMK:	2-2-2:1, 3, 4, 15, 16, 17, 54, 114; 2-3-2:7, 8, 16, 17, 18, 75, 113,; 2-3-7:8; 2-3-8:3, 4, 5, 28; 2-3-9:15, 28, 29, 30, 31, 32; 2-3-11:1; 2-3-32:16; 2-5-1:1, 2, 3, 9; 2-5-2:1, 2, 5; 3-9-1:16
Applicants:	Department of Transportation Highways Division 869 Punchbowl Street Honolulu, Hawaii 96813 Contact: Kenneth Au (587-1843) and U.S. Department of Transportation Federal Highways Administration 300 Ala Moana Boulevard Honolulu, Hawaii 96850 Contact: Abraham Wong (541-2700)
Approving Agency/Accepting Authority:	Governor, State of Hawaii c/o Office of Environmental Quality Control 235 South Beretania Street, Suite 702 Honolulu, Hawaii 96813
Consultant:	Warren Unemori Engineering, Inc. 2145 Wells Street, Suite 403 Wailuku, Hawaii 96793 Contact: Warren Unemori (242-4403)
Public Comment Deadline:	September 22, 1999
Status:	DEIS First Notice pending public comment. Address comments to the applicants with copies to the approving agency or accepting authority, the consultant and OEQC.
Permits Required:	Sec. 404; NPDES; WQC; CZM consistency; grading, grubbing, stockpiling & excavation; excavation of highway

The State of Hawaii Department of Transportation and Federal Highway Administration are issuing a Draft Environmental Impact Statement for the Kihei-Upcountry Maui Highway project. This proposed two-lane limited access highway would directly link Kihei-Makena and Upcountry Maui by connecting Piilani Highway with either Haleakala Highway or Kula Highway.

The alternatives under consideration are all eight combinations of two Kihei and four Upcountry terminus options. The Kihei termini are named K1 and K2, and are located at the Piilani Highway / Kaonoulu Street intersection and the Piilani Highway / Ke Alii Alanui Street intersection, respectively. The Upcountry termini are named U1, U2-A, U2-B and U3, and are located at the Haleakala Highway / Haliimaile Road intersection, at the Haleakala Highway / Pukalani Bypass / Kula Highway ("Five Trees") intersection, on Kula Highway almost a half-a-mile south of the Five Trees intersection, and on Kula Highway just south of Pulehu Gulch, respectively. The names of the alternatives correspond to the terminus names. For example, the alignment from the Five Trees intersection to the Piilani Highway / Kaonoulu Street intersection is called Alternative U2-A,K1.

The project would facilitate transportation between Kihei and Upcountry, thereby addressing growth in regional transportation demand, economic development trends, and coastal evacuation deficiencies. In addition, there is federal interest in the project because it would facilitate transportation between defense-related research activities at Science City atop Haleakala Crater and the Maui Research and Technology Park in Kihei. The project would have both adverse and beneficial impacts. Potential impacts include substantial travel time savings, loss of open space, interference with agricultural activities, changes in transportation patterns, and savings in energy consumption. The nature of the impact varies with the alignment alternative.

To ensure that the full range of issues related to this proposed project are addressed and all significant issues are identified, comments and suggestions are invited from all interested parties.

j. *Deadline Date:* 60 days from the issuance date of this notice.

All documents (original and eight copies) should be filed with: David P. Boergers, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person whose name appears on the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. The proposed project would utilize the existing U.S. Army Corps of Engineers' Coralville Dam and would consist of: (1) 2 new 80-foot-long, 108-inch-diameter steel penstocks; (2) a new 50-foot-long, 30-foot-wide, 30-foot-high powerhouse containing 2 generating units having a total installed capacity of 1,500-kW; (3) a new exhaust apron; (4) a new 400-foot-long, 14.7-kV transmission line; and (5) appurtenant facilities.

Applicant estimates that the average annual generation would be 9.3 GWh and that the cost of the studies to be performed under the terms of the permit would be $750,000. Project energy would be sold to utility companies, corporations, municipalities, aggregators, or similar entities.

l. A copy of the application is available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Washington, DC 20426, or by calling (202) 208-1371. This filing may be viewed on the web at http://www.ferc.fed.us/online/rims.htm (call (202) 208-2222 for assistance). A copy is also available for inspection and reproduction at the address in item h above.

Preliminary Permit—Anyone desiring to file a competing application for preliminary permit for a proposed project must submit the competing application itself, or a notice of intent to file such an application, to the Commission on or before the specified comment date for the particular application (see 18 CFR 4.36). Submission of a timely notice of intent allows an interested person to file the competing preliminary permit application no later than 30 days after the specified comment date for the particular application. A competing preliminary permit application must conform with 18 CFR 4.30(b) and 4.36.

Preliminary Permit—Any qualified development applicant desiring to file a competing development application must submit to the Commission, on or before a specified comment date for the particular application, either a competing development application or a notice of intent to file such an application. Submission of a timely notice of intent to file a development application allows an interested person to file the competing application no later than 120 days after the specified comment date for the particular application. A competing license application must conform with 18 CFR 4.30(b) and 4.36.

Notice of intent—A notice of intent must specify the exact name, business address, and telephone number of the prospective applicant, and must include an unequivocal statement of intent to submit, if such an application may be filed, either a preliminary permit application or a development application (specify which type of application). A notice of intent must be served on the applicant(s) named in this public notice.

Proposed Scope of Studies under Permit—A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project.

Comments, Protests, or Motions to Intervene—Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, .211, .214. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

Filing and Service of Responsive Documents—Any filings must bear in all capital letters the title "COMMENTS", "NOTICE OF INTENT TO FILE COMPETING APPLICATION", "COMPETING APPLICATION", "PROTEST", "MOTION TO INTERVENE", as applicable, and the Project Number of the particular application to which the filing refers. Any of the above-named documents must be filed by providing the original and the number of copies provided by the Commission's regulations to: The Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426. An additional copy must be sent to Director, Division of Project Review, Federal Energy Regulatory Commission, at the above-mentioned address. A copy of any notice of intent, competing application or motion to intervene must also be served upon each representative of the Applicant specified in the particular application.

Agency Comments—Federal, state, and local agencies are invited to file comments on the described application. A copy of the application may be obtained by agencies directly from the Applicant. If an agency does not file comments within the time specified for filing comments, it will be presumed to have no comments. One copy of an agency's comments must also be sent to the Applicant's representatives.

Linwood A. Watson, Jr.,

Acting Secretary.

[FR Doc. 99-21620 Filed 8-19-99; 8:45 am]

BILLING CODE 6717-01-M

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-6245-5]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564-7167 OR (202) 564-7153.

Weekly receipt of Environmental Impact Statements Filed August 09, 1999 Through August 13, 1999 Pursuant to 40 CFR 1506.9.

EIS No. 990283, DRAFT EIS, NPS, PA, NJ, Delaware Water-Gap National Recreational Area (DWGNRA) Trail Plan, General Management Plan, Implementation, Delaware River, PA and NJ, Due: October 04, 1999, Contact: J. Robert Kirby (570) 588-2418.

EIS No. 990284, DRAFT EIS, BLM, NV, Red Rock Canyon National Conservation Area (RRCNCA), General Management Plan (GMP), Amendment to the Las Vegas Resource Managment Plan, Las Vegas, NV, Due: October 04, 1999, Contact: Gene Arnesen (702) 647-5068.

EIS No. 990285, DRAFT SUPPLEMENT, NPS, FL, Big Cypress National Preserve, General Management Plan, Implementation, New Information on

the Special Alternative for the Off-Road Vehicle Management Plan, Collier, Dade and Monroe Counties, FL, Due: November 13, 1999, Contact: Wally Hibbard (941) 695-2000.

EIS No. 990286, DRAFT EIS, DOE, CA, MT, UT, WY, ID, OR, WA, Transmission System Vegetation Management Program, Implementation, Managing Vegetation, Site Specific, Right-of-Way Grant, CA, ID, MT, OR, UT, WA and WY, Due: October 09, 1999, Contact: Stacey Mason (503) 230-5455.

EIS No. 990287, DRAFT EIS, NPS, NJ, Great Egg Harbor National Scenic and Recreation River, Comprehensive Management Plan, Implementation, Atlantic Gloucester, Camden and Cape May Counties, NJ, Due: October 04, 1999, Contact: Mary Vavra (215) 597-9175.

EIS No. 990288, DRAFT EIS, FTA, NY, Manhattan East Side Transit Alternatives Study, (MESA), Improved Transit Access Lower Manhattan, Lower East Side, East Midtown, Upper East Side and East Harlem, Major Investment Study, New York, NY, Due: October 08, 1999, Contact: Steven F. Faust (212) 668-2170.

EIS No. 990289, DRAFT EIS, FHW, HI, Kihei-Upcounty Maui Highway, Transportation Improvements, Funding and COE Section 404 Permit, County of Maui, HI, Due: October 04, 1999, Contact: Abraham Wong (808) 541-2700.

EIS No. 990290, DRAFT EIS, FHW, CO, Southeast Corridor Multi-Modal Project, To Improve Travel between Central and Southeast Corridors, Light Rail Transit (LRT), Colorado Metropolitan Area, Denver, CO, Due: October 04, 1999, Contact: Vincent P. Barone (303) 969-6730.

EIS No. 990291, FINAL EIS, NOA, FL, Spiny Dogfish (Squalus Acanthras) Fishery Management Plan, Implementation, Northwest Atlantic Ocean, Labrador to Florida, Due: September 10, 1999, Contact: Hannah Goodale (978) 281-9315.

EIS No. 990292, DRAFT EIS, BIA, AZ, NM, Programmatic EIS-Navajo Ten Year Forest Managment Plan Alternatives, Implementation, AZ and NM, Due: October 04, 1999, Contact: Harold d. Russell (520) 729-7228.

EIS No. 990293, DRAFT EIS, AFS, MT, Flathead National Forest, Swan Lake Ranger District, Meadow Smith Project, Vegetative Treatments and Other Activities to Maintain and Restore Large-Tree Old Grow Forest Characteristics, Lake and Missoula Counties, MT, Due: Octber 08, 1999, Contact: Keith Soderstrom (406) 837-7510.

Dated: August 17, 1999.

William D. Dickerson,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 99-21719 Filed 8-19-99; 8:45 am]

BILLING CODE 6560-50-M

ENVIRONMENTAL PROTECTION AGENCY

[OPPTS-51932; FRL-6096-4]

Certain New Chemicals; Receipt and Status Information

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: Section 5 of the Toxic Substances Control Act (TSCA) requires any person who intends to manufacture (defined by statute to include import) a new chemical (i.e., a chemical not on the TSCA Inventory) to notify EPA and comply with the statutory provisions pertaining to the manufacture of new chemicals. Under sections 5(d)(2) and 5(d)(3) of TSCA, EPA is required to publish a notice of receipt of a premanufacture notice (PMN) or an application for a test marketing exemption (TME), and to publish periodic status reports on the chemicals under review and the receipt of notices of commencement to manufacture those chemicals. This status report, which covers the period from July 5, 1999, to July 30, 1999, consists of the PMNs and TMEs, both pending or expired, and the notices of commencement to manufacture a new chemical that the Agency has received under TSCA section 5 during this time period.

FOR FURTHER INFORMATION CONTACT: Christine Augustyniak, Associate Director, Environmental Assistance Division (7408), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; telephone numbers: 202-554-1404 and TDD: 202-554-0551; e-mail address: TSCA-Hotline@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Does this Action Apply to Me?

This action is directed to the public in general. As such, the Agency has not attempted to describe the specific entities that this action may apply to. Although others may be affected, this action applies directly to the submitter of the premanufacture notices addressed in the action. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the "FOR FURTHER INFORMATION CONTACT" section.

II. How Can I Get Additional Information, Including Copies of this Document and Other Related Documents?

A. *Electronically.* You may obtain copies of this document and certain other available documents from the EPA Internet Home Page at http://www.epa.gov/. On the Home Page select "Laws and Regulations" and then look up the entry for this document under the "Federal Register - Environmental Documents." You can also go directly to the "Federal Register" listings at http://www.epa.gov/homepage/fedrgstr/.

B. *In person.* The Agency has established an official record for this action under docket control number OPPTS-51932. The official record consists of the documents specifically referenced in this action, any public comments received during an applicable comment period, and other information related to this action, including any information claimed as confidential business information (CBI). This official record includes the documents that are physically located in the docket, as well as the documents that are referenced in those documents. The public version of the official record does not include any information claimed as CBI. The public version of the official record, which includes printed, paper versions of any electronic comments submitted during an applicable comment period, is available for inspection in the TSCA Nonconfidential Information Center, North East Rm. B-607, Waterside Mall, 401 M St., SW., Washington, DC. The Center is open from 12 noon to 4 p.m., Monday through Friday, excluding legal holidays. The telephone number of the Center is 202-260-7099.

C. *By phone.* If you need additional information about this action, you may also contact the person identified in the "FOR FURTHER INFORMATION CONTACT " section.

III. Why is EPA taking this Action?

Section 5 of TSCA requires any person who intends to manufacture (defined by statute to include import) a new chemical (i.e., a chemical not on the TSCA Inventory) to notify EPA and comply with the statutory provisions pertaining to the manufacture of new chemicals. Under sections 5(d)(2) and 5(d)(3) of TSCA, EPA is required to publish a notice of receipt of a PMN or an application for a TME, and to publish periodic status reports on the chemicals under review and the receipt of notices of commencement to manufacture those

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Dear Participant:

Attached for your review is a Draft Environmental Impact Statement (DEIS) which was prepared pursuant to the EIS law (Hawaii Revised Statutes, Chapter 343) and the EIS rules (Administrative Rules, Title 11, Chapter 200).

TITLE OF PROJECT: Kihei-Upcountry Maui Highway

LOCATION: *ISLAND* Maui *DISTRICT* Makawao

TAX MAP KEY NUMBERS: 2-2-2:1,3,4,15,16,17,54,114; 2-3-2:7,8,16,17,18,75,113; 2-3-7:8 2-3-8:3,4,5,28; 2-3-9:15,28,29,30,31,32; 2-3-11:1; 2-3-32:16; 2-5-1:1,2,3,9; 2-5-2:1,2,5; 3-9-1:16

AGENCY ACTION: X *APPLICANT ACTION:*

YOUR COMMENTS MUST BE RECEIVED OR POSTMARKED BY (minimum 45 day comment period): September 22, 1999

PLEASE SEND ORIGINAL COMMENTS TO THE:

APPLICANT: Federal Highway Administration
ADDRESS: 300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850
CONTACT: Mr. Abraham Wong *PHONE:* (808) 541-2700

COPIES OF THE COMMENTS SHOULD BE SENT TO OEQC AND THE FOLLOWING:

APPROVING AGENCY OR ACCEPTING AUTHORITY: Governor, State of Hawaii
ADDRESS: c/o Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813
CONTACT: *PHONE:*

CONSULTANT: Warren S. Unemori Engineering, Inc.
ADDRESS: 2145 Wells Street, Suite 403
Wailuku, Hawaii 96793
CONTACT: Mr. Warren Unemori *PHONE:* (808) 242-4403

If you no longer need this EIS, please recycle it. Thank you for your participation in the EIS process!

Kihei-Upcountry Maui Highway
DRAFT EIS Distribution List

Federal Agencies

Advisory Council on Historic Preservation

U.S. Department of Agriculture
- Natural Resource Conservation Service

U.S. Department of Commerce
- National Marine Fisheries Service
- National Oceanic and Atmospheric Administration

U.S. Department of Defense
- Army Corps of Engineers

U.S. Department of Energy
- Division of NEPA Affairs

U.S. Department of Interior
- Fish And Wildlife Service
- National Park Service (Haleakala National Park)
- Office of Environmental Project Review
- U.S. Geological Survey, Water Resource Division

U.S. Department of Transportation
- Federal Aviation Administration
- Federal Transit Administration

Environmental Protection Agency
- Office of Federal Activities
- Pacific Islands Contact Office
- Region IX

Federal Emergency Management Agency
- Office of Natural and Technological Hazards Programs

U.S. Legislators

The Honorable Daniel K. Inouye

The Honorable Daniel K. Akaka

The Honorable Patsy Mink

State of Hawaii Agencies

Department of Accounting and General Services

Department of Agriculture

Department of Business, Economic Development and Tourism (DBEDT)
- Director
- DBEDT Library
- Office of Planning
- Energy Resources and Technology Division

Department of Defense

Department of Hawaiian Home Lands

Department of Education

Department of Health

Department of Land & Natural Resources
- State Historic Preservation Division
- Land Management Division
- Division of Forestry and Wildlife

Department of Transportation
- Airports Division
- Harbors Division

Office of Environmental Quality Control

Office of Hawaiian Affairs

University of Hawaii
- Environmental Center
- Water Resources Research Center

State Senators

The Honorable Norman Mizuguchi, Senate President

Kihei-Upcountry Maui Highway
DRAFT EIS Distribution List

The Honorable Cal Kawamoto, Chair Transportation and Governmental Affairs Committee

The Honorable Jan Buen, District 4

The Honorable Joe Tanaka, District 5

State Representatives

The Honorable Calvin Say, Speaker of the House

The Honorable Kenneth T. Hiraki, Chair House Transportation Committee

The Honorable Sol Kaho'ohalahala, District 7

The Honorable Joseph M. Souki, District 8

The Honorable Bob Nakasone, District 9

The Honorable David Morihara, District 10

The Honorable Chris Halford, District 11

County of Maui

The Honorable James Akana Lingle, Mayor

County Council of Maui

Board of Water Supply

Department of Fire Control

Department of Parks and Recreation

Department of Public Works and Waste Management

Economic Development Agency

Planning Department

Maui Police Department

Libraries

Hawaii State Library

Hawaii Kai Regional Library

Hilo Regional Library

Kaimuki Regional Library

Kaneohe Regional Library

Lihue Regional Library

Pearl City Regional Library

Wailuku Regional Library

Kihei Public Library

Lahaina Public Library

Makawao Public Library

Wailuku Library

Legislative Reference Bureau

University of Hawaii at Manoa Hamilton Library

Maui Community College Library

Media

Honolulu Advertiser

Honolulu Star Bulletin

The Maui News

South Maui Times

Major Land Owners Affected by at Least One Alternative

Alexander & Baldwin

Dowling Company, Inc.

Haleakala Ranch

Kihei-Upcountry Maui Highway
DRAFT EIS Distribution List

Kaonoulu Ranch

Malama Mohala Corp.

Maui Land & Pineapple Company, Inc.

Businesses and Other Organizations

American Lung Association of Hawaii

Hawaiian Commercial & Sugar Company

Kihei Community Association

Kula Community Association

Makawao Community Association

Makawao Main Street Association

Maui Outdoor Circle

Maui Research and Technology Park

Wailea Community Association

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Kihei-Upcountry Maui Highway

Public Meeting Information Packet

September 29: Kihei Community Complex and Aquatics Center * September 30: Mayor Hannibal Tavares Community Center * October 13: Kahului School

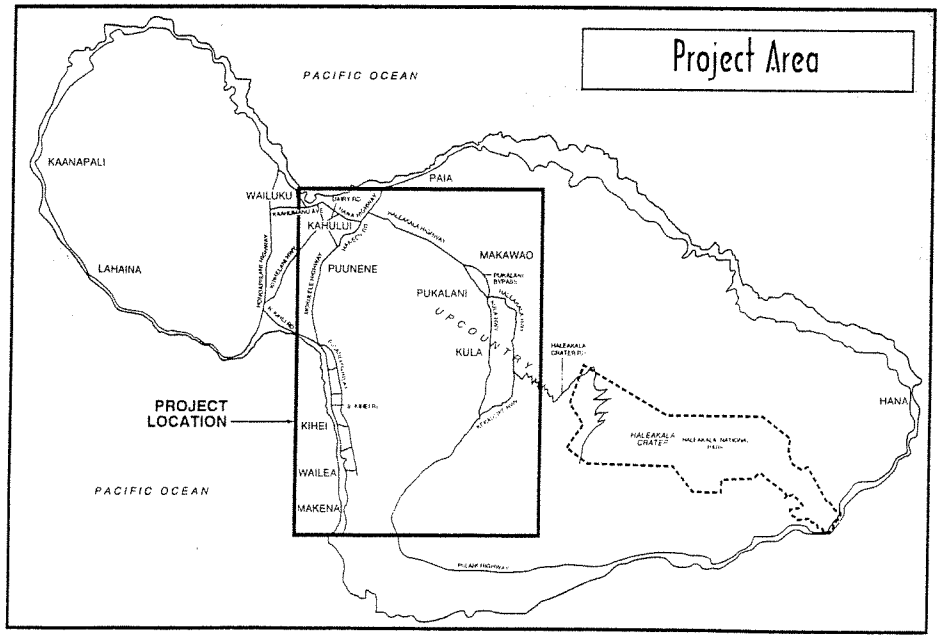
What is the Project? Where Would it be Located?

The Hawaii Department of Transportation (HDOT) and the Federal Highway Administration (FHWA) propose to construct a new two-lane limited access highway that would directly link Kihei-Makena and Upcountry Maui. Different alternatives for the highway range between 9 and 11 miles long and would connect Piilani Highway in Kihei to either Haleakala Highway or Kula Highway in Upcountry.

The highway would be constructed on the western slope of Haleakala (see map below). This land is currently used for sugarcane and pineapple cultivation and ranching. The communities near the proposed project include Kihei, Wailea, Makena, Pukalani, Makawao and Kula.

What is the Status of the Project?

A State and federal Draft Environmental Impact Statement (EIS) was prepared and announced in the August 8, 1999 edition of the State Environmental Notice and the August 20, 1999 edition of the Federal Register. The purpose of the Draft EIS is to disclose the environmental and social impacts that could result from the project, and provide the public with an opportunity to comment on the project. After the close of the public comment period, HDOT and FHWA will evaluate the information received and select a "Preferred Alternative," which could be the "No Build." HDOT will announce the selection after it is made, and the selection will be disclosed in the project's Final EIS.



Why is this Project Needed?

Improve Maui's Roadway System
The circuitous route between Kihei and Upcountry is 16 to 24 miles long, even though the straight-line distance between the regions is only 9 to 12 miles. A highway directly linking these regions could cut travel time and distance up to 50%.

Relieve Congested Conditions on Other Roadways
Many major intersections along the route between Kihei and Upcountry currently operate at or near capacity during peak travel periods. A Kihei to Upcountry highway would divert some of this traffic onto an alternative route, reducing overall congestion.

Address Increasing Travel Demand
Travel demand (Maui Long-Range Land Transportation Plan, February 1996), is projected to increase 70% from 1990 to 2020. Many of these trips would be generated by the visitor industry, including industry workers and visitors. Many of these trips would occur between Kihei and Upcountry.

Coastal Evacuation
Kihei-Makena is vulnerable to hazards such as tsunami, tropical storms and fire. The limited number of evacuation routes and their close proximity to one another suggests there could be substantial congestion in north Kihei during an evacuation emergency. Therefore, another evacuation route is needed.

Research Activities at the Maui R&T Park and Science City
Activities at the Maui R & T Park and Science City are helping to diversify Maui's economy by attracting high-tech industries and creating attractive jobs. The proximity of the R & T Park and Science City produces interesting synergies, which are being used by some enterprises and help attract new endeavors. The road would facilitate transportation between these two high-tech centers.

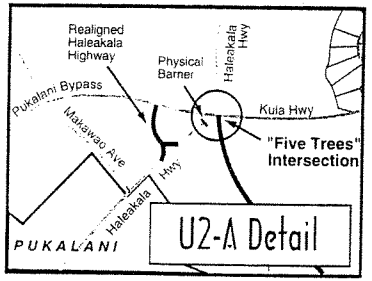
Support Maui's Visitor Industry
Kihei-Makena is one of Maui's principal visitor attractions. This area has an economic relationship with Upcountry Maui because of Upcountry's tourist attractions, such as Haleakala National Park, and is a popular residential area.

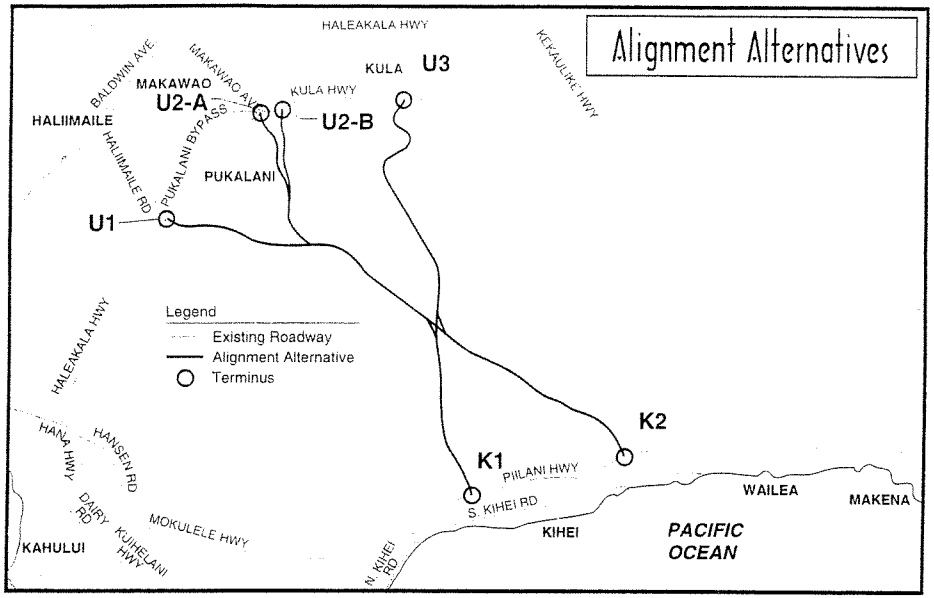
What are the Alternatives?

In addition to the "No-Build," eight alternative alignments are being considered that consist of all possible combinations of two Kihei and four Upcountry terminus options (see map). The Kihei termini are named K1 and K2. K1 is located at the Piilani Highway / Kaonoulu Street intersection; K2 is located at the Piilani Highway / Ke Alii Alanui Street intersection. The Upcountry termini are named U1, U2-A, U2-B and U3. U1 is located at the Haleakala Highway / Haliimaile Road intersection; U2-A is located at the Haleakala Highway / Pukalani Bypass / Kula Highway ("Five Trees") intersection; U2-B is located on Kula Highway almost one-half mile south of the Five Trees intersection; and U3 is located on Kula Highway just south of Pulehu Gulch. The names of the alternatives correspond to the termini names, and are listed to the right.

The U2-A alternatives (U2-A,K1 and U2-A,K2) would require the modification of the "Five Trees" intersection (see sketch). Kihei-Upcountry Maui Highway would replace the Haleakala Highway leg (Pukalani side) and Haleakala Highway would be re-aligned to link and form a T-intersection with Pukalani Bypass approximately 1200 feet north of the "Five Trees" intersection.

1. NO-BUILD
2. U1,K1
3. U1,K2
4. U2-A,K1
5. U2-A,K2
6. U2-B,K1
7. U2-B,K2
8. U3,K1
9. U3,K2





What is the Cost of Each Alternative?

The total estimated cost of each alternative is provided below. These costs include construction and right-of-way acquisition.

Estimated 1997 Dollar Cost (millions)

Alternative	Total
U1,K1	$64.8
U1,K2	$78.8
U2-A,K1	$69.1
U2-A,K2	$82.8
U2-B,K1	$72.0
U2-B,K2	$86.3
U3,K1	$53.1
U3,K2	$66.4

When Will the Project be Constructed? How Long Will it Last?

If this project proceeds, construction is expected to begin in 2001 and would last about three years.

What are the Benefits of the Project?

The project would result in substantial travel time savings for motorists traveling between Kihei and Upcountry Maui. Depending on the origin and destination, the new highway could reduce trip length up to 50%. If a K1 alignment is selected, motorists traveling between Upcountry and West Maui would also benefit. As people spend less time traveling, quality of life improves.

The Maui highway system would operate better as whole because a large portion of trips would be diverted onto the new highway, thereby improving traffic operations on other roadways, such as Mokulele Highway, Dairy Road, Hana Highway and Haleakala Highway. A K1 alternative would divert more traffic because it serves the West Maui region better than K2 alternative.

Kihei-Makena would get another coastal evacuation route. A K2 alternative, with its more southerly terminus, would be better than a K1 alternative with regards to evacuation efficiency.

Kihei-Upcountry Maui Highway would offer motorists spectacular scenic vistas.

What are the Adverse Impacts of the Project? How Can These Impacts be Avoided or Mitigated?

The project's Draft EIS contains detailed information on the alternatives' beneficial and adverse impacts. It also includes measures that would help avoid, minimize or mitigate adverse impacts. Apart from impacts to large-scale agriculture, the project would not result in severe environmental impacts. Below are brief descriptions of the project's major impacts. Measures to mitigate or minimize these impacts are also provided.

Farmland

Certain alignments would cross and displace active sugarcane and pineapple fields. Not only would productive farmlands be lost, operations would also be hindered. The U1 alternatives would cause the greatest impact to sugarcane operations, although the U2-A and U2-B alternatives would also displace and divide active sugarcane fields. The U3 alternatives would not affect sugarcane cultivation. All the alternatives would cross and displace pineapple fields. The U3 alternatives would cross a County agricultural park.

Farmers affected by right-of-way requirements would be monetarily compensated for land acquisition and crop damage, if necessary. To retain the productivity of isolated or divided fields, mitigation measures would be implemented, such as modifying or reconstructing existing haul roads and irrigation and drainage systems. Unworkable or remnant agricultural land would be purchased.

Traffic Patterns

A U1, U2-A or U2-B alternative may encourage some motorists traveling between Kula and Kihei to use the substandard Omaopio or Pulehu Roads. Increasing use of these roads would interfere with farm vehicle movements and local traffic, and may increase traffic-related noise. This change in traffic patterns would be more likely under a U1 alternative because its terminus is located further from Kula.

A U3 alternative may encourage some motorists traveling to the Haleakala summit to use local residential roads running between Kula and Haleakala Highways. This may increase traffic-related noise along these roads and interfere with local traffic.

Traffic conditions at the intersections of Omaopio and Pulehu Roads would be monitored after completion of the project to determine whether one or both warrant signalization. Signage would be provided directing motorists to the proper route to the Haleakala summit.

Archaeological Resources

The highway would affect a number of archaeological sites important for data recovery, but not of such significance to require preservation. Depending on the alternative, up to 12 such sites may be affected.

An inventory survey will be conducted along the Preferred Alternative, which would be identified following receipt of public comments on the Draft EIS and from the public hearings. Before construction, data recovery of sites would be performed, and buffer zones would be fenced around known archaeological sites for protection during construction of the highway. If additional sites are uncovered during construction, work would stop immediately and the appropriate State and County officials would be notified.

Visual Resources

The view of Haleakala from Kihei would be affected by a paved roadway and associated embankments climbing the slope. To lessen this impact, landscaping consistent with the climatic conditions would be provided to improve the appearance of the roadway.

What Will Happen After the Public Hearings?

HDOT and FHWA will select a Preferred Alternative which will be announced and identified in the Final EIS. If the Final EIS is accepted by the Governor of the State of Hawaii and the Division Administrator of the FHWA, a Record of Decision (ROD) will be prepared that will specify all mitigation commitments. The issuance of the ROD by the FHWA marks the completion of the project's planning phase. Next, design and right-of-way acquisition would begin, which is expected to last approximately two years.

How Can I Comment?

You can provide comments at this public hearing. You can either write your own comments (a comment sheet is available from the sign-in attendant), or you can provide oral comments to a court reporter stationed at this hearing. If you write your own comments, you may drop them in the comment box or send them later to:

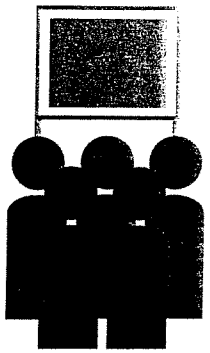
Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
Highways Division
869 Punchbowl St.
Honolulu, Hawaii 96813

Written comments will be accepted through October 28, 1999.

Where Can I Get More Information About this Project? Who Can I Contact If I Have Questions?

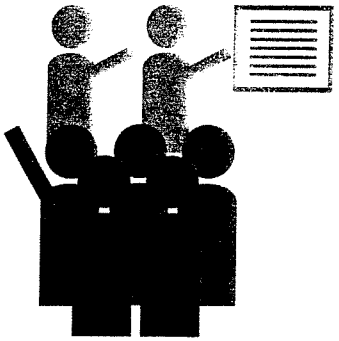
The Draft EIS for this project, which is available at Wailuku Regional Library, Kihei Public Library, Lahaina Public Library, Makawao Public Library, Kahului Public Library and the Maui District Office of the State Department of Transportation, contains more information about the project. You may also contact Mr. Kenneth Au, HDOT Advance Planning Engineer, at (808) 587-1843 (or Maui's toll-free voice access number 984-2400, ext. 71843), if you have any questions.

Kihei-Upcountry Maui Highway
How to Use This Public Hearing



Watch our Project Video

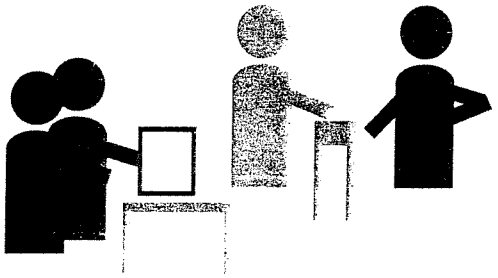
12 minute long video on continuous loop play



Visit our Display Area

Experts available to answer your questions
Stations are:

- Project Purposes
- Alternatives Screening
- Project Description
- Transportation Impacts
- Environmental Impacts



Comment on the Project

Pick up a comment sheet and write your own comments
OR
Speak to a court reporter

Take comment sheets for neighbors
Send in comments by October 28, 1999

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 29, 1999 ❖ Kihei Community Complex and Aquatics Center

❖ PLEASE PRINT ❖

Name	Organization	Address	Telephone
KIMO GALBRAITH	NONE	Box 1728 KIHEI	8796611
SENATOR AVERY B. CHUMBLEY	HAWAII STATE SENATE	100 AUHANA RD # 301 Kihei	879-4801
Tony Dursso	resident	480 Olinda Rd Makawao HI 96768	876 0252
Doug Jorg		160 Keonekai Rd 24-104 Kihei 96753	874-0005
Cathy Scheper	None	1587 N. Alani Pl Kihei 96753	879-8744
Sandy & Jack McGowan	"	2495 S. Kihei Rd. Kihei HI 96753	879-5680
BUCK JOINER	KIHEI COMMUNITY ASSN.	3443 MALINA PL. KIHEI HI 96753	874-2825
Darla Hart		467 Kalalau Pl. Kihei	874-3692
Leslie Wilkins	MEDB	508 Kulainui DR. Wailuku 96793	875-2337
Duane Kim	MEDB	824 Auna St Wailuku HI 96793	244-7556
Corinne + Allen Aravero	Resident + MHDC Partners	9 S. Hiena Place Pukalani 96768	572-6072
Steve Goodfellow	Goodfellow Bros Inc	P.O. 220 Kihei Hi	879-5205
DARLENE SZAMA	—	3091 MAPU Pl., KIHEI, HI 96753	874-9317
RUSSEL & LORA YANAGAWA	MEDB	2823 Puuhoolai ST KIHEI HI 96753	8759780
Russell B Kaneali	KCA Board Member	2274 So Kihei Rd Kihei Hi (K-2 - U-2 on 3)	879-5599
RONALD P. STUTZ	Maui Nui Botanical Garden President	874 Kumulani Dr. Kihei	891-0425
Eric & Kaveine Nakagawa	WSUE	2191 S. Kihei Rd. #2123 Kihei, HI 96753	874-9377

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 29, 1999 ❖ Kihei Community Complex and Aquatics Center

❖ PLEASE PRINT ❖

Name	Organization	Address	Telephone
KEN PINSKY	KIHEI TIMES	PO BOX 1080, MAKAWAO 96768	572-9289
Tom Blackburn-Rodriguez	" "	2747 S. Kihei Rd, G-302 96753	971-0732
Carolyn Nuyen	—	2190 Hauka Pl, Kihei, HI 96753	874-0708
Nelson & Ann Botelho	Maui Realty Co. Pukalani — Self Resident	3311 Haleakala Hwy, Pukalani HI 96768	572-9147
GERARD F. MAZZACANO		629 Kaiola ST Kihei 96753	874-4879
Don Fujimoto	Dowling Co	P.O. Box 1417 Wailuku HI 96793	244-1500
Jane K. Kaneko	Retired	1100 Keonekai Dr Kihei HI	879-7235
THOMAS KAFSACK	—	267 HAKUI PL LAHAINA	667-6105
ELLIOTT MCRASH	KULA COMMUNITY ASSN	331-9 WAIAKOA RD KULA HI 96790	878-1342
		PO BOX 417 KULA HI 96790	same
Kathryn & John Maloney		300 Lakau Pl Kihei HI 96753	879 3562
Lindsay Engel (KRISTIN ENGEL)		3300 WAILEA ALANUI #4D Kihei	870-9545
Sandra Amaral	AMARAL		
SANDRA AMARAL	AMARAL Company	365 HOAKE St. Kihei, HI	879-7445
Sue Thompson	So Maui Weekly	2531 S. K. Rd C-502	879-2752
JACK ESKER	Condo Council of Maui	2531 SKR - C-502	879-2758
WIL OPAGUO	BOEING	535 LIPOA PKWY Kihei	8741530
Joan Martin		2747 S. Kihei Rd. G-302 Kihei HI	891-0206
ROBERT NICHOLS	~~2737~~	2737 S. KIHEI RD, KIHEI, HI 96753	874-8375

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 29, 1999 ❖ Kihei Community Complex and Aquatics Center

❖ PLEASE PRINT ❖

Name	Organization	Address	Telephone
Mara Smith	Kihei Times	30 Hauoli St, 408 Wailuku 96793	249-8332
Mal Hammatt	Cultural Surveys Hawaii	733 N. Kalaheo Ave Kailua HI 96734	2629972
Lorraine Tackes		1032 S. Kihei Rd	874-0611
John N Tackes		1032 S. KIHEI RD	874-0611
Aaron Uno	Walker Ind.	P.O. Box 1568 Kahului, HI	877-3320
Joe & Patty Delmendo		3520 Keahi Pl Kihei HI 96753	875-1123
Tim Hurley	The Maui News	100 Makaala St. Wailuku	242-6343
Steve Sutrov	citizen	124 Ainakula Rd. Kula 96790	878-2739
DAN SCHEPER	CITIZEN	1587 N. ALANIU KIHEI 96753	879-8744
JOHN PHILLIPS	CITIZEN	573 EKALI WAY KIHEI 96753	874141 C
SAM S. HIRONAKA	IKUA PURDY ROAD COM.	99 NANILUNA PL. WAILUKU 96793	244-5136
HERB GRIES	KIHEI CITIZENS ADVISORY COM.	P.O. BOX 695 PUUNENE 96784	874 0696
Norm. Snow	citizen	380 Hololani St Pukalani 96768	572.0279
Ed & Ethel Belway	citizen	PO Box 1581, Kihei 96753	879-6587
Justin Moschetti	citizen	PO BOX 741 Kihei 96753	879-0143
WACT KIM	"	1450 S. KIHEI RD G-202	
S Mukerji	MEDB	590 Lipoa Pkwy	875-2338

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 29, 1999 ❖ Kihei Community Complex and Aquatics Center

❖ PLEASE PRINT ❖

Name	Organization	Address	Telephone
Norman Vares		280 Uala Pl Kihei	8792604
Chris Holford		P.O. Box 1703 Kihei	878-3650
EARL N LAMANDRA		3550 HALEAKALA HWY PUKALANI	572-7341
Jeff Mash		2307 S. Kihei Rd.	875-4879
Elaine Skog	MEDB	~~USGS Lane~~ 590 Lipoa Pkwy #103 Kihei	875-2300
Carolyn & George Ziegler	mail:	1247 Talbryn Dr. - Belmont CA (650)	591-5032
Christin Moschetta		(Kihei Kai Nani #163	
Lucy Fenberg		PO Box 741 Kihei HI 96753	661-9290
		483 Sikahi Rd K. HI 96753	879-2267

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

❖ PLEASE PRINT ❖

Name	Organization	Address	Telephone
Tom Iwiano		123 Holopuni Kula	876-0834
Dan Ewert	Makawao Kula Pukalani CAC	2760 Palapani St. Pukalani	572-9741
Kenneth Hoffman	~~Self~~ N/A	345 Lokelani Puka	—
Jimmy Rust	B+CTC + Self	61 Ulana St Makawao	572-3855
George Freeland	N/A	49 Lea Lea Pl. Pukalani	573-0532
John W. Anderson	N/A	114 Kaa-Nana Pl Kula	876-1567
Charmaine Tavares	Self (Pukalani Res)	P.O. Box 355 Wailuku HI	270-7939
James Ferrier	Pukalani community	275 Hoopalua, Makawao	~~572~~-3045
Eric Barto	Kula Comm.	RR4 Box 43 Kula HI	878-3116
Steve & Debi Sturdevant		75 Hoopalua Dr. Pukalani, HI.	572-1976
Janne Carroll	Pukalani CCFNS	217 Pukalani Street	572-9397
Rosalyn Loomis	Pukalani Community	240 Hoopalua Dr	572-6677
Debbie Anthony		2656 Keikilani St. Pukalani	572-7849

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

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Name	Organization	Address	Telephone
Rudy Balinbin	Pukalani Community Assn.	331 Hololani St., Pukalani, HI 96768	572-7239
Sandy Ryan	MEDB	590 Lipoa Pkwy Kihei 96753	875-2318
ELIZABETH BURT		2771 Oulani St Pukalani 96768	573-0026
Jeffrey Turnbull		POB 182 PAIA, HI 96779	243-0920
Kristin Chambers	King Kekaulike H.S	1920 Baldwin Ave Makawao HI 96768	579-8125
P. MALGOIN		183A Pukalani St Pukalani 96768	572 0768
Doug Rice	—	2726 Kaliakani Circle, Pukalani 96768	572-0177
Gene Baxter		2619 So. Kihei Rd #A10 Kihei 96753	879-8720
Randy Kleshiro	—	181-A Keolalani, Pukalani 96773	unlisted
Tom Fuzzuk		RR3 Box 634 Kula, HI 96790	878-6251
Greg Pick	Pukalani Community Assn.	2683 Iliani Wy Pukalani 96768	572-6126
EDITH & ANDREW DOW	PUKALANI COMMUNITY ASSN	21 ALOKELE PL. PUKALANI 96768	572-1107

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

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Name	Organization	Address	Telephone
Lew Kirchmeyer		RR-3 Box 648 Kula Maui HA	878-1295
Charles R. Hug		72 Kapaahi St. Makawao	573-0272
Scott Matsuura	KPB	P.O. Box 3440 Hon	525-6640
John J. Wilson	Kula Community Assoc	121 Holopuni Road Kula, HI	878-6440
Maura Smith	Kihei Times	30 Hauoli St #204 Wailuku 96793	249-8332
Madge Sattler		Box 569 Kula, HI 96790	878-3365
Gwendolyn Basset	Hotetta	104 Kahikipl. Hi Kula 96790	878-2235
David Ohta	Pukalani Asso.	2678 Akalani Lp Pukalani 96788	572-1012
Ken Pinsky	Haleakala Times	Box 1090, Makawao	572-8289
Wayne Nishida		3177 Iolani St Pukalani	572-6328
James T. Tanaka		71 Pamakani pl. Makawao Hi. 96768	572-8691
Gregory Meermeier		388 Alii Kula Pukalani	572-864
Hugh Starr	Self	PO Box 33, Makawao HI 96768	5730081
Charles Quessel	MECO	682 Nenelea St. Haiku	572-5100
Rev. Mo. C.A. Dr Mills		218 Pukalani St. Pukalani Hi, 96768	572-6372
Steven Sutrov	Resident	124 Aluakula Rd. Kula 96790	878-2739
=> ORSZULA	KULA'AINA RIDGE HOMEOWNERS ASSOC	83 PUMALNA ST, PUKALANI	573-9028
Gina Flammer		2102 Naalae Rd Kula 96790	876-6284

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

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Name	Organization	Address	Telephone
John Silva		990 MAKANI ROAD, PUKALANI	572 5277
Cory Uchima		21 Hukilani Pl. Pukalani	572-2713
Connie DeWeese		39501 Hwy 79 #17, Warner Springs CA 92086	760-782-9040
Lorraine Witting		103 Kalihiwai Kula 96790	878-3043
Linda Wisby		113 Pekelo Place Kula	—
SKIP ST. JOHN		113 Pekelo Place Kula	878 1707
ROBERT PARSONS	MAUI TOMORROW / HAIKU COMM ASSN	579 A KAWELO RD HAIKU 96708	573-5975
ELIZABETH M. KRAUS	Kula Comm. Assn	331-9 WAIAKOA RD KULA HI 96790	878-1342
Donna CLAYTON	PUK. COMMUNITY ASSOC	249 KAUALANI PUKALANI 96768	572 9866
HARI AJMANI		102-17 KAUI PLACE, KULA 96790	878-3702
ROBIN FERRIER		275 HOOPAULA DR MAKAWAO 96768	—
MARIE BROGIOLI	SELF	5 HALEAKALA HIGHWAY - PO BOX 1276 KULA	878-3273
Gelacio Boy Gerald Ceballos		960 Piiholo Rd Makawao	572 0457
Donald S Yoshihara		230 Pukalani St Pukalani	572-3981
Eric Nakashima	Pukalani Community Association	151 Aulii Drive, Pukalani	572-1674
TRACY FELICIANO		151 Eliloni St. Pukalani	573-8300
CHARLTON & DEB OLIVEIRA		320 OLOKANI ST. MAKAWAO	—
STEVE HARMAN		826 ALAMUKU ST HALI'IMAILE	572-7606
BRUCE FAULKNER		P.O. Box 54, MAKAWAO, HI	572-7926

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

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Name	Organization	Address	Telephone
Kerry O. Abrates	Hawaii Operating Engineers Industry Stabilization Fund	350 Ho'ohana St. Kahului, Maui, HI 96732	~~Tel~~ 871-0404 ~~Fax~~ 871-0797
Roger Dennis Hawley	Fog City	P.O. Box 756 Kula, Hawaii 96790	none
Joseph & Jerry Kawai		P.O. Box 1179 Paia	579-6261
Madelyn D'Enbeau	Makawao Main Street Assoc	P.O. Box 1869 Makawao HI	572 2765
Luetta Tamanaha	OMAC/PIC	RR 1 Box 656-A 96790	878-1933
Charles K. Maxwell	Pukalani Lei Ki Poke	157 Kaeo Pl.	575-8835
Ross Duffey	The Dreamix Group	P.O. Box 3300 Honolulu 96802-3300	539-7175
Tony Paresa	Concerned resident	27 Aeloa Rd - Plana	268-2123
Allan Kaufman DVM	Kula Resident	P.O.B 297 Kula	878 6682
Richard Kanada	Resident	2868 Waolani St	572-0069
Paul & Linda Javier	Resident	3088 Lihdani St. Pukalani	572-9965
Gretchen LADLEY	" / PCA	2634 Tolani St "	572-5550
Clifford Greer	Res.	160 Aspen Dr.	572-8240
Louise Smith	Retired	RR1 Box 530 Kims Drive	878-1564
Ted Sierad		130 Haele Pl. Makawao	573 1245
Walt & Pat. Kawanaga	Resident	238 Nalani St Pukalani	572-1993
Judy Nakahara	resident	PO Box 24 Kula	
Thomas Worthington		233 Naalae Rd, Kula 96790	878-3314
Leslie Gise	resident	233 Naalae Road Kula 96790	878 3314
John & Terry M'Donald	"	230C Kula Hwy " "	878-6926

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

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Name	Organization	Address	Telephone
ERVIN YOSHIMORI		2862 IWALANI ST. PUKALANI, HI	572-9749
JOHN RUSSELL		PO Box 351 KULA HI 96790	876 0222
ZANDRA AMARAL	Amaral Company	365 HOALIKE ST, Kihei 96753	879-7444
Jane Lacaille		341 Hokulani ST Pukalani 96768	572-8504
ERWIN DePONTE		RR 4 Box 66A Kula 96790	878 6178
DICK MAYER	KULA COM. ASSOCIATION	RR1 BOX 518 KULA, 96790	878-1874 +187
CHRIND MARIE BROGOITH	MAUI PINEAPPLE COMPANY	P.O. Box 1276, KULA HI	878-3273
Chris Halford		P.O. Box 1703 - 96753	878-3650
JOHN S RAPACZ	resident	1955 Main St., Ste 2D, Wailuku HI 96793	249-2499
Ed. CEBALLOS	Resident	980 - Piiholo Rd.	572-0254
Steve Parker	"	P.O. Box 1209 Kula	878-2411
EDWARD EVONUK		RR 3 Box 634 Kula 96790	878-6251
Nelson & Ann Botelho	Maui Realty Co, Pukalani (self)	3311 Haleakala Hwy Pukalani HI 96768	
John Smith	Resident	92 Alii Pukalani 96768	572-2211
Warren Suzuki	MLSP	P.O. Box 187 Kahului 96732	877-3882
HERTHA ORSZULA		83 Piimauna St. Pukalani	573-9028
BILL BONNET	MECO	65 KAMALII PL. HALIK. 96708	871-2300
Damien CarSavel	HCES	151 Elilani St Pukalani	572-8325
PETER MEAGHER		119 KA DR KULA HI	878-6105
Paul Meyer		240 Hoopalua Dr. Makawao	572-6677

Kihei-Upcountry Maui Highway ❖ Public Hearing
September 30, 1999 ❖ Mayor Hannibal Tavares Community Center

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Name	Organization	Address	Telephone
Pat Constantino	Pukalani Comm Assn.	Pukalani	VT-8798
Thomas F. Bunt		2771 Ohulani St Pukalani Hi 96768	573-0026
MARGARET J.B SUTROV		124 AINAKULA RD KULA HI 96790	878-2739
Emily J Agusti		361 Kalani St. Pukalani HI 96768	572 6745
Helen Nielsen		SR 182 Hana 96713 / 3180 Wailea Alanui #304 R.4.	kalepa@mau.n
JONATHAN STARR	MAUI BWS	SR 152 HANA 96713 " "	kalepa@Maui.nei
SCOTT SPLEKN		296 KUIOKALANI PUKALANI HI 96768	573-0644
Diane Anderson		114 Kumana Pl Kula HI 96790	876-1567
Heather GOMES		6369 OMAOPIO Road. Kula Hi 96793	876-1253
SHAWN GOMES		" "	"
Sheri Morrison		PO Box 2882 Wailuku	270-7887
Kelly Chambers	King Kekaulike HIS	~~HRD~~	
Ry BARBIN		24 N. CHURCH ST. #407	242-9702
Jeanine Kozy	MEDB	590 Lipoa Pkwy #103 Kihei	875-2300
Tamara Bueto		RR4 Box 43 Kula 96790	8783116
RICHARD H POHLE		RR1 BOX 426 KULA 96790	878-2758
Christine Andrews		2726 Kalialani Circle Pukalani	572-0177
PATRICK SAKA		2726 AINA LANI DR. PUKALANI	572-4577
HERB SQUIRES		P.O. BOX 644 KULA 96790	385-1440
Laureen Elizabeth		624 Omaopio Rd, Kula 96790	878-2952

Kihei-Upcountry Maui Highway ❖ Public Hearing
October 13, 1999 ❖ Kahului School Cafetorium
❖ PLEASE PRINT ❖ Attendee Register

Name	Organization	Address	Telephone
Mary E Evanson	self	Box 694 Makawao 96768	572-9724
Walter Enomoto	self	515 Lihoiho St #7, Wailuku, 96793	243-9731
Omar Zink	-	2075 Kihalani Dr. Kihei	-
Jody Baldwin		429 Haopaliua Kula	5720123
Dee Aiken		121 Holopuni Rd Kula	878-6440
Kobo Cole	SEA	326 Alionani	573 5791
JEFF GROMHANSEN	RAYMOND VON-TEMPSKY property	209 A MAUNA PL KULA	878-2693
Rick Centeno		1667 S. Kihei Road, Kihei	875-1061
REY T. PIROS	KPNAW 105.5 FM	530 HANA HWY, KAH. HI 96732	871-6551
Morgan L. Wooley	self King Kekaulike H.S.	455 Ulumalu Rd Haiku, HI 96708	572-5913
PATRICK SAKA		2726 AINA LANI DR. PUKALANI, HI 96768	572-4577
Hiram Olivera	Pukalani School	2945 Lelani St. Pukalani 96768	573-8710
SENATOR AVERY B. CHUMBLEY	STATE SENATE	YOU KNOW WHERE!	879-4801
Sharon Char		174 Alalani, Pukalani 96768	572-5818
Scott Matsuda	ARB	P.O. Box 3440 Hon. HI 96801	525-6640

Kihei-Upcountry Maui Highway ❖ Public Hearing
October 13, 1999 ❖ Kahului School Cafetorium
❖ PLEASE PRINT ❖ Attendee Register

Name	Organization	Address	Telephone
Skippy Hau		40 Kapi Lane #104 Wailuku 96793	244-3894
TJ McBARNET		109 Akea Place Kula 96790	876-1817
YUKI LEI SUGIMURA	County of Maui	200 S. High St. Wailuku 96793	270-7710
[illegible]		99 Nanelemoku Wailuku 96793	
DIANE KIM	MEDB	824 Auhana Pl Wailuku 96793	244-7556
Wayne Sakatori		320 Hina Ave. Kahului 96732	871-6480
ANSELM KUCS		P.O. Box 1311, Paia, HI 96779	575-9385
DAVID MORIHARA	~~STATE HOUSE~~	~~STATE~~ CAPITOL Honolulu HI	
Laurel Murphy	self	996-A Kupulau Kihei	874-5111

APPENDIX C

Cooperating Agency Letter

Endangered Species Act Coordination Letters

Farmland Protection Policy Act Coordination Letters

National Historic Preservation Act Coordination Letters

Clean Water Act Coordination Letter

Coastal Zone Management Letters

Other Agency Consultation Letters

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO ATTENTION OF

April 1, 1998

RECEIVED
APR - 7 1998
HAWAII DIVISION

Operations Branch

Mr. Pat V. Phung, P.E.
Transportation Engineer
U.S. Department of Transportation
Federal Highway Administration
300 Ala Moana Boulevard, Room 3202
Honolulu, Hawaii 96850

Dear Mr. Phung:

Thank you for your letter of March 18, 1998, regarding the Kihei-Upcountry Maui Highway project located on Maui, Hawaii. The proposed action is likely to require a Department of the Army (DA) permit due to work in jurisdictional waters of the U.S. In accordance with regulations at 40 CFR 1501.6 and the Memorandum of Understanding for Surface Transportation Projects in the State of Hawaii, the Corps accepts your invitation to be a cooperating agency in this project for NEPA and regulatory purposes.

Ms. Lolly Silva of my Operations staff will be the point-of-contact for initial coordination. Ms. Silva can be reached by telephone at 438-9258, extension 17, by facsimile at 438-4060, or by email at Laurene.Silva@pod01.usace.army.mil.

Sincerely,

George P. Young, P.E.
Chief, Operations Branch

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Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, HI 96813
808-531-7094
Fax: 808-528-2368

November 25, 1996

Brooks Harper, Field Supervisor
Ecology Services
Fish & Wildlife Service
U.S. Department of the Interior
P.O. Box 50167
Honolulu, Hawaii 96850

Subject: Kihei-Upcountry Highway, Maui, Hawaii
Section 7 Consultation

Dear Mr. Harper:

We are currently preparing a NEPA environmental impact statement for the subject project. We request that the U.S. Fish & Wildlife Service (Service) identify the listed and proposed to be listed endangered and threatened species in the vicinity of the proposed project. A map showing the project area and the alignments of the alternatives is enclosed.

The Service was previously contacted in September, 1994. In October, 1994, the Service indicated that there are no endangered, threatened, or candidate species of birds recorded in the project area. However, we cannot find a record of this consultation in our files. For your information, the National Park Service in an October 25, 1994 letter, identified lowland dry forests in the area which contain a number of listed or proposed endangered plant species recognized by the Service (see Enclosure).

If you have any questions or need additional information, please call me at 566-2235.

Sincerely yours,
Parsons Brinckerhoff Quade & Douglas, Inc.

Jason Yazawa

Enclosures: Project Area Map
Letter from the National Park Service dated October 25, 1994

cc. Steven Chang, HDOT, HWY-PA
Pat Phung, FHWA
Winona Char, Char & Associates

Over a Century of Engineering Excellence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3108
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

JAN - 9 1997

In Reply Refer To: APM

JAN 8 - 1997

Mr. Jason Yazawa
Parsons Brinckerhoff Quade & Douglas, Inc.
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, HI 96813

Re: Information on endangered and threatened species within the vicinity of the proposed Kihei-Upcountry Highway, Maui, Hawaii

Dear Mr. Yazawa:

The U.S. Fish and Wildlife Service (Service) has received your request dated November 27, 1996, for information on endangered and threatened species within the vicinity of the proposed Kihei-Upcountry Highway, Maui, Hawaii. Several alternative routes are proposed. This information was requested to assist in the preparation of a NEPA environmental impact statement for the proposed project located in Kihei, Maui.

The Service has reviewed the map provided with your request and pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and the Service's National Wetland Inventory maps. Based on a review of these maps, the Service offers the following comments for your consideration.

The alternative route beginning at K2 on the provided map, passes within a mile of Puu o Kali, one of the few remaining examples of dryland forest in the State. The Service is concerned that this alternative might impact this important ecological area as well as three federally endangered plants (*Abutilon menziesii*, *Hibiscus brackenridgei* ssp. *brackenridgei*, and *Bonamia menziesii*). Other rare plant species (*Acacia koaia*, *Achyranthes spendens* var. *splendens*, *Canavalia pubescens*, and *Nesoluma polynesicum*) are also reported from the area. In addition, there is a reservoir within 1/3 mile of the proposed route junction of U1 and U2, near Omaopio Road. This reservoir may be used by migratory or endangered waterbirds that could be impacted by this proposed route. Our records indicate that the federally endangered Hawaiian coot (*Fulica americana alai*) was last seen in the vicinity in 1986. The Service wishes to note that the absence of rare, threatened, or endangered species locations on the Hawaii Natural Heritage Program's maps does not imply the absence of

these species *per se* but may reflect the paucity of biological surveys in some areas. We therefore suggest that, where appropriate, surveys be conducted along the proposed route. The Service will be happy to assist in determination of appropriate sites to be surveyed.

The Service appreciates your concern for endangered and threatened species, and we look forward to reviewing any environmental documents that are produced in relation to the proposed project. If you have any questions regarding these comments, please contact our Program Leader for Interagency Cooperation, Ms. Margo Stahl, or Fish and Wildlife Biologists Christa Russell or Dr. Annie Marshall at 808\541-3441.

Sincerely,

for Brooks Harper
Field Supervisor
Ecological Services

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Hawaii Division
300 Ala Moan Blvd., Room 3202
Honolulu, HI 96850
December 1, 1997

IN REPLY REFER TO
HEC-HI

Mr. Brooks Harper
Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
Pacific Islands Ecoregion
300 Ala Moana Boulevard, Room 3108
P.O. Box 50088
Honolulu, Hawaii 96813

Attn.: Ms. Margo Stahl

Dear Mr. Harper:

Subject: Kihei-Upcountry Maui Highway Project
Island of Maui, Hawaii
Project Coordination Under Section 7, Endangered Species Act

On January 8, 1997, the U.S. Fish and Wildlife Service (Service) provided a letter regarding the subject project stating that the K2 roadway alignment alternatives pass within a mile of Puu o Kali, a dryland forest area which may contain Federal Trust species (see enclosure). The Service also reported that the U2 alternatives pass near a reservoir which may be used by migratory or endangered waterbirds. Since the January 8, 1997 letter, alignments U2-A and U2-B were developed as alternatives to the mauka portion of the original U2 alignment. However, the section of the U2 alignment near the reservoir was not affected.

Recent botanical surveys which covered all alignment alternatives being addressed in the project's forthcoming Draft Environmental Impact Statement (EIS), which is being prepared in accordance with the National Environmental Policy Act (NEPA) and the State of Hawaii EIS law, did not identify any listed, proposed or candidate threatened or endangered plant species, or any plant species of concern (see enclosed reports). Specifically, none of the plant species identified in the Service's January 8, 1997 were found. Therefore, the FHWA finds that the proposed project will have no effect on the plant species identified in the Service's January 8, 1997 letter or other listed, proposed or candidate threatened or endangered plant species known at the time the surveys were conducted.

The concern about potential impacts to endangered or migratory waterbirds resulted in telephone consultations between your staff and Parsons Brinckerhoff on April 2 and May 9, 1997. Service staff indicated that the January 8, 1997 letter did not require faunal surveys of the alignments and the reservoir. Additional consultation with the Maui Nature Conservancy (telephone conversation

on April 2, 1997) supported the Service's position that there would likely be no endangered or threatened faunal species along the alignments. However, Service staff recommended that the project's EIS acknowledge that the reservoir could attract migratory or endangered waterbirds. At nearest approach, the edge of the U-2 alignment right-of-way would be approximately 230 feet from the reservoir with an elevational difference between the road and the reservoir of approximately 60 vertical feet. None of the U2 alternatives would modify the reservoir or its functions during or after construction. Therefore, the FHWA finds that the reservoir's use as habitat for migratory waterbird species would not be affected, so the project will have no effect on migratory or endangered waterbirds that use the reservoir.

Based on the information herein provided, we request that the Service provide written concurrence with these findings for each Federal Trust species listed in the January 8, 1997 letter. We also request that the Service provide information on listed, proposed or candidate endangered or threatened species likely to be in the project area that may have been added since the January 8, 1997 letter.

Please contact me at 541-2536 if you have any questions or require additional information. Thank you.

Sincerely yours,

Pat V. Phung

Pat V. Phung, P.E.
Transportation Engineer

Enclosures: 1. U.S. Fish and Wildlife Service letter, January 8, 1997
2. Botanical Survey Kihei/Upcountry Maui Highway, Char & Associates, May 1997
3. Botanical Survey Kihei/Upcountry Maui Highway, Additional Studies -- U2-A Alignment, Char & Associates, October 1997
4. Botanical Survey Kihei/Upcountry Maui Highway, Additional Studies -- U2-B Alignment, Char & Associates, October 1997 (Note: U2-B alternatives are not being considered in the Draft EIS)

cc: Mr. Steven Chang, HWY-PA
Mr. Jason Yazawa, Parsons Brinckerhoff Quade & Douglas, Inc.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3108
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

DEC 24 1997

In Reply Refer To: APM

Mr. Pat V. Phung, P.E.
Transportation Engineer
Federal Highway Administration, Hawaii Division
300 Ala Moana Blvd., Room 3202
Honolulu, HI 96850

Re: Concurrence letter and species list for the proposed Kihei-Upcountry Maui Highway project, Maui, Hawaii

Dear Mr. Phung:

The U.S. Fish and Wildlife Service (Service) has received your December 2, 1997, letter requesting concurrence under section 7 of the Endangered Species Act and an additional species list for the proposed Kihei-Upcountry Maui Highway project, Maui, Hawaii. On January 8, 1997, the Service provided a letter regarding the subject project. Since that letter, alignments U2-A and U2-B were developed as alternatives to the mauka portion of the original U2 alignment, and botanical surveys were made along the two new alternative routes.

The Service has reviewed the updated information provided with your request and pertinent information in our files. Based on our review of this information, the Service has the following comments.

The alternative routes added since January 8, 1997, pass through disturbed areas, mainly abandoned pineapple fields, mixed shrubland, mixed pasture land, and gulch vegetation, none of which include any federally listed plants. In addition, there are no federally listed, proposed or candidate endangered or threatened wildlife species known from these areas. Therefore, since the proposed routes will not affect the reservoir or the dryland forest at Puu o Kali, the Service will concur with a determination that this project is not likely to adversely affect any federally listed, proposed, or candidate endangered or threatened species. In view of this, we believe that the requirements of section 7 of the Endangered Species Act (Act) have been satisfied. However, obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this assessment, or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

The Service appreciates your concern for endangered and threatened species. If you have any questions regarding these comments, please contact our Program Leader for Interagency Cooperation, Ms. Margo Stahl, or Fish and Wildlife Biologist Dr. Annie Marshall at 808\541-3441.

Sincerely,

Brooks Harper

Brooks Harper
Field Supervisor
Ecological Services

cc: Mr. Jason Yazawa, Parsons Brinckerhoff Quade & Douglas, Inc.

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United States Department of Agriculture

Natural Resources Conservation Service

210 Imi Kala Street
Suite 209
Wailuku, HI
96793-2100

July 25, 1995

RECEIVED
JUL 26 1995
PARSONS BRINCKERHOFF
HONOLULU, HAWAII

Ms. Jan Reichelderfer
Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, Hawaii 96813

Dear Jan,

Subject: Proposed Kihei-Upcountry Highway Alternatives

Jan, attached are Forms AD-1006, Farmland Conversion Impact Rating, covering the nine alternatives. Part III of the form was to be filled out by the federal agency involved, meaning the FHWA. I filled out the acreages noting the highway lengths times the 160 feet right of way you noted. If those figures are different, you need to inform me and I would need to recalculate the information.

Call me at (808) 244-3729 for any information.

Sincerely,

Neal S. Fujiwara
District Conservationist

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: JUNE 5, 1995
Name Of Project: KIHEI-UPCOUNTRY MAUI HIGHWAY ALT.	Federal Agency Involved: FEDERAL HIGHWAYS ADMINISTRATION
Proposed Land Use: HIGHWAY	County And State: MAUI, HAWAII
PART II *(To be completed by SCS)*	Date Request Received By SCS: JUNE 9, 1995

Does the site contain prime, unique, statewide or local important farmland? Yes ☒ No ☐
(If no, the FPPA does not apply – do not complete additional parts of this form).

Acres Irrigated	Average Farm Size
67,200	498

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
SUGARCANE, PINEAPPLE	Acres: 193,559 % 42	Acres: 159,000 % 24

Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS
STATE OF HAWAII - LESA	NONE	JULY 25, 1995

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A 1	Site B 2	Site C 3	Site D 4A
A. Total Acres To Be Converted Directly	167	183	186	185
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	167	183	186	185
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	91	101	75	50
B. Total Acres Statewide And Local Important Farmland	0	23	72	45
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.06	0.077	0.092	0.059
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	52	45	53	48
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	67	70	66	69

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or a local site assessment)*	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side)

Form AD-1006 (10-83)

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date Of Land Evaluation Request: JUNE 5, 1995
Name Of Project: KIHEI-UPCOUNTRY MAUI HIGHWAY ALT.	Federal Agency Involved: FEDERAL HIGHWAYS ADMINISTRATION
Proposed Land Use: HIGHWAY	County And State: MAUI, HAWAII
PART II (To be completed by SCS)	Date Request Received By SCS: JUNE 9, 1995

Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply – do not complete additional parts of this form). Yes: XX No: ☐

Acres Irrigated	Average Farm Size
67,200	498

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
SUGARCANE, PINEAPPLE	Acres: 193,559 % 42	Acres: 159,000 % 24

Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS
STATE OF HAWAII - LESA	NONE	JULY 25, 1995

PART III (To be completed by Federal Agency)	Alternative Site Rating: Site A 4B	Site B 5	Site C 6A	Site D 6B
A. Total Acres To Be Converted Directly	187	169	182	189
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	187	169	182	189
PART IV (To be completed by SCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	81	39	Ø	Ø
B. Total Acres Statewide And Local Important Farmland	67	86	98	109
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.093	0.078	0.06	0.068
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	52	76	85	85
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	67	58	55	55

PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160				
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100				
Total Site Assessment (From Part VI above or a local site assessment)	160				
TOTAL POINTS (Total of above 2 lines)	260				

Site Selected: | Date Of Selection | Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side) Form AD-1006 (10-83)

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date Of Land Evaluation Request: JUNE 5, 1995
Name Of Project: KIHEI-UPCOUNTRY MAUI HIGHWAY ALT.	Federal Agency Involved: FEDERAL HIGHWAYS ADMINISTRATION
Proposed Land Use: HIGHWAY	County And State: MAUI, HAWAII
PART II (To be completed by SCS)	Date Request Received By SCS: JUNE 9, 1995

Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply – do not complete additional parts of this form). Yes: XX No: ☐

Acres Irrigated	Average Farm Size
67,000	498

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
SUGARCANE, PINEAPPLE	Acres: 193,559 % 42	Acres: 159,000 % 24

Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS
STATE OF HAWAII - LESA	NONE	JULY 25, 1995

PART III (To be completed by Federal Agency)	Alternative Site Rating: Site A 7	Site B 8	Site C	Site D
A. Total Acres To Be Converted Directly	172	177		
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	172	177		
PART IV (To be completed by SCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	Ø	129		
B. Total Acres Statewide And Local Important Farmland	94	50		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.059	0.09		
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	89	35		
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	51	77		

PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160				
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100				
Total Site Assessment (From Part VI above or a local site assessment)	160				
TOTAL POINTS (Total of above 2 lines)	260				

Site Selected: | Date Of Selection | Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side) Form AD-1006 (10-83)

Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, HI 96813
808-531-7094
Fax: 808-528-2368

October 15, 1997

Mr. Neal S. Fujiwara
District Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street
Suite 209
Wailuku, Hawaii 96793-2100

Subject: Kihei-Upcountry Maui Highway Project
Farmland Protection Policy Act, Form AD-1006

Dear Mr. Fujiwara:

In July 1995, you provided Forms AD-1006 for ten alternative alignments of the above federal-aid project to Ms. Jan Reichelderfer of Parsons Brinckerhoff (see enclosed transmittal letter and copies of Forms AD-1006). We are presently preparing a NEPA Draft environmental impact statement for this project which we hope to have completed by early next year. However, the alternative alignments now being considered are different from the alternatives in 1995. Therefore, in order to comply with the Farmland Protection Policy Act, we need Farmland Conversion Impact Ratings for our current alternatives (completed Parts II, IV and V of Form AD-1006).

The alternatives now being considered are eight possible combinations of four Upcountry termini, named U1, U2-A, U2-B and U3, and two Kihei termini, named K1 and K2 (see enclosed project location map with the alternatives). The proposed right-of-way for Kihei-Upcountry Maui Highway is still 160 feet. The current alternatives' lengths and my calculations of "Total Acres To Be Converted Directly" are as follows:

Alternative	Length (miles)	Acres
U1/K1	9.7	188
U1/K2	10.9	211
U2-A/K1	9.7	188
U2-A/K2	10.9	211
U2-B/K1	9.6	186
U2-B/K2	10.8	209
U3/K1	9.0	175
U3/K2	10.1	196

I am also enclosing soils maps with the current alignments.

We would appreciate if you can provide completed Parts II, IV and V as soon as possible. If you have any questions, please feel free to call me at (808)566-2235 or you can e-mail me at yazawa@pbworld.com.

Sincerely yours,

Jason Yazawa
Parsons Brinckerhoff Quade & Douglas, Inc.

Enclosures:
1. Letter from Natural Resources Conservation Service to Jan Reichelderfer, Parsons Brinckerhoff, dated July 25, 1995
2. Forms AD-1006 completed in July 1995
3. Project location map with alternatives
4. Soils map with alternatives

Over a Century of Engineering Excellence

PB 100 YEARS

Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, HI 96813
808-531-7094
Fax: 808-528-2368

October 17, 1997

Mr. Neal S. Fujiwara
District Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street
Suite 209
Wailuku, Hawaii 96793-2100

Subject: Kihei-Upcountry Maui Highway Project
Farmland Protection Policy Act, Form AD-1006

Dear Mr. Fujiwara:

This letter is a follow-up to the letter I sent you on October 15, 1997. I have just received preliminary engineering data on the anticipated right-of-way requirements of each of the alternatives. Please replace the information I previously provided to you with this new information.

Alternative	Right-of Way Required (Acres)
U1/K1	241.2
U1/K2	277.3
U2-A/K1	243.3
U2-A/K2	279.4
U2-B/K1	245.6
U2-B/K2	281.7
U3/K1	219.3
U3/K2	252.5

Again, if you have any questions, please feel free to call me at (808)566-2235 or you can e-mail me at yazawa@pbworld.com. Thanks.

Sincerely yours,

Jason Yazawa
Parsons Brinckerhoff Quade & Douglas, Inc.

Over a Century of Engineering Excellence

United States Department of Agriculture

Natural Resources Conservation Service

210 Imi Kala St.
Suite 209
Wailuku, HI
96793-2100

USDA

Our People...Our Islands...In Harmony

October 29, 1997

Mr. Jason Yazawa
Parsons Brinckerhoff Quade & Douglas, Inc.
1001 Bishop Street, Suite 3000
Honolulu, Hawaii 96813

Dear Mr. Yazawa,

Subject: Kihei-Upcountry Maui Highway Project
Farmland Protection Policy Act, Form AD-1006

I am enclosing completed forms AD-1006, Farmland Conversion Impact Rating, regarding the alternatives to the Kihei-Upcountry Maui Highway Project.

If you have any questions, call me at (808) 244-3729 or email me at nfujiwara@hi.nrcs.usda.gov.

Sincerely,

Neal S. Fujiwara
District Conservationist

• U.S. GOVERNMENT PRINTING OFFICE 1984-451-159/1324

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: OCTOBER 17, 1997
Name Of Project: KIHEI - UPCOUNTRY MAUI HIGHWAY ALTERNATIVES	Federal Agency Involved: FEDERAL HIGHWAYS ADMINISTRATION
Proposed Land Use: HIGHWAY	County And State: MAUI, HAWAII
PART II *(To be completed by SCS)*	Date Request Received By SCS: October 18, 1997

Does the site contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ *(If no, the FPPA does not apply – do not complete additional parts of this form).*

Acres Irrigated: 67,200 | Average Farm Size: 498

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
SUGARCANE, PINEAPPLE	Acres: 193,559 % 42	Acres: 159,000 % 24
Name Of Land Evaluation System Used: STATE OF HAWAII - LESA	Name Of Local Site Assessment System: NONE	Date Land Evaluation Returned By SCS: OCTOBER 30, 1997

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: U1 Site A K1	U1 Site B K2	U2A Site C K1	U2A Site D K2
A. Total Acres To Be Converted Directly	241.2	277.3	243.3	279.4
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	241.2	277.3	243.3	279.4
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	99.7	98.3	100.7	106.6
B. Total Acres Statewide And Local Important Farmland	84.7	53.0	80.8	45.5
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.12	0.095	0.11	0.096
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	55	58	61	58
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	66	63	61	62
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15	15	15	15
2. Perimeter In Nonurban Use	10	10	10	10	10
3. Percent Of Site Being Farmed	20	5	4	0	0
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Distance From Urban Builtup Area	NA	--	--	--	--
6. Distance To Urban Support Services	NA	--	--	--	--
7. Size Of Present Farm Unit Compared To Average	10	10	10	10	10
8. Creation Of Nonfarmable Farmland	25	0	0	0	0
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	20	20	20	20
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	0	0	0	0
TOTAL SITE ASSESSMENT POINTS	160	85	84	80	80
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	66	63	61	62
Total Site Assessment *(From Part VI above or a local site assessment)*	160	85	84	80	80
TOTAL POINTS *(Total of above 2 lines)*	260	151	147	141	142

Site Selected: | Date Of Selection | Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

• U.S. GOVERNMENT PRINTING OFFICE 1984-451-159/1324

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: OCTOBER 17, 1997
Name Of Project: KIHEI - UPCOUNTRY MAUI HIGHWAY ALTERNATIVES	Federal Agency Involved: FEDERAL HIGHWAYS ADMINISTRATION
Proposed Land Use: HIGHWAY	County And State: MAUI, HAWAII
PART II *(To be completed by SCS)*	Date Request Received By SCS: October 18, 1997

Does the site contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ *(If no, the FPPA does not apply – do not complete additional parts of this form).*

Acres Irrigated: 67,200 | Average Farm Size: 498

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined in FPPA
SUGARCANE, PINEAPPLE	Acres: 193,559 % 42	Acres: 159,000 % 24
Name Of Land Evaluation System Used: STATE OF HAWAII - LESA	Name Of Local Site Assessment System: NONE	Date Land Evaluation Returned By SCS: OCTOBER 30, 1997

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: U2B Site A K1	U2B Site B K2	U3 Site C K1	U3 Site D K2
A. Total Acres To Be Converted Directly	245.6	281.7	219.3	252.5
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	245.6	281.7	219.3	252.5
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	83.3	86.9	43.4	47.3
B. Total Acres Statewide And Local Important Farmland	91.0	57.3	110.7	85.1
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.11	0.09	0.097	0.083
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	67	67	62	79
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	59	59	60	57
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15	15	15	15
2. Perimeter In Nonurban Use	10	10	10	10	10
3. Percent Of Site Being Farmed	20	0	0	0	0
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Distance From Urban Builtup Area	NA	--	--	--	--
6. Distance To Urban Support Services	NA	--	--	--	--
7. Size Of Present Farm Unit Compared To Average	10	10	10	10	10
8. Creation Of Nonfarmable Farmland	25	0	0	0	0
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	20	20	20	20
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	0	0	0	0
TOTAL SITE ASSESSMENT POINTS	160	80	80	80	80
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	59	59	60	57
Total Site Assessment *(From Part VI above or a local site assessment)*	160	80	80	80	80
TOTAL POINTS *(Total of above 2 lines)*	260	139	139	140	137

Site Selected: | Date Of Selection | Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

- JUN - 2 1998

IN REPLY REFER TO:
HWY-PA
2.9503

RECEIVED
JUN 03 1998
WARREN S. UNEMORI ENGINEERING, INC.

Mr. Saku Nakamura
U. S. Department of Agriculture
Natural Resources Conservation Services
Soil Conservation Services
P. O. Box 50004
Honolulu, Hawaii 96850

Dear Mr. Nakamura:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)

As per previous unofficial discussions, we are submitting the Farmland Conservation Impact Ratings [Form AD-1006(10-83)] for the Kihei-Upcountry Maui Highway project. The U. S. Department of Transportation, Federal Highway Administration, has concurred with this submittal. We, therefore, request a determination as to whether the proposed conversion is consistent with the Farmland Protection Policy Act and all Department of Agriculture's internal policies.

Very truly yours,

for KAZU HAYASHIDA
Director of Transportation

Enclosures

✓bc: Warren S. Unemori Engineering, Inc.

USDA

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

P.O. Box 50004
Honolulu, HI
96850

RECEIVED
JUN 9 12 PM '98
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Our People...Our Islands...In Harmony

June 5, 1998

Mr. Kazu Hayashida
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

RECEIVED
JUN 10 11 16 AM '98
STATE DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

Dear Mr. Hayashida:

Subject: Kihei-Upcountry Maui Highway
Project No. HDPS-9203(1)
HWY-PA 2.9503

I am returning the Farmland Conversion Impact Rating (form AD-1600) for the Kihei-Upcountry Maui Highway project. The rating is intended to guide you (on federal agency projects) to limit the conversion of productive farmland to nonagricultural uses. It is up to the federal agency (Department of Transportation) to use the rating to select the appropriate alternative site.

Because the rating total score for all sites is less than 160, only a minimum level of consideration for protection is needed, and no additional sites need be evaluated. If a site scores 160 or more, an alternate site should be considered that converts fewer acres of farmland or converts other farmland that has lower relative value.

If you have any questions, or if I can provide you with any additional information, please call me at 541-2600 ext 133.

Sincerely,

Saku Nakamura
Resource Soil Scientist

Enclosure

RECEIVED
JUN 9 10 37 AM '98
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

The Natural Resources Conservation Service works hand-in-hand with the American people to conserve natural resources on private lands.

AN EQUAL OPPORTUNITY EMPLOYER

HWY-PA
2.2615

FEB 10 1999

SEE ATTACHED LIST

Subject: Kihei-Upcountry Maui Highway, Maui, Hawaii
Archaeological Survey of Alternatives

The State of Hawaii Department of Transportation is evaluating alternatives for a new highway that would link Kihei-Makena to Upcountry Maui. You were referred to us by the State Historic Preservation Division because of your knowledge of historic and archaeological resources in the study area.

The alternatives under consideration in the upcoming Draft Environmental Impact Statement (EIS) are all eight combinations of two Kihei and four Upcountry terminus options. The Kihei termini and segments are called K1 and K2, and the Upcountry termini and segments are called U1, U2-A, U2-B and U3. The eight alternative alignments are:

1.	U1,K1	2.	U1,K2
3.	U2-A,K1	4.	U2-A,K2
5.	U2-B,K1	6.	U2-B,K2
7.	U3,K1	8.	U3,K2

Enclosed are archaeological reconnaissance survey reports prepared for this project by Cultural Surveys Hawaii (CSH).

The following historic properties are within the path (within a 400-foot wide corridor) of the alternatives, and therefore, may be destroyed by the construction of the highway:

Alternative	Historic Properties Potentially Affected
U1,K1	CSH Sites 8, 16, 20, 21 and 22
U1,K2	CSH Sites 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21 and 22
U2-A,K1	CSH Sites 8, 16, 20 and 22
U2-A,K2	CSH Sites 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 22
U2-B,K1	CSH Sites 8, 16, 20 and 22
U2-B,K2	CSH Sites 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 22
U3,K1	CSH Sites 6, 16, 18, 19 and 20
U3,K2	CSH Sites 6, 9, 10, 11, 12, 13, 14, 15, 17, 18 and 19

CSH recommended only data recovery of the above properties. An inventory-level survey will be conducted on the project's Preferred Alternative, which will be selected after receiving public comments on the project's forthcoming Draft EIS. For sites requiring additional data recovery, if any, a data recovery plan will be prepared and implemented after the Final EIS.

If you have knowledge of other traditional or historic properties at or near the proposed project, and/or have comments on the CSH reports, we would very much appreciate your input. Any comments you submit will be forwarded to the State Historic Preservation Division to assist in its evaluation of the reports. Please submit your comments by March 20, 1999.

If you have any questions, please call Kenneth Au at 587-1843.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

Enclosures

SC:gm

bc: DLNR - SHPO, WSU Engineering, Inc., HWY-PA

HWY-PA 2.2615

Similar letter sent to the following:

Mr. Leslie Kuloloio
Maui/Lanai Island Burial Council
c/o State Historic Preservation Division
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

Reverend David Ka'alakea
606 Pohala Street
Wailuku, Hawaii 96793

Mr. Charles Maxwell
157 Alea Place
Pukalani, Hawaii 96768

Ms. Helen Felsing
South Maui Heritage Corridor
2846 Puu Ho'ola'l
Kihei, Hawaii 96753

Mr. Brian Miskae, President
Kihei Community Association
P. O. Box 662
Kihei, Hawaii 96753

Ms. Dana Hall
Waiohuli/Keokea Homestead Association
2087 Wells Street
Wailuku, Hawaii 96793

Mr. Raynard Soon, Chairperson
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, Hawaii 96805

Mr. Ed Lindsey
1087A Pookele Road
Makawao, Hawaii 96768

Mr. Mahealani Kaiaokamalie
Ulupalakua Ranch
P. O. Box 901
Kula, Hawaii 96790

Mr. Randall Ogata
Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Hawaii Division
300 Ala Moana Blvd., Room 3306
Honolulu, HI 96850
February 16, 1999

IN REPLY REFER TO
HEC-HI

Mr. Timothy E. Johns
Historic Preservation Administrator
State of Hawaii
Department of Land and Natural Resources
33 South King Street, 6th Floor
Honolulu, Hawaii 96813

Attention: Mr. Don Hibbard

Dear Mr. Johns:

Subject: Kihei-Upcountry Maui Highway, Maui, Hawaii
Section 106 of the National Historic Preservation Act
Request for Concurrence on Significance Evaluations and Treatment Measures of Sites, and Effect Determination

In accordance with Section 106 of the National Historic Preservation Act, the Federal Highway Administration (FHWA) submits the enclosed archaeological reconnaissance survey reports, prepared by Cultural Surveys Hawaii (CSH), for subject project. The project's alternatives that will be evaluated in the upcoming Draft environmental impact statement (EIS) are all eight combinations of two Kihei and four Upcountry terminus options (see enclosed figure). The Kihei termini and segments are called K1 and K2, and the Upcountry termini and segments are called U1, U2-A, U2-B and U3. The eight alternative alignments are:

1. U1,K1
2. U1,K2
3. U2-A,K1
4. U2-A,K2
5. U2-B,K1
6. U2-B,K2
7. U3,K1
8. U3,K2

Adjustments to Alternatives

The original U2 and U3 alignments were modified or shifted to avoid important archaeological sites found by CSH. These changes are described below:

- The mauka-most section of the U2 alignment was modified to Alignments U2-A and U2-B because of U2's potential impacts to CSH Sites 1 and 23 (see below). Later when important sites (CSH sites 101 and 102; see below and Alternative U2-A report) were discovered within the U2-A alignment, the alignment was shifted to Alignment U2-A

(New) to avoid both sites and CSH site 103. However, CSH determined that this new U2-A would indirectly affect a heiau (State Site 50-50-10-2701) because it would interfere with the heiau's makai (north to west) viewplane (see Alternative U2-A (New) report). Therefore, another U2-A alignment was developed as a combination of the original U2-A and U2-A (New). This U2-A (Hybrid) would avoid CSH sites 101, 102 and 103, and shifts the alignment to the south (mauka) of the heiau, as recommended by CSH. A reconnaissance survey of the U2-A (Hybrid) alignment is not necessary because the alignment embodies both the original U2-A and U2-A (New) alignments. CSH reviewed the U2-A (Hybrid) alignment, and determined that it would not affect the heiau.

- Part of the U3 alignment at Pulehu Gulch was shifted to avoid CSH site 7 (see below). A reconnaissance survey was not conducted on the re-aligned segment. Therefore, it is not known whether this shift would affect another site(s). However, as recommended by the State Historic Preservation Division during project scoping, an inventory survey will be conducted on the preferred alternative after the Draft EIS (see below).

Solicitation of Comments

Copies of the archaeological reports are being provided to the following individuals and organizations, as recommended by Mr. Boyd Dixon of your staff who provided this list in November 1997:

- Maui/Lanai Island Burial Council;
- Reverend David Ka`alakea;
- Charles Maxwell, Cultural Specialist;
- South Maui Heritage Corridor;
- Kihei Community Association;
- Waiohuli/Keokea Homestead Association;
- Ed Lindsey, Cultural Specialist; and
- Mahealani Kaiakamalie, Native Forest Specialist.

In addition, the Office of Hawaiian Affairs and the Department of Hawaiian Home Lands will receive copies of the reports. We will provide copies of the transmittal letters to the State Historic Preservation Division. These individuals and organizations will have 30 days to submit comments after receiving the reports. Any comments received will be forwarded to the State Historic Preservation Division.

Site Evaluations

In the reports, CSH applied Significance Criteria from the National and State Registers of Historic Places and evaluated the sites. These evaluations are reported in the following sections:

- Original report (Note that the mauka-most section of the U2 alignment was modified to the U2-A and U2-B alignments):
  - Section IV: Significance of the Historic Properties,
  - Table 3: Significance of Sites Located During Reconnaissance Survey, and
  - Section VII: Conclusions and Recommended Treatments;

- Alternative U2-A report (Note that this alignment was modified to the U2-A (new) alignment):
  - Section III: Significance of the Historic Properties, and
  - Section IV: Recommendations;

- Alternative U2-A (New) report (Note that this alignment was modified to the U2-A (Hybrid) alignment):
  - Section IV: Significance of the Historic Properties, and
  - Section V: Recommendations; and

- Alternative U2-B report:
  - Section III: Significance of the Historic Properties, and
  - Section IV: Recommendations.

In summary, CSH had following site evaluations and recommended treatment measures. The FHWA agrees with CSH's findings and recommendations.

- CSH sites 1, 7, 23, 101 and 102 were evaluated as significant under Criteria C, D and E, and these sites were recommended for preservation in a manner acceptable to the State Historic Preservation Officer (SHPO). The U2, U2-A and U3 alignments were modified or shifted to avoid all these sites.

- CSH site 103 was evaluated as significant under Criteria C and D, and was recommended for only data recovery. The U2-A alignment was shifted to avoid this site.

- State Site 50-50-10-2701 was evaluated as significant under Criteria D and E, and was recommended for preservation in a manner acceptable to the SHPO. The U2-A alignment was shifted to the south (mauka) of the heiau so that it would not affect the heiau's makai (north to west) viewplane.

- All the other sites (CSH sites 2 through 6 and 8 through 22) were evaluated as significant under Criterion D, and these sites were recommended for data recovery only. These sites are still within the path (within a 400-foot wide corridor) of the alternative alignments.

- With regards to Pu'uoweli (see Alternative U2-B report), CSH requested that the SHPO determine its historic property status. CSH stated that Pu'uoweli may have a relationship with the surrounding petroglyphs (i.e. context to Hawaiian history), which would make the site significant under Criteria C, D and E. CSH also stated that the site's possible historic significance could be related to Kula's development, which would make the site significant under Criterion C. Pu'uoweli is in the path of the U2-B alignment.

- Data recovery of State Site 50-50-10-4181 was completed by others, and the site is no longer considered to be significant as an historic property.

Assessment of Effect and Adverse Effect

Based on the CSH's recommended treatment measures, the FHWA completed the following assessments in accordance with 36 CFR 800.5:

Alternative	Effect Determination
U1,K1	"no adverse effect" on five (5) sites (CSH Sites 8, 16, 20, 21, 22)
U1,K2	"no adverse effect" on twelve (12) sites (CSH Sites 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22)
U2-A,K1	"no adverse effect" on four (4) sites (CSH Sites 8, 16, 20, 22); and "no effect" on four (4) sites (CSH Sites 101, 102 103 and State Site 50-50-10-2701)
U2-A,K2	"no adverse effect" on eleven (11) sites (CSH Sites 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22); and "no effect" on four (4) sites (CSH Sites 101, 102, 103 and State Site 50-50-10-2701)
U2-B,K1	"no adverse effect" on four (4) sites (CSH Sites 8, 16, 20, 22); and "no effect" on one (1) site (State Site 50-50-10-4181); note that an effect determination of Pu'uoweli is not included, pending the SHPO's decision of its historic property status
U2-B,K2	"no adverse effect" on eleven (11) sites (CSH Sites 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22); and "no effect" on one (1) site (State Site 50-50-10-4181); note that an effect determination of Pu'uoweli is not included, pending the SHPO's decision of its historic property status
U3,K1	"no adverse effect" on five (5) sites (CSH Sites 6, 16, 18, 19, 20); and "no effect" on one (1) site (CSH Site 7)
U3,K2	"no adverse effect" on eleven (11) sites (CSH Sites 6, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19); and "no effect" on one (1) site (CSH Site 7)

Proposed Mitigation

Following identification of the project's preferred alternative, which will be made after receiving agency and public comments on the forthcoming Draft EIS, an inventory-level survey will be conducted on the preferred alternative to gather more information about affected sites and determine whether further data recovery work is required for any site. The Final EIS will not be released until after the SHPO has approved the inventory survey. For sites requiring additional data recovery, if any, a data recovery plan will be prepared and implemented after the Final EIS in coordination with the SHPO and other agencies and organizations as required by the SHPO.

During construction, fenced buffer zones will be placed around known archaeological preservation features at and near the construction site. If unknown historic or archaeological sites are uncovered during construction, work will stop immediately and the State Historic Preservation Division will be notified and consulted on the appropriate treatment measures. Construction would only resume after approval from the appropriate authorities.

Request to the SHPO

The FHWA requests that the SHPO concur with the significance evaluations, treatment measures and effect determinations provided in this letter. If you have any questions, please call me at (808) 541-2700 ext. 305.

Sincerely yours,

Pat V. Phung

Pat V. Phung, P.E.
Transportation Engineer

Enclosures: 1. Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole *Ahupua'a* (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui, Cultural Surveys Hawaii, December 9, 1997
2. Alternate U2-A, An Addendum to Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole *Ahupua'a* (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui, Cultural Surveys Hawaii, November 14, 1997
3. Alternate U2-B, An Addendum to Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole *Ahupua'a* (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui, Cultural Surveys Hawaii, November 14, 1997
4. Alternate U2-A (new), An Addendum to Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole *Ahupua'a* (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui, Cultural Surveys Hawaii, July 1998
5. Figure showing archaeological sites in relation to alternative alignments

cc: Mr. Stephen Chang, State of Hawaii Department of Transportation
Mr. Warren Unemori, Warren S. Unemori Engineering, Inc.
Mr. David Atkin, Parsons Brinckerhoff Quade & Douglas, Inc.
Mr. Farley Watanabe, Corps of Engineers

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

RECEIVED
JUN 25 1999
HAWAII DIVISION

TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

June 21, 1999

Mr. Abraham Wong
United States Department of Transportation
Federal Highway Administration
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Dear Mr. Wong:

Subsequent to our discussions with the State of Hawaii Department of Transportation, Highways Division, our office has examined the four reconnaissance survey reports prepared by Cultural Surveys Hawaii, *Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole Ahupua`a (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui* (December 9, 1997), *Alternate U2-A, An Addendum to Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole Ahupua`a (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui* (November 14, 1997), *Alternate U2-B, An Addendum to Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole Ahupua`a (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui* (November 14, 1997), and *Alternate U2-A (new), An Addendum to Archaeological Reconnaissance Survey of the Proposed Kihei to Kula Road Corridors, Kailua to Kama'ole Ahupua`a (TMK 2:2 and 2:3), Makawao and Wailuku Districts, Island of Maui* (July, 1998). We concur with the Federal Highway Administration's determination that the twenty-five sites identified along the project's alternative alignments appear to meet the criteria for listing in the National Register of Historic Places.

Aloha!

Don Hibbard
Administrator and Deputy
State Historic Preservation Officer

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PA
2.1545

FEB 8 2001

TO: DON HIBBARD, PH.D., ADMINISTRATOR
STATE HISTORIC PRESERVATION DIVISION
DEPARTMENT OF LAND AND NATURAL RESOURCES

ATTN: MR. ROSS CORDY, PH.D, CHIEF, ARCHEOLOGICAL BRANCH

FROM: BRIAN K. MINAAI
DIRECTOR-DESIGNATE OF TRANSPORTATION

SUBJECT: PROPOSED KIHEI-UPCOUNTRY MAUI HIGHWAY, INITIATION OF SECTION 106 AND CHAPTER 6E PROCESS, INVENTORY SURVEY OF THE U1, K1 ALTERNATIVE, CULTURAL IMPACTS STUDY

The purpose of this letter is to initiate the historic review process under Section 106 of the National Historic Preservation Act and Chapter 6E of the Hawaii Revised Statutes for the subject project. Enclosed is an inventory survey report of the U1, K1 alignment, which was selected as the preferred alternative and will be identified as such in the upcoming Final Environmental Impact Statement (EIS). The inventory survey report identifies several sites that were evaluated by Cultural Surveys Hawaii, Inc. (CSH), the author of the report, as being significant per criteria of the National and Hawaii Registers of Historic Places. Also enclosed is a cultural impacts study for all the alternatives. The cultural impacts study did not identify any traditional cultural properties (TCP) along the preferred alternative.

We respectfully ask that the State Historic Preservation Division (SHPD) review the inventory survey and TCP report. If these reports are acceptable, please provide us with a written notice of acceptance. We will also be submitting these reports to the State of Hawaii Office of Hawaiian Affairs (OHA), the Department of Hawaiian Home Lands (DHHL) and the following individuals and organizations who were recommended by your staff for consultation for this project in 1997:

- Maui/Lani Island Burial Council;
- Charles Maxwell, Cultural Specialist;
- South Maui Heritage Corridor;
- Kihei Community Association;
- Waiohuli/Keokea Homestead Association;
- Ed Lindsey, Cultural Specialist; and
- Mahealani Kaiaokamalie, Native Forest Specialist.

If there are others that you feel should be consulted, please let us know. We will forward to you any comments we may receive.

To assist you in reviewing the reports, we would like to provide a summary of the public involvement activities regarding the identification and assessment of potential impacts to historic properties.

Public Review of Archaeological Reconnaissance Surveys

CSH conducted archaeological reconnaissance surveys for all proposed alternative alignments considered in the project's Draft EIS. These alternatives included all eight combinations of two Kihei and four Upcountry terminus options. The Kihei termini and segments are called K1 and K2, and the Upcountry termini and segments are call U1, U2-A, U2-B and U3. The eight alternative alignments are:

1.	U1, K1	2.	U1, K2
3.	U-2-A, K1	4.	U2-A, K2
5.	U2-B, K1	6.	U2-B, K2
7.	U3, K1	8.	U3, K2

The U2 and U3 alignments were modified or shifted prior to the Draft EIS to avoid important archaeological sites identified by CSH.

In February 1999, the reconnaissance reports were submitted for comments to OHA and the DHHL as well as those individuals and organizations listed above. Since none of these organizations and individuals provided comments within the time requested, each of them were contacted by phone in March 1999. The calls resulted in comment letters from OHA, DHHL and Mr. Ed Lindsey. These letters were forwarded to SHPD in April 1999 to assist in the SHPD review of the reconnaissance reports. Copies of these letters are enclosed in this letter.

Draft Environmental Impact Statement

The project's Draft EIS, which met the requirements of both the National Environmental Policy Act and HRS Chapter 343, was announced and released to the public in August 1999. Three formal public hearings were held on September 29 and 30, and October 13, 1999 at Kihei Aquatics and Community Center in Kihei, Mayor Hannibal Tavares Community Center in Pukalani, and Kahului School, respectively. The public hearings were "open house", a format in which no formal presentation is made, but information about the project is provided by "science fair" types of displays, and experts are available to answer questions. A portion of the display area was devoted

to the subject of historic resources, and was staffed by Mr. Hallett Hammatt, principal of CSH, who was available at all three public hearings. This historic resources display area included maps showing the location of the historic sites found and photographs of some of the more notable sites (e.g., the petroglyphs that were avoided by the modifications to some of the alternatives).

Public review of the Draft EIS produced over 400 written and oral comments, of which, only one, a letter from Mr. Charles Maxwell, provided information about historic properties in the project area. OHA also provided a Draft EIS comment letter. Both letters are provided with this letter as enclosures.

Summary of Comments received Regarding Historic and Cultural Properties

DHHL - DHHL stated that they have no knowledge of historic properties in the study area.

OHA - In the letter providing comments on the reconnaissance surveys, OHA requested additional information on Site 4776 (previously identified as CSH 20) and the sites along the K2 alignment, and requested that a cultural analysis be conducted. The second request was repeated in the letter providing comments on the project's Draft EIS.

Ed Lindsey - Requested a more detailed analysis of the preferred alternative.

Charles Kauluwehi Maxwell - Provided information about burial caves in Kaluapulani and Kalialinui Gulches in the vicinity of the U2-A and U2-B alignments, and about Site 2701, the Heiau adjacent to the U2-A alignment.

We complied with OHA's request to include a cultural assessment in the Draft EIS, the result being the cultural impacts study. The inventory survey complied with OHA and Mr. Lindsey's request for additional information. Mr. Maxwell's concern was alleviated by the selection of the U1, K1 alignment as the preferred alternative, instead of one of the U2-A or U2-B alignments.

Thank you for your time and effort. We would highly appreciate your immediate attention on this matter so that we may proceed with the Section 106 and Chapter 6E process. If you approve the reports, we will soon thereafter submit effect determinations.

If you have any questions, please call Wayne Kawahara, Advance Planning Section, Planning Branch, Highways Division, at 587-6357.

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Mr. Randall Ogata
Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Dear Mr. Ogata:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

Following selection of the preferred alternative, Cultural Surveys Hawaii, Inc. (CSH) conducted an archaeological inventory survey of this alignment. The inventory survey report identifies several sites that were evaluated by CSH as being significant per criteria of the National and Hawaii Registers of Historic Places. In addition, Scientific Consultant Services, Inc. conducted a cultural impacts study for all the alternatives. The cultural impacts study did not identify any traditional cultural properties at or near the alternatives. Both reports are enclosed for your review and comments.

We would very much appreciate your input, and any comments you submit will be forwarded to the State Historic Preservation Division to assist in their evaluation of the reports. Please submit your comments by March 2, 2001 to:

State of Hawaii
Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FEB 8 2001

IN REPLY REFER TO:
HWY-PA
2.1544

Mr. Raynard Soon, Chairperson
Department of Hawaiian Home Lands
P. o. Box 1879
Honolulu, Hawaii 96805

Dear Mr. Soon:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

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State of Hawaii
Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

Mr. Raynard Soon
Page 2
FEB 8 2001

HWY-PA 2.1544

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

Brian K. Minaai
BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Mr. Leslie Kuloloio
Maui/Lanai Island Burial Council
c/o State Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

Dear Mr. Kuloloio:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

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State of Hawaii
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Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
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DEPUTY DIRECTORS
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Mr. Charles Maxwell
157 Alea Place
Pukalani, Hawaii 96753

Dear Mr. Maxwell:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

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Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Ms. Helen Felsing
South Maui Heritage Corridor
2846 Puu Ho'ola'i
Kihei, Hawaii 96753

Dear Ms. Felsing:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

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State of Hawaii
Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

Ms. Helen Felsing
Page 2
FEB 8 2001

HWY-PA 2.1544

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Kihei Community Association
P. O. Box 662
Kihei, Hawaii 96753

Dear Members:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

Following selection of the preferred alternative, Cultural Surveys Hawaii, Inc. (CSH) conducted an archaeological inventory survey of this alignment. The inventory survey report identifies several sites that were evaluated by CSH as being significant per criteria of the National and Hawaii Registers of Historic Places. In addition, Scientific Consultant Services, Inc. conducted a cultural impacts study for all the alternatives. The cultural impacts study did not identify any traditional cultural properties at or near the alternatives. Both reports are enclosed for your review and comments.

We would very much appreciate your input, and any comments you submit will be forwarded to the State Historic Preservation Division to assist in their evaluation of the reports. Please submit your comments by March 2, 2001 to:

State of Hawaii
Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Ms. Dana Hall
Waiohuli/Keokea Homestead Association
2087 Wells Street
Wailuku, Hawaii 96793

Dear Mr. Hall:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

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Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

3. Is the project site near a State or County Park? X

4. Is the project site near a perennial stream? X

5. Will the proposed action occur in or affect a surf site? X

6. Will the proposed action occur in or affect a popular fishing area? X

7. Will the proposed action occur in or affect a recreational or boating area? X

8. Is the project site near a sandy beach? X

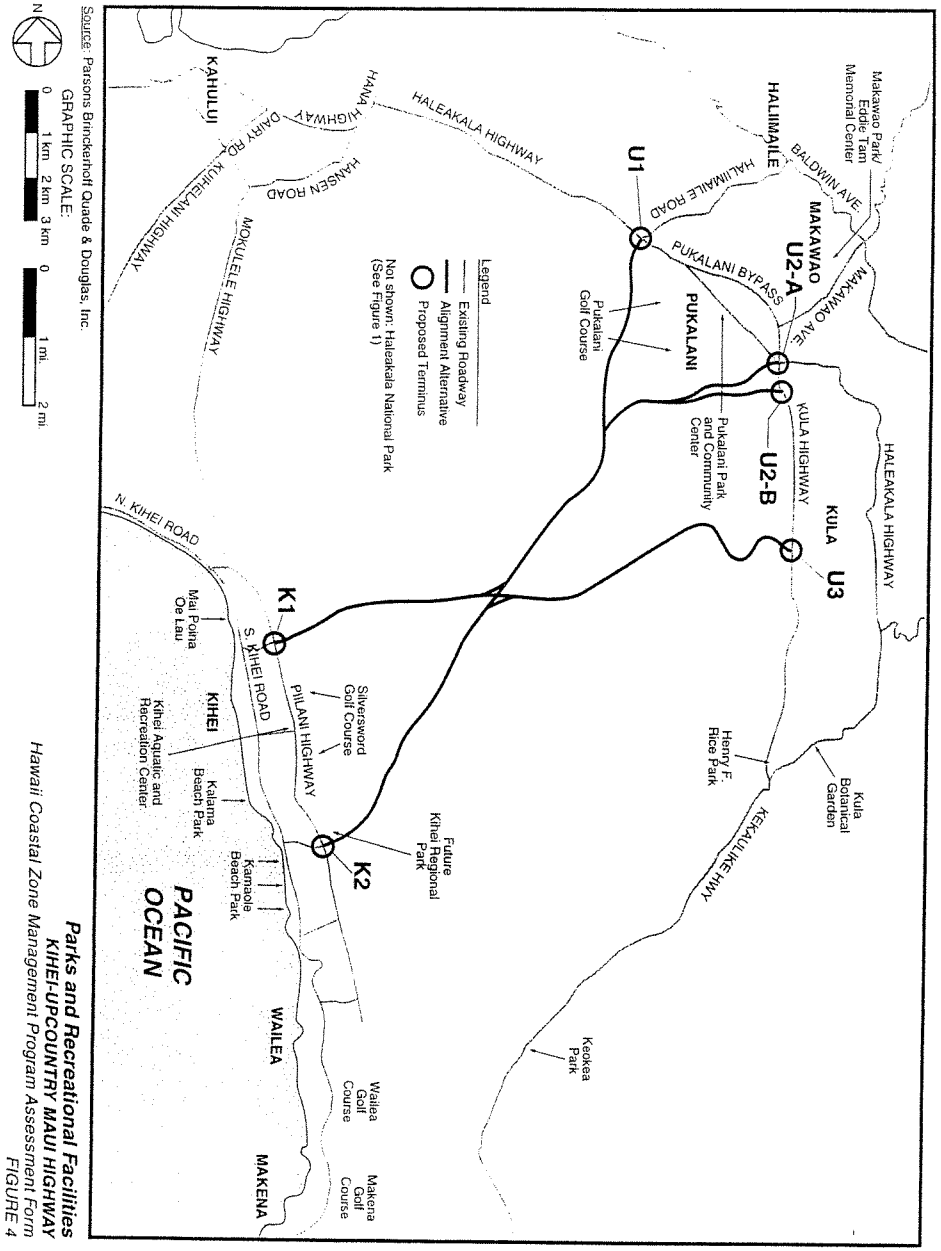
9. Are there swimming or other recreational uses in the area? X

Discussion:

Kihei-Upcountry Maui Highway will connect two State highways, Piilani Highway in Kihei and Haleakala or Kula Highways in Upcountry. The SDOT owns the right-of-way of both highways.

The project will not use land from, nor adversely impair access or use of the parks and recreational resources shown on Figure 4. The nearest coastal recreational resources are parks and sandy beaches along the Kihei coastline, approximately one mile from Piilani Highway, the makai terminus of the proposed highway. Although coastal recreational activities (e.g., surfing, fishing, and boating) occur along the Kihei coastline, the roughly one-mile distance of the makai terminus of the proposed highway from coastal recreation areas indicates that the proposed highway would not adversely affect any coastal recreation activities. In contrast, Kihei-Upcountry Maui Highway will improve access to these coastal recreational areas, especially for Upcountry residents.

For more information on parks and recreational resources, please refer to Sections 3.11, 4.11, and 4.12 of the Draft EIS.



Parks and Recreational Facilities
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 4

HISTORIC RESOURCES

Objective: Protect, preserve, and where desirable, restore those natural and man-made historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

1. Identify and analyze significant archaeological resources;
2. Maximize information retention through preservation of remains and artifacts or salvage operations; and
3. Support State goals for protection, restoration, interpretation, and display of historic resources.

Check either "Yes" or "No" for each of the following questions.

	Yes	No
1. Is the project site within a historic/cultural district?		X
2. Is the project site listed on or nominated to the Hawaii or National Register of Historic Places?	X	
3. Does the project site include undeveloped land, which has not been surveyed by an archaeologist?		X
4. Has a site survey revealed any information on historic or archaeological resources?	X	
5. Is the project site within or near a Hawaiian fishpond or historic settlement area?	X	

Discussion:

As suggested by the Department of Land and Natural Resources, State Historic Preservation Division (SHPD), reconnaissance-level surveys were conducted on the alignments considered in the Draft EIS. The SHPD suggested an archaeological inventory survey be conducted only on the preferred alternative, which was subsequently determined to be U1,K1. This approach was followed, with the results of the reconnaissance surveys disclosed in the Draft EIS. Subsequent to the identification of the preferred alternative, an inventory survey was performed on this alignment. Fieldwork was completed in October 2000, and the upcoming inventory survey report will be used to determine project compliance with Section 106 of the National Historic Preservation Act. It is expected that a Section 106 Memorandum of Agreement (MOA) will be signed for this project.

In addition, a traditional cultural properties / practices (TCPs) study for the project was completed in September 2000. The study did not identify any TCPs that would be affected by the proposed project. The TCP study will be submitted to the SHPD for review.

The project area is either undeveloped or agricultural land. The archaeological reconnaissance surveys conducted in 1997 identified a total of 25 sites within 400 feet corridors centered on the eight proposed alignments. Twenty of these sites were newly discovered. All of the sites were evaluated as eligible for the National Register of Historic Places. In a letter dated June 21, 1999, the Deputy State Historic Preservation Officer (SHPO) concurred that the sites found are eligible for the National Register. The archaeological reconnaissance survey report was included in the Draft EIS as an appendix. The archaeological inventory survey of the U1,K1 alternative (the preferred alternative) identified ten distinct sites that may be eligible for the National Register, which is an increase from five sites identified during the reconnaissance survey of this alignment. The inventory survey will be included in the Final EIS as an appendix.

Impacts to all sites eligible for the National and Hawaii Registers of Historic Places, and recommended for preservation-in-place, were avoided by modifying the alignments of the alternatives. These sites include petroglyphs located in the gulches crossing the alignments and one *heiau* in the vicinity of the U2-A alignment. The alignments were not adjusted to avoid those sites affected that were not recommended for preservation, such as temporary habitation sites, agricultural sites, and military sites. The upcoming MOA will specify data recovery requirements for these sites. Further details on how impacts to archaeological sites were avoided and minimized are provided in the Draft EIS.

Archaeological resources are addressed in Sections 3.10 and 4.10 of the Draft EIS. Correspondence with the SHPD and SHPO is included in Appendix C.

Hawaiian fishponds are located along the coastal area of Kihei, approximately one mile from the proposed makai terminus of the highway. Because of this geographic separation, the proposed highway will not affect the fishponds on Kihei's coast.

SCENIC AND OPEN SPACE RESOURCES

Objective: Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

1. Identify valued scenic resources in the coastal zone management area;
2. Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
3. Preserve, maintain and, where desirable, improve and restore shoreline open space and scenic resources; and
4. Encourage those developments, which are not coastal dependent to locate in inland areas.

Check either "Yes" or "No" for each of the following questions.

	Yes	No
1. Does the project site abut a scenic landmark?		X
2. Does the proposed action involve the construction of a multi-story structure or structures?		X
3. Is the project site adjacent to undeveloped parcels?	X	
4. Does the proposed action involve the construction of structures visible between the nearest coastal roadway and the shoreline?		X
5. Will the proposed action involve construction in or on waters seaward of the shoreline? On or near a beach?		X

Discussion:

Kihei-Upcountry Maui Highway will convert about 10 miles of open space used for grazing and agriculture to a transportation use. Hawaiian Commercial & Sugar Company, the owner of the agricultural land, has indicated that they will continue to cultivate sugarcane on parcels adjacent to the highway. Kihei-Upcountry Maui Highway is not expected to cause substantial urban development in Upcountry because the urban growth potential of Upcountry is limited by scarce water availability, not limited transportation infrastructure. Despite the recent development of a well in Haiku, and diversion of a portion of the well production to the Kulamalu development, Upcountry will continue to rely on surface water resources which are highly vulnerable to drought conditions. Therefore, as stated in the Makawao-Pukalani-Kula Community Plan, the County does not intend to allow substantial urban development in Upcountry, despite the proposed Kihei-Upcountry Maui Highway.

Views from Upcountry feature panoramic scenes of Central Maui and its open agricultural lands, the rugged and picturesque West Maui Mountains, and the open ocean and shoreline. Kihei-Upcountry Maui Highway will not affect views from Upcountry because the terrain drops away towards Central Maui and the ocean. The views of the ocean, West Maui Mountains, and Central Maui from Upcountry will not be affected.

Views from Kihei offer near sea-level perspectives of the ocean and coastline, distant vistas of the West Maui Mountains and uphill views of Haleakala. Kihei-Upcountry Maui Highway will affect the view of Haleakala from Kihei. A paved roadway and associated embankments climbing the slope will be visible, similar to the view of Haleakala Highway from Kahului.

Visual resources and impacts are discussed in Sections 3.12 and 4.13 of the Draft EIS.

COASTAL ECOSYSTEMS

Objective: Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

1. Improve the technical basis for natural resource management;
2. Preserve valuable coastal ecosystems of significant biological or economic importance;
3. Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land user uses, recognizing competing water needs; and
4. Promote water quantity planning and management practices, which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses, which violate State water quality standards.

Check either "Yes" or "No" for each of the following questions.

	Yes	No
1. Does the proposed action involve dredge or fill activities?	X	
2. Is the project site within the Shoreline Setback Area (20 to 40 feet inland of the shoreline)?		X
3. Will the proposed action require some form of effluent discharge into a body of water?		X
4. Will the proposed action require earthwork beyond clearing and grubbing?	X	
5. Will the proposed action include the construction of special waste treatment facilities, such as injection wells, discharge pipes, or cesspools?		X
6. Is an intermittent or perennial stream located on or near the project site?	X	
7. Does the project site provide habitat for endangered species of plants, birds, or mammals?		X
8. Is any such habitat located nearby?	X	
9. Is there a wetland on the project site?		X

10. Is the project site situated in or abutting a Natural Area Reserve?	X
11. Is the project site situated in or abutting a Marine Life Conservation District?	X
12. Is the project site situated in or abutting an estuary?	X

Discussion:

Surface water resources in the study area consist of intermittent streams that flow in gulches on the western flank of Haleakala, down slope of Kula and Haleakala Highways. The more prominent gulches are Kalialinui, Kaluapulani, Pulehu, Kolaloa, Keahuia Iwi, Waiakoa, Kulanihakoi, Waipuilani, Kaonoulu, and Waiohuli. These gulches collect rainfall and direct flows toward the ocean. However, the gulches are usually dry, and in many places their streambeds have eroded to bedrock. There are no perennial streams in the project area.

Kihei-Upcountry Maui Highway will cross several of these gulches. These crossings will either be by bridge or embankment. Embankments will include culverts to maintain the flow of water in the gulch. The decision to use a bridge or embankment partially depends on storm water flow in the affected gulches. Culverts would be used for those gulches with storm water flows below 3,500 cubic feet per second from a 100-year design storm. In gulches where there would be peak flows greater than 3,500 cubic feet per second from a 100-year design storm, bridges would be constructed. In either case, the crossing will not create upstream impoundments, and there will be no hydraulic impacts, except perhaps during conditions that exceed the 100-year design storm. As shown on Figure 5, the preferred alternative would require seven bridges, including two underpasses where the highway crosses cane haul roads.

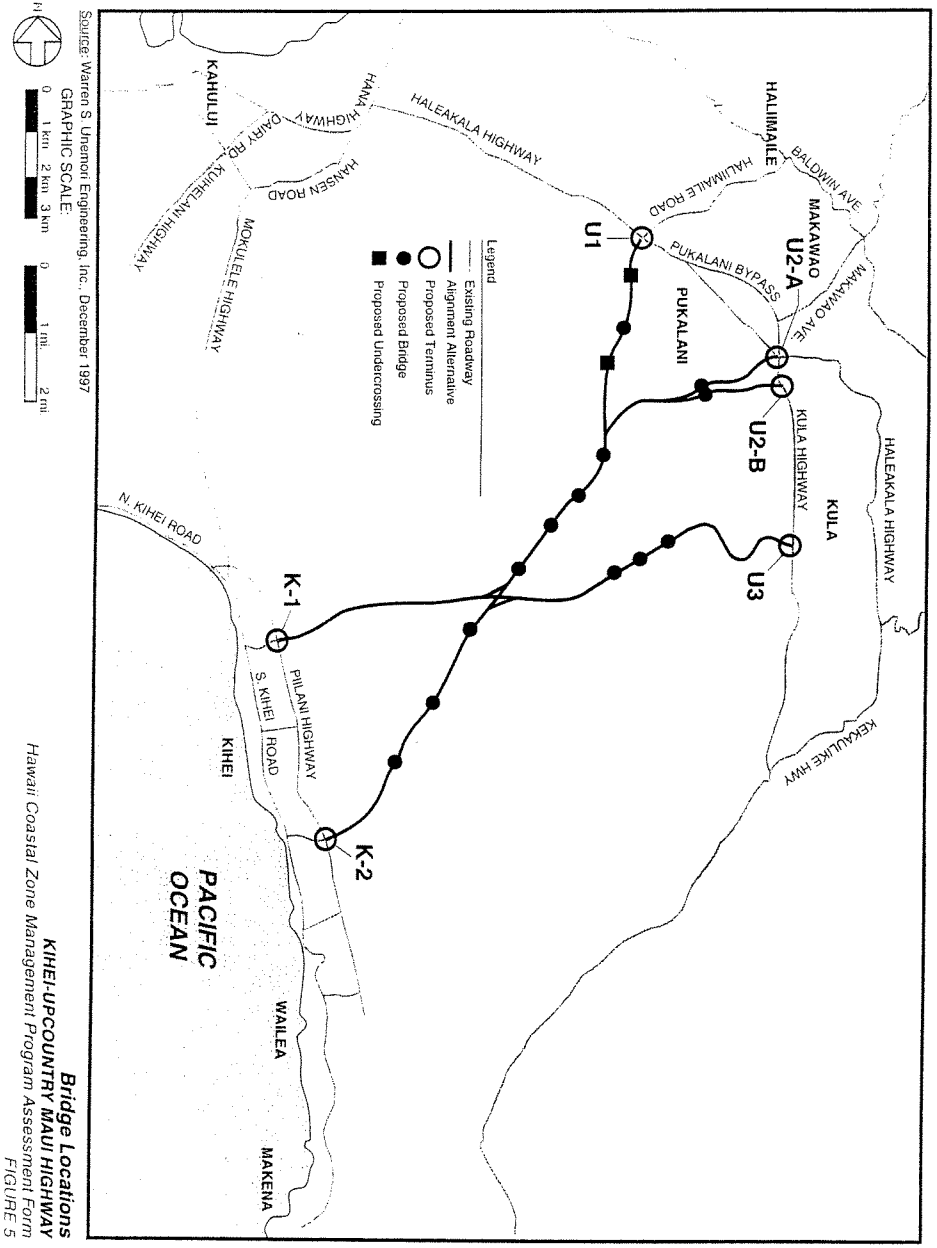
Storm water runoff containing roadway pollutants (petroleum products, rubber), will drain into the gulches and in most cases percolate into the ground. However, during heavy rain, storm water runoff could enter coastal waters. Since roadway pollutant levels are related to vehicle-miles traveled (VMT), a reduction of total regional VMT would reduce the pollutant loading of coastal waters from roadways. Kihei-Upcountry Maui Highway will reduce total regional VMT because it will substantially shorten the travel distance between some of Maui's major travel markets. Therefore, the Kihei-Upcountry Maui Highway would reduce roadway pollutant discharges to Maui's coastal waters in comparison to the future No-Build condition.

Although U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory Maps show wetlands within some of the gulches that would be crossed by the proposed highway, botanical surveys did not identify any evidence (vegetation, soils, or hydrology) of wetlands in any of the gulches where they would be crossed by any of the alternatives. Therefore, no wetlands would be affected by construction of Kihei-Upcountry Maui Highway.

The USFWS stated that certain alternatives, namely the K2 alignments, would pass within one mile of Pu`u o Kali, one of the few remaining examples of dryland forest in the State, which may contain three federally endangered plants (*Abutilon menziesii*, *Hibiscus brakenridgei spp. Brackenridgei*, and *Bonamia menziesii*) and some rare plant species (*Acacia koaia*, *Achyranthes splendens var. splendens*, *Canavalia pubescens*, and *Nesoluma polynesicum*). None of the alternatives would affect Pu`u o Kali and this special forest. In fact, of all the

alternatives, the preferred alternative is furthest from this resource. Botanical surveys of the alternative alignments did not identify any listed, proposed, or candidate threatened or endangered plant species, or any plant species of concern.

The mammal and bird species found in the project area are common throughout the Hawaiian Islands, although the USFWS noted that the U2-A and U2-B alternatives would pass near a reservoir that was used by the endangered Hawaiian coot (*Fulica Americana alai*), last seen in 1986. However, the U2-A or U2-B alignment would not affect this reservoir, and therefore, not affect endangered water birds that may be using this water body. USFWS agreed with this assessment.



Source: Warren S. Unemori Engineering, Inc., December 1997

Bridge Locations
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 5

ECONOMIC USES

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

1. Concentrate in appropriate areas the location of coastal dependent development necessary to the State's economy;

2. Insure that coastal dependent development such as harbors and ports, visitor industry facilities, and energy generating facilities are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and

3. Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

   a) Utilization of presently designed located is not feasible;

   b) Adverse environmental effects are minimized; and

   c) Important to the State's economy.

Check either "Yes" or "No" for each of the following questions.

	Yes	No
1. Does the project involve a harbor or port?		X
2. Is the project site within a designated tourist destination area?	X	
3. Does the project site include agricultural lands or lands designated for such use?	X	
4. Does the proposed activity relate to commercial fishing or seafood production?		X
5. Does the proposed activity relate to energy production?		X
6. Does the proposed activity relate to seabed mining?		X

Discussion:

Kihei-Upcountry Maui Highway links Kihei-Makena, Maui's second largest visitor accommodation region, with Upcountry Maui, an area containing visitor attractions in its own

right, lying on the way to Haleakala National Park. The new highway will enhance the visitor experience by providing a more direct vehicular access between Kihei, Upcountry, and Haleakala National Park. Socio-economic impacts of the project not related to agriculture are discussed in Section 4.3 of the Draft EIS.

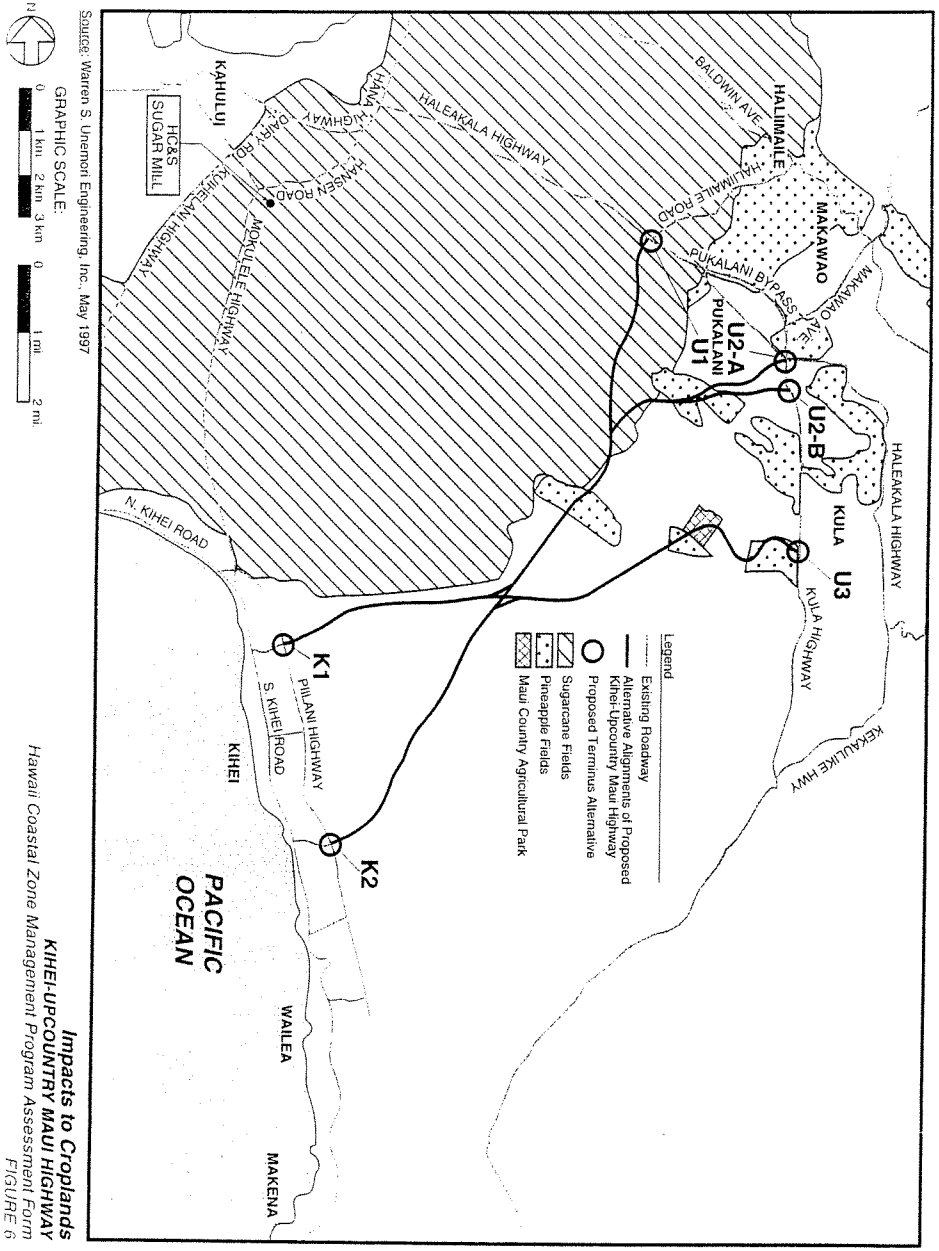
In terms of agricultural impacts, the mauka portion of Kihei-Upcountry Maui Highway will cross agricultural lands, and the makai portion will cross grazing lands (see Figure 6). The preferred alternative would cause the greatest impact on active sugarcane land, and it will bisect one pineapple field. The U2-A and U2-B would also cross sugarcane land, as well as bisecting two pineapple fields. The U3 alternatives would not affect any sugarcane land, but will cross two pineapple fields and the Maui County agricultural park. No privately-owned Kula small-scale farm would be directly affected by any of the alternatives.

To maintain the productivity of agricultural lands adjacent to the highway, mitigation measures will be implemented. These mitigation measures will include modifying or reconstructing irrigation and drainage systems and haul routes affected by the highway. The preferred alternative will not create isolated, unworkable remnant parcels.

Some of the alternatives, including the preferred alternative, could modify travel patterns in a manner that may adversely affect certain Kula farms. Traffic on Omaopio and Pulehu Roads may increase, potentially interfering with farm vehicle movements.

To minimize impacts to ranching activities, stock-proof fencing will be erected along both sides of the highway in grazing areas. Provisions will also be made so cattle may be herded from one pasture to another without disrupting traffic.

A detailed discussion of farmlands in the project area is provided in Sections 3.2 and 4.2 of the DEIS.



Source: Warren S. Unemori Engineering, Inc., May 1997

Impacts to Croplands
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 6

COASTAL HAZARDS

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.

Policies:

1. Develop and communicate adequate information on storm wave, tsunami, flood erosion, and subsidence hazard;
2. Control development in areas subject to storm wave, tsunami, flood, erosion, and subsidence hazard;
3. Ensure that developments comply with requirements of the Federal Flood Insurance Program; and
4. Prevent coastal flooding from inland projects.

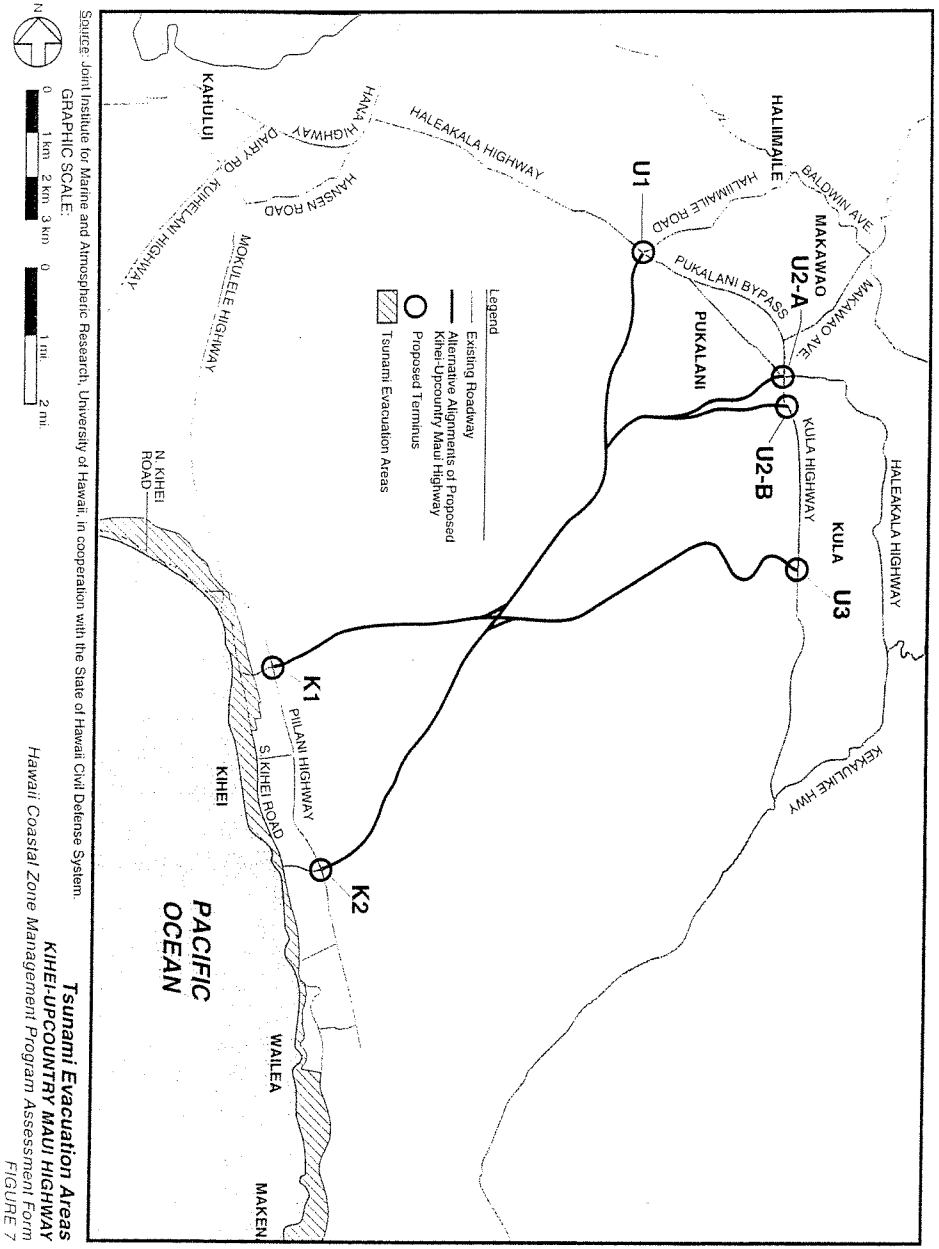
Check either "Yes" or "No" for each of the following questions.

	Yes	No
1. Is the project site on or abutting a sandy beach?		X
2. Is the project site within a potential tsunami inundation area as depicted on the National Flood Insurance Program flood hazard map?		X
3. Is the project site within a potential flood inundation area according to a flood hazard map?		X
4. Is the project site within a potential subsidence hazard area according to a subsidence hazard map?		X
5. Has the project site or nearby shoreline areas experienced shoreline erosion?		X

Discussion:

The tsunami evacuation areas along the Kihei-Makena coastline are shown in Figure 7. As shown in the figure, the proposed highway is mauka of the tsunami inundation area. Moreover, Kihei-Upcountry Maui Highway will increase the evacuation capacity of the Kihei-Makena region. This is one of the purposes of the project

The Kihei coastline has experienced shoreline erosion. However, since Kihei-Upcountry Maui Highway will terminate approximately one mile away from the shoreline, it will not have an affect on shoreline erosion.



Tsunami Evacuation Areas
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 7

MANAGING DEVELOPMENT

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

1. Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development;
2. Facilitate timely processing of application for development permits and resolve overlapping or conflicting permit requirements; and
3. Communicate the potential short- and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

Check either "Yes" or "No" for each of the following questions.

	Yes	No
1. Will the proposed activity require more than two (2) permits or approvals?	X	
2. Does the proposed activity conform with the State and County land use designations for the site?	X	
3. Has or will the public be notified of the proposed activity?	X	
4. Has a draft or final environmental impact statement or an environmental assessment been prepared?	X	

Discussion:

Public participation has been an important element of this project. Many scoping and coordination meetings have been held with government agencies, elected officials, and the general public throughout the planning process, as described in detail in Chapter 5 of the Draft EIS, which was published in July 1999.

Construction of Kihei-Upcountry Maui Highway will require the federal, State, and County permits listed in Section 4.18 of the Draft EIS. Aside from a Coastal Zone Management consistency determination concurrence, those permits pertaining to the protection of coastal resources include:

- Section 404 permit (Nationwide) from the U.S. Department of the Army;
- Stream Channel Alteration Permit from the State Department of Land and Natural Resources; and
- NPDES and Water Quality Certification permits from the State Department of Health.

The highway will traverse land designated Agricultural and Urban by the State Land Use Commission. A State highway is an allowable use in these zones.

Piilani Highway, at the makai terminus of the project, forms the mauka boundary of the Special Management Area (SMA). Because project work would be limited to the mauka side of the highway, an SMA permit from the County is not needed.

PUBLIC PARTICIPATION

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

1. Maintain a public advisory body to identify coastal management problems and to provide policy advice and assistance to the coastal zone management program;

2. Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities; and

3. Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion:

Public participation has been an important element of this project. Many scoping and coordination meetings have been held with government agencies, elected officials, and the general public throughout the planning process, as described in detail in Chapter 5 of the Draft EIS, which was published in July 1999.

BEACH PROTECTION

Objective: Protect beaches for public use and recreation.

Policies:

1. Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion;

2. Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

3. Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion:

Construction of Kihei-Upcountry Maui Highway will not affect the shoreline setback area or have an impact on coastal erosion. The highway will not be adjacent to or abut the shoreline. At the point of closest approach to the shoreline, the proposed roadway would be approximately one mile from the coastline.

MARINE RESOURCES

Objective: Implement the State's ocean resources management plan.

Policies:

1. Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

2. Assure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

3. Coordinate the management of marine and coastal resources and activities management to improve effectiveness and efficiency;

4. Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

5. Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

6. Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Discussion:

Kihei-Upcountry Maui Highway will not directly affect marine and coastal resources. Some indirect impacts are possible because of erosion during construction, and roadway runoff during extreme storm events. A NPDES permit will be obtained prior to construction. The permit application will specify Best Management Practices (BMPs) to be implemented to minimize erosion. Since Kihei-Upcountry Maui Highway will reduce total regional VMT by shortening trip lengths, roadway pollutant loading of coastal waters will be less than under the future No-Build condition.

Kihei-Upcountry Maui Highway will improve access to coastal areas, especially from the Upcountry region. Improving accessibility to coastal resources will help raise public awareness and support of ecologically-minded coastal resource management. The Draft EIS and the project's public outreach efforts have included discussions about the importance of minimizing the project's impact on the natural environment.

FEDERAL CONSISTENCY

SUPPLEMENTAL INFORMATION FORM

Project Title: Kihei-Upcountry Maui Highway
County of Maui, Hawaii

Island: Maui Tax Map Key No.: Various

Est. Start Date: Design: 2001
Construction: 2003

APPLICANT OR AGENT

Name & Title: Abraham Wong, Division Administrator

Agency: Federal Highway Administration Telephone: 541-2700

Address: P.O. Box 50206, Honolulu, Hawaii Zip: 96850

TYPE OF APPLICATION (check one only)

[X] I. Federal Activity
(statement "a")

"The proposed activity is consistent with and will be conducted in a manner consistent to the maximum extent practicable with the Hawaii Coastal Zone Management Program.

Signature: _____ Date 1/25/01
DOMINGO GALICINAO
Structural Engineer

[ ] II. Permit or License
(statement "b")

The proposed activity complies with Hawaii's Coastal Zone Management Program and will be conducted in a manner consistent with such a program."

Signature: _____ Date _____

[ ] III. OCS Plan/Permit

[ ] IV. Grants & Assistance

DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

BENJAMIN J. CAYETANO
GOVERNOR
SEIJI F. NAYA, Ph.D.
DIRECTOR
SHARON S. NARIMATSU
DEPUTY DIRECTOR
DAVID W. BLANE
DIRECTOR, OFFICE OF PLANNING

OFFICE OF PLANNING
235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-9041

March 30, 2001

Mr. Domingo Galicinao, P.E.
Structural Engineer
U.S. Department of Transportation
Federal Highway Administration
300 Ala Moana Boulevard, Room 3202
Honolulu, Hawaii 96850

Dear Mr. Galicinao:

Subject: Hawaii Coastal Zone Management (CZM) Program
Federal Consistency Review for the Proposed Kihei-Upcountry Maui Highway, Island of Maui, Hawaii

This is to update you on the status of our CZM federal consistency review. To date we have reviewed the CZM Assessment and Draft Environmental Impact Statement (EIS) and have consulted with the public and various government agencies. After thorough review of the information provided, it is determined that we require additional information critical to our review. Information and discussion of impacts to scenic and open space resources, public participation and historical resources which will be included in the Final EIS is essential for review.

We understand that the Final EIS will not be complete until June 2001, however we have a federally mandated deadline of April 16, 2001. Therefore, we recommend the agreement of an alternative review schedule with a deadline of 30 days after receipt of the Final EIS.

Please submit a notification of your agreement to an alternative review schedule with a deadline of 30 days after receipt of the Final EIS. After concurrence of the alternative review

schedule, the CZM review will resume upon receipt of the additional information and/or the Final EIS. Should you have questions, please call Debra Tom of our CZM Program at 587-2840.

Sincerely,

David W. Blane, AICP
Director
Office of Planning

c: U.S. Army Corps of Engineers
U.S. National Marine Fisheries Service, Pacific Area Office
U.S. Fish and Wildlife Service, Pacific Islands Ecoregion
Department of Health, Clean Water Branch
Department of Land & Natural Resources
Commission on Water Resources Management
Historical Preservation Division
Planning Department, County of Maui
Wayne Kawahara, State Department of Transportation, HWY-P
✓ Jason Yazawa, Parsons Brinckeroff Quade & Douglas, Inc.

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4487L4

BENJAMIN J. CAYETANO
GOVERNOR
STATE OF HAWAII

KALI WATSON
CHAIRMAN
HAWAIIAN HOMES COMMISSION

JOBIE M. K. M. YAMAGUCHI
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

RECEIVED
JAN 22 1 20 PM '98
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
JAN 20 1 36 PM '98

January 15, 1998

To: The Honorable Kazu Hayashida
Director of Transportation

From: Kali Watson, Chairman
Hawaiian Home Commission

Subject: Kihei-UpCountry Maui Highway:HWY-PA 2.7195

Thank you for sending a copy of the subject map (Revised: July 3, 1996) showing alternative termini and alignment segments for the proposed Kihei/UpCountry Maui Highway. The Department of Hawaiian Home Lands (DHHL) supports the proposed U2-K2 alignment.

DHHL has 6,111 acres at Kula comprised of TMK 2-2-02: 14, 55, & 56. The K2 alignment runs within 0.5 miles of the makai portion of DHHL's Kula property and a road connection may be possible in the future. This would provide access to the Kihei-Wailea area.

The U2 alignment provides a connection to the Kulamalu Project above Pukalani which includes sites for a Hawaiian agency complex, such as a DHHL office and new Kamehameha School.

DHHL is currently working on water system improvements to serve a residential subdivision at Waiohuli (318 lots) below Polipoli Road and an agricultural subdivision (72 lots) below the Kula Hospital. Construction of onsite improvements will proceed over the next 2-5 years.

We would like to undertake a review and update of our existing plans in conjunction with the results of DOT planning efforts for the Kihei-UpCountry Maui Highway. We request that DHHL be consulted as part of your process to finalize the alignment selection and the locations of possible on/off ramps.

If you have any questions, please call Joe Chu of our Planning Office at 586-3836.

c: Maui Commissioner
Maui District Office

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.7941

FEB - 6 1998

RECEIVED
FEB 10 1998
WARREN S. UNEMORI ENGINEERING, INC.

TO: KALI WATSON, CHAIRMAN
HAWAIIAN HOMES COMMISSION
DEPARTMENT OF HAWAIIAN HOME LANDS

FROM: KAZU HAYASHIDA
DIRECTOR OF TRANSPORTATION

SUBJECT: KIHEI-UPCOUNTRY MAUI HIGHWAY
PROJECT NO. HDPS-9203(1)

Thank you for your comments and recommendations on the Kihei-Upcountry Maui project. Your preference on alignments has been noted. Your office is on the mailing list for this project and we will work closely with your Planning Office to keep them informed of our progress.

bc: Warren S. Unemori Engineering, Inc.

Ms. Dana Hall
Page 2
FEB 8 2001

HWY-PA 2.1544

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FEB 8 2001

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

IN REPLY REFER TO:
HWY-PA
2.1544

Mr. Ed Lindsey
1087A Pookele Road
Makawao, Hawaii 96768

Dear Mr. Lindsey:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

Following selection of the preferred alternative, Cultural Surveys Hawaii, Inc. (CSH) conducted an archaeological inventory survey of this alignment. The inventory survey report identifies several sites that were evaluated by CSH as being significant per criteria of the National and Hawaii Registers of Historic Places. In addition, Scientific Consultant Services, Inc. conducted a cultural impacts study for all the alternatives. The cultural impacts study did not identify any traditional cultural properties at or near the alternatives. Both reports are enclosed for your review and comments.

We would very much appreciate your input, and any comments you submit will be forwarded to the State Historic Preservation Division to assist in their evaluation of the reports. Please submit your comments by March 2, 2001 to:

State of Hawaii
Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

Mr. Ed Lindsey
Page 2

HWY-PA 2.1544

FEB 8 2001

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PA
2.1544

FEB 8 2001

Mr. Mahealani Kaiaokamalie
Ulupalakua Ranch
P. O. Box 901
Kula, Hawaii 96790

Dear Mr. Kaiaokamalie:

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Two years ago we asked for your review and comments on archaeological reconnaissance survey reports prepared for the subject project. Since then, we have completed a Draft Environmental Impact Statement (EIS) for the project, held public hearings, solicited agency and public comments on the Draft EIS, and selected a preferred alternative. The preferred alternative is the U1, K1 Alternative, an alignment from the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection.

Following selection of the preferred alternative, Cultural Surveys Hawaii, Inc. (CSH) conducted an archaeological inventory survey of this alignment. The inventory survey report identifies several sites that were evaluated by CSH as being significant per criteria of the National and Hawaii Registers of Historic Places. In addition, Scientific Consultant Services, Inc. conducted a cultural impacts study for all the alternatives. The cultural impacts study did not identify any traditional cultural properties at or near the alternatives. Both reports are enclosed for your review and comments.

We would very much appreciate your input, and any comments you submit will be forwarded to the State Historic Preservation Division to assist in their evaluation of the reports. Please submit your comments by March 2, 2001 to:

State of Hawaii
Department of Transportation
Highways Division
Planning Branch
Advance Planning Section
869 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

Mr. Mahealani Kaiaokamalie
Page 2

HWY-PA 2.1544

FEB 8 2001

FAX Number: 587-1787

If you have any questions, please contact Wayne Kawahara at 587-6357.

Very truly yours,

BRIAN K. MINAAI
Director-Designate of Transportation

Enclosures

JTK 03944

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

MAR 22 7 55 AM '01

PHONE (808) 594-1888
FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

February 28, 2001

Mr. Brian Minaai
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

Subject: Proposed Kihei-Upcountry Maui Highway, Maui, Hawaii
Inventory Survey of the U1, K1 Alternative, Cultural Impacts Study

Dear Mr. Minaai:

Thank you for the opportunity to comment on the above referenced project. We apologize for our late response.

The Office of Hawaiian Affairs previously commented on the need for the preparation of a cultural impact statement. The cultural impacts study prepared by Scientific Consultant Services, Inc. concluded that there were no Traditional Cultural Properties within the project area. Consultation with 50 individuals knowledgeable about Hawaiian culture confirmed the existence of archeological sites but did not reveal any cultural practices.

The archeological inventory survey recommends data recovery of three identified sites and preservation of two sites. OHA requests the opportunity to review the data recovery plan and preservation plan prepared for these sites.

If you have any questions, please contact Sharla Manley, assistant policy analyst at 594-1944, or e-mail her at sharlam@oha.org.

Sincerely,

Colin C. Kippen, Jr.
Deputy Administrator

CK: sam
cc: Board of Trustees
Randall K. Ogata
Maui CAC

MAR 27 12 41 PM '01

BENJAMIN J. CAYETANO
GOVERNOR
STATE OF HAWAII

RAYNARD C. SOON
CHAIRMAN
HAWAIIAN HOMES COMMISSION

JOBIE M. K. M. YAMAGUCHI
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

March 2, 2001

To: The Honorable Brian K. Minaai
Director-Designate of Transportation

From: Raynard C. Soon, Chairman
Hawaiian Homes Commission

Subject: Proposed Kihei-Upcountry Maui Highway
Archaeological Inventory Survey Report and
Cultural Impacts Assessment Report

Thank you for providing copies of the assessment reports on the archaeological and cultural significance of the lands and features within the proposed U1-K1 Alternative highway corridor proposed to connect Upcountry Maui and Kihei.

Your cover letter (HWY-PA 2.1544) advises us that this U1-K1 Alternative, connecting the Haleakala Highway/Haliimaile Road intersection to the Piilani Highway/Kaonoulu Street intersection, is the preferred alternative.

In our January 15, 1998, and March 24, 1999, responses regarding the highway project, the Department of Hawaiian Home Lands (DHHL) gave support to the proposed U2-K2 alignment and asked that we be consulted as part of the process to finalize the alignment selection and the locations of possible on/off ramps. We believe that the U2,K2 alignment will offer more opportunities for more drivers to avoid the high traffic concentrations that will occur at the busiest highway segments and intersections during peak hours.

It appears that the U1-K1 Alternative will not relieve the traffic along already heavily-used portions of the Haleakala and Piilani Highways. In the morning, residents of Makawao-Pukalani wishing to go to Kihei will still head

Makai (West) to use the new route, competing with those headed to Kahului-Wailuku. When they exit at K1, they will be at the busiest section of the Piilani Highway in Kihei. During the afternoon peak hours, the same conflicts will occur, only in reverse.

DHHL would like to review Origin-Destination studies that support the U1-K1 Alternative as the most reasonable (preferred) alternative.

We have reviewed the archaeological and cultural reports provided and have no comments to offer.

If you have any questions, please call me at 586-3801, or have your staff call Joe Chu of our Planning Office at 587-6421.

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWELO
LINNEL NISHIOKA

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

May 10, 2001

Hallett H. Hammatt, Ph.D.
Cultural Surveys Hawai'i
733 North Kalaheo Avenue
Kailua, Hawaii 96734

LOG NO: 27374
DOC NO: 0104MK01

Dear Dr. Hammatt,

SUBJECT: **Review of An Archaeological Inventory Survey of the Proposed Kihei to Kula Road Corridor, Kailua to Ka'ono'ulu ahupua'a, Makawao and Wailuku, Maui TMK 2-05-001: por. 001, 002, 003, 009, 2-05-002: por. 001, 002, 005, 015, 016 3-09:001: por. 016**

Thank you for the opportunity to review this report which our staff received on 12 February 2001 (Colin, Shideler, Creed, Bush, and Hammatt, 2000, *Archaeological Inventory Survey of the Proposed Kihei to Kula Road Corridor, Kailua to Ka'ono'ulu ahupua'a, Makawao and Wailuku, Maui, TMK 2-05-001: por. 001, 002, 003, 009, 2-05-002: por. 001, 002, 005, 015, 016, 3-09:001: por. 016...* Cultural Surveys Hawaii ms.). We apologize for the delay in our response.

The background section acceptably establishes the ahupua'a settlement pattern and predicts the likely site pattern in the project area.

The survey has adequately covered the project area documenting 17 historic properties in the project area (six of which were previously identified). The site descriptions and interpretations are acceptable. The functional classifications for the historic properties include seven temporary habitation sites (3742, 3743, 3745, 5032, 5033, and 5035), three agricultural sites (3728 and 3729 precontact, 4765 historic), two petroglyph sites (5029 and 5031, each with only 3 petroglyphs), one cattle wall site (5030), one marker (3729), and three sites related to historic military training activities (4773, 4776, and 4778).

We agree that 15 of the sites are significant solely for their information content (Criterion "D" of the National Register of Historic Places). We believe, however, that the two petroglyph sites are significant for their information content (D) and also as representative examples of small petroglyph sites in the lower Kula gulches (criterion C). If you agree, please correct the significance evaluation for these two sites to include Criterion "C" and send us a replacement

page. If you disagree, please contact our Maui Archaeologist to discuss the situation. Regardless of the resolution of the specifics of significance, we can agree by consensus that all 17 historic properties are technically eligible for inclusion on the National Register of Historic Places.

We agree with the mitigation proposals. No mitigation (preservation or data recovery) is warranted for 12 of the sites (3727, 3728, 3729, 3742, 3743, 3745, 4765, 4773, 4776, 4778, 5030, and 5034). These are small sites and a reasonable and adequate amount of their significant information was recovered during the survey, and in the cases of 3742, 3743, and 3745 (temporary habitations sites) during a prior survey which identified and documented them. The two small petroglyph sites are to be preserved. Three of the temporary habitation sites which have deposits (5032, 5033, and 5035) are to undergo archaeological data recovery.

We understand that this is a project with federal involvement (Federal Highways Administration). Thus, following the rules of the U.S. Advisory Council on Historic Preservation, mitigation of the 5 sites is required to take place under a Memorandum of Agreement (MOA). We see this as a very simple MOA with a stipulation for preservation (and an attached preservation plan) and another stipulation for archaeological data recovery (with an attached data recovery plan). Please be sure that your client and the federal agency that is involved consult with native Hawaiian groups and the interested public on the findings and the proposed mitigation. Parties that wish to be involved should have the opportunity to comment on the MOA. We will await receiving a copy of the draft MOA.

If you have questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

MK:jen

c: John Min, Director, Department of Planning, County of Maui, FAX 270-7634
Bert Ratte, County of Maui, Land Use and Codes, FAX 270-7972
Glen Ueno, County of Maui, Land Use and Codes, FAX 270-7972

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Hawaii Division
300 Ala Moana Blvd., Room 3-306
Honolulu, HI 96850
June 18, 2001

IN REPLY REFER TO
HEC-HI

Mr. Gilbert Coloma-Agaran
Chairperson and State Historic Preservation Officer
State of Hawaii Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii, 96707

Attention: Mr. Ross Cordy

Subject: Proposed Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Section 106 of the National Historic Preservation Act
Request for Concurrence on Effect Determinations

Dear Mr. Coloma-Agaran:

In accordance with Section 106 of the National Historic Preservation Act, this letter requests that the State Historic Preservation Officer (SHPO) concur on effect determinations regarding historic properties in the subject project's Area of Potential Effect (APE).

The U1,K1 alignment has been identified as the preferred alternative. The U1,K1 alignment would run from the Haleakala Highway / Haliimaile Road intersection to the Piilani Highway / Kaonoulu Street intersection.

An inventory survey of this area was conducted by Cultural Surveys Hawaii (CSH). The survey report (Archaeological Inventory Survey of the Proposed Kihei to Kula Road Corridor, Kailua to Ka`ono`ulu Ahupua`a, Makawao and Wailuku Districts, Island of Maui, December 2000) was reviewed by the State Historic Preservation Division (SHPD), with review comments provided in the letter of May 10, 2001 (ref. LOG NO: 27374, DOC NO: 0104MK01). The report has been accepted by the SHPD.

The following historic properties were identified in the APE of the preferred alternative:

State Site Number	Function
50-50-10-3727	Agriculture
50-50-10-3728	Agriculture
50-50-10-3729	Marker
50-50-10-3742	Temporary Habitation
50-50-10-3743	Temporary Habitation
50-50-10-3745	Temporary Habitation
50-50-10-4765	Agriculture
50-50-10-4773	Military
50-50-10-4776	Military
50-50-10-4778	Military
50-50-10-5030	Animal Husbandry
50-50-10-5032	Temporary Habitation
50-50-10-5033	Temporary Habitation and Military
50-50-10-5034	Temporary Habitation
50-50-10-5035	Temporary Habitation

With due consideration for both the results of the inventory survey report and input from public review, the Federal Highway Administration (FHWA) renders "no adverse effect" determinations on State sites 50-50-10-3727, 3728, 3729, 3742, 3743, 3745 4765, 4773, 4776, 4778, 5030, and 5034. None of these sites warrant preservation and sufficient documentation of these sites has been previously collected by CSH and others. The SHPD agreed in the May 10, 2001 letter that no further work is needed on these sites.

The FHWA renders "adverse effect" determinations on State sites 50-50-10-3032, 5033 and 5035, sites that functioned as temporary habitation. Two of the sites (5032 and 5033) are located 190 to 150 feet from the alignment centerline, just inside the APE. None of these temporary habitation sites warrant preservation. However, additional data recovery is needed if subsequent project planning confirms that these sites will be displaced by the project. A draft Memorandum of Agreement (MOA) is enclosed.

Two petroglyph sites (State sites 5029 and 5031) are located approximately 200 feet from the alignment centerline in Kalialinui and Waiakoa Gulches. Because of this distance, and since Kihei-Upcountry Maui Highway will cross both gulches via two-lane bridge, both petroglyph sites are outside the APE. Nevertheless, the project's Record of Decision (ROD) will specify that buffer zones around the petroglyphs, demarcated with bright colored markers, be established during construction to prevent accidental damage to the sites. The ROD will instruct the State Department of Transportation to consult with the SHPD to determine adequate buffer zones.

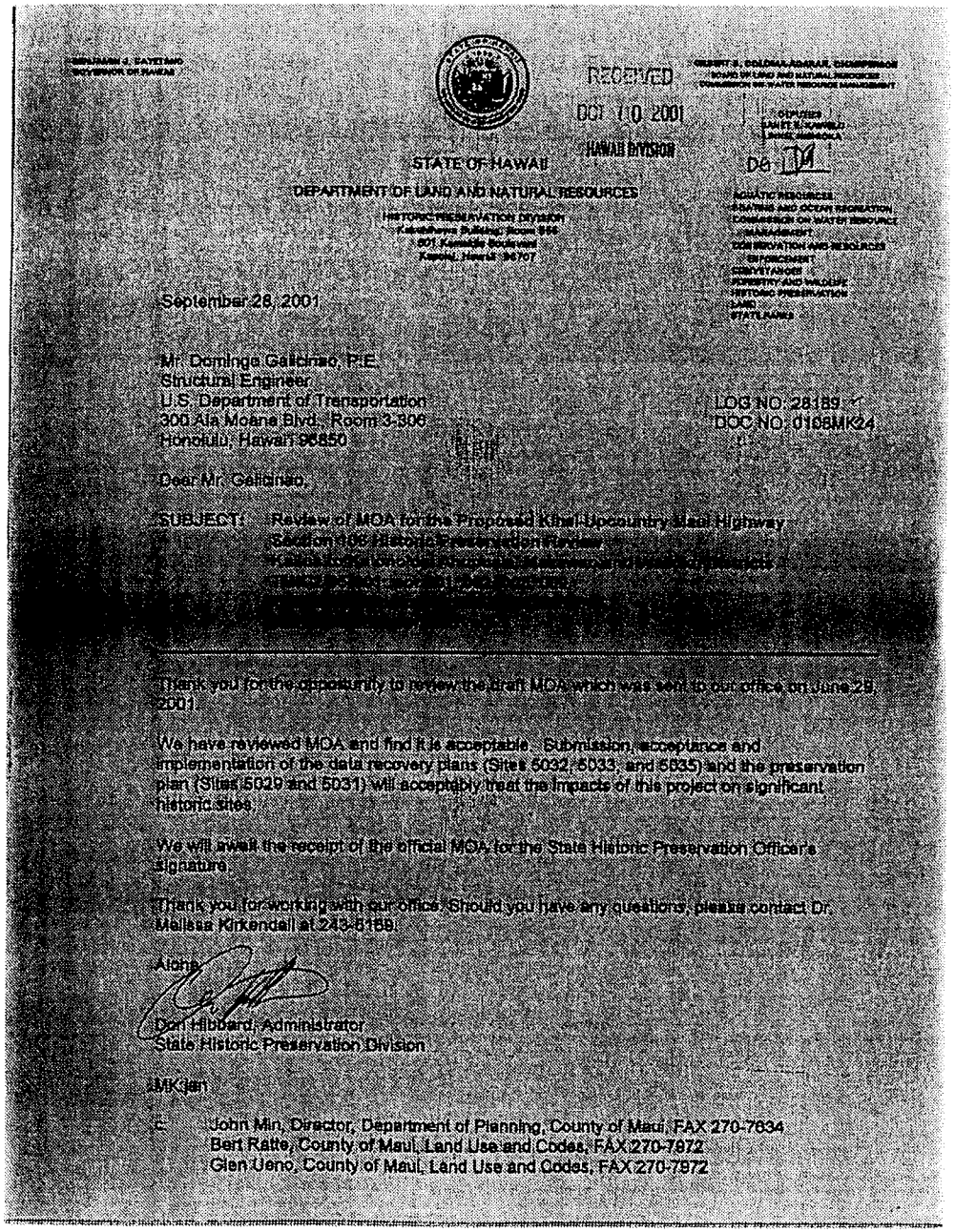
If you have any questions of require additional information, please do not hesitate to call me at 541-2700 (ext. 302).

Sincerely yours,

Domingo Galicinao, P.E.
Structural Engineer

Enclosure: Draft Memorandum of Agreement Among the Federal Highway Administration, and the Hawaii State Historic Preservation Officer Regarding the Displacement of Three Temporary Habitation Sites for the Kihei-Upcountry Maui Highway, County of Maui, Hawaii, Project No. HDPS-9203(1)

cc: Dr. Melissa Kirkendall, State Historic Preservation Division
Mr. Wayne Kawahara, State of Hawaii Department of Transportation
Mr. Warren Unemori, Warren S. Unemori Engineering, Inc.
✓Mr. Jason Yazawa, Parsons Brinckerhoff Quade & Douglas, Inc.
Ms. Laura Kong, FHWA



RECEIVED
OCT 10 2001
HAWAII DIVISION

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

September 28, 2001

Mr. Domingo Galicinao, P.E.
Structural Engineer
U.S. Department of Transportation
300 Ala Moana Blvd., Room 3-306
Honolulu, Hawaii 96850

LOG NO: 28189
DOC NO: 0109MK24

Dear Mr. Galicinao,

SUBJECT: Review of MOA for the Proposed Kihei-Upcountry Maui Highway
Section 106 Historic Preservation Process
[redacted]

Thank you for the opportunity to review the draft MOA which was sent to our office on June 29, 2001.

We have reviewed MOA and find it is acceptable. Submission, acceptance and implementation of the data recovery plans (Sites 5032, 5033, and 5035) and the preservation plan (Sites 5029 and 5031) will acceptably treat the impacts of the project on significant historic sites.

We will await the receipt of the official MOA for the State Historic Preservation Officer's signature.

Thank you for working with our office. Should you have any questions, please contact Dr. Melissa Kirkendall at 243-5169.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

MK:jen

c: John Min, Director, Department of Planning, County of Maui, FAX 270-7634
Bert Ratte, County of Maui, Land Use and Codes, FAX 270-7972
Glen Ueno, County of Maui, Land Use and Codes, FAX 270-7972

PB 100 YEARS

Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, HI 96813
808-531-7094
Fax: 808-528-2368

September 26, 2001

Mr. Clyde Namu`o, Administrator
State of Hawaii Office of Hawaiian Affairs
711 Kapiolani Blvd., Suite 500
Honolulu, Hawaii 96813

Subject: Proposed Kihei-Upcountry Maui Highway
County of Maui, Hawaii
National Historic Preservation Act, Section 106 Consultation
Memorandum of Agreement

Dear Mr. Namu`o:

The State of Hawaii Department of Transportation (SDOT) and the Federal Highway Administration (FHWA) thank the Office of Hawaiian Affairs for its participation in the planning of this project. OHA has provided valuable comments on numerous occasions, most recently through the OHA review of the cultural impact study and archaeological inventory survey of the preferred alignment alternative (from the Haleakala Highway / Haliimaile Road intersection in Upcountry to the Piilani Highway / Kaonoulu Street intersection in Kihei).

In accordance with Section 106 of the National Historic Preservation Act, the FHWA has rendered "adverse effect" determinations on three historic properties that functioned as temporary habitation. State Sites 50-50-10-5032, 5033 and 5035. Although these sites do not warrant preservation, additional data recovery is needed if subsequent project planning confirms that these sites will be displaced by the project. The State Historic Preservation Officer (SHPO) is expected to concur with these effect determinations.

Enclosed please find a draft Memorandum of Agreement (MOA) between the FHWA and the SHPO regarding the three sites. The State Historic Preservation Division has already reviewed the draft MOA. We respectfully ask the OHA to also review the MOA before it is signed. Please provide any comments you may have by October 26, 2001.

Please do not hesitate to call me at 566-2235 should you have any questions. I will be on vacation from October 10 to October 29. If you need to contact us during this period, please call Mr. David Atkin at 566-2205.

Sincerely yours,
Parsons Brinckerhoff Quade & Douglas, Inc.

Jason Yazawa, AICP

Cc. Domingo Galicinao, FHWA (w/o enclosure)
Wayne Kawahara, SDOT (w/o enclosure)

Over a Century of Engineering Excellence

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

October 16, 2001 HRD01/45

Mr. Jason Yazawa
Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, HI 96813

Dear Mr. Yazawa:

Subject: Proposed Kihei-Upcountry Maui Highway Memorandum of Agreement (MOA)

This letter is provided as a response to the materials of September 26, 2001, produced by Parsons Brinckerhoff for FHWA, requesting review and comments relating to the above MOA. OHA finds the terms of the MOA to be standard and reasonable, and has no further concerns to add in its review.

Thank you for the opportunity to review and comment relating the proposed project. If you have any questions, please contact Wayne Kawamura, Policy Analyst at 594-1966, or email him at: waynek@oha.org.

Sincerely,

Colin Kippen, Jr.
Deputy Administrator

cc: BOT
ADM

MEMORANDUM OF AGREEMENT
Among the
FEDERAL HIGHWAY ADMINISTRATION and the
HAWAII STATE HISTORIC PRESERVATION OFFICER
Regarding the Displacement of Three Temporary Habitation Sites
for the Kihei-Upcountry Maui Highway, County of Maui, Hawaii
Project No. HDPS-9203(1)

WHEREAS, the Federal Highway Administration (FHWA) has determined that State Sites 50-50-10-5032, 5033 and 5035, which functioned as temporary habitation, are eligible for inclusion in the National Register of Historic Places (NRHP), and that their displacement by the construction of Kihei-Upcountry Maui Highway will have an adverse effect, and FHWA has consulted with the Hawaii State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f);

WHEREAS, the State of Hawaii Department of Transportation (HDOT) participated in the consultation and has been invited to concur in this Memorandum of Agreement (MOA);

WHEREAS, the State of Hawaii Office of Hawaiian Affairs participated in the consultation; and

NOW, THEREFORE, the FHWA and the Hawaii SHPO agree that the displacement of State Sites 5032, 5033 and 5035 shall be implemented in accordance with the following stipulations in order to take into account such action's effect on historic properties.

STIPULATIONS

FHWA will ensure that the following measures are implemented.

1. Prior to the displacement of State Sites 5032, 5033 and 5035 (the undertaking), the HDOT shall arrange the preparation of a data recovery plan for these sites. HDOT will submit this plan to the State Historic Preservation Division (SHPD) for review. Once approved by the SHPD, HDOT shall arrange the data recovery of State Sites 5032, 5033 and 5035.

2. Upon SHPD's acceptance of the data recovery report, HDOT will be allowed to commence the undertaking.

3. The FHWA shall submit a copy of the executed MOA to the Council with the appropriate documentation pursuant to 36 CFR Section 800.11 prior to the undertaking.

4. Should a party to this agreement object within 30 days to any items submitted pursuant to this agreement, the FHWA shall consult with the objecting party to resolve the objection. If the FHWA determines that the objection cannot be resolved, the FHWA shall request comments of the Council pursuant to 36 CFR Section 800.9. Any Council comment provided in response to such a request will be taken into account by the FHWA with reference only to the subject of the dispute; the FHWA's responsibility to carry out all actions under this agreement that are not the subjects of the dispute will remain unchanged.

5. Any party to this MOA may request that it be amended, whereupon the parties shall consult in accordance with 36 CFR Section 800 to consider such amendment.

6. Should the undertaking not take place within five (5) years of the executed MOA, the parties shall consult in accordance with 36 CFR Section 800 to determine whether amendments should be considered.

Execution of this MOA by the FHWA and the Hawaii SHPO, and implementation of its terms shall be evidence that FHWA has afforded the Council the opportunity to comment on the project entitled, "Kihei-Upcountry Maui Highway, Island of Maui, Hawaii, Project No. HDPS-9203(1)" and its effects on historic properties, and that FHWA has taken into account the effects of the undertaking on State Sites 50-50-10-5032, 5033 and 5035.

FEDERAL HIGHWAY ADMINISTRATON

By: Abraham Wong Date: 11/8/01
ABRAHAM WONG
Division Administrator

HAWAII STATE HISTORIC PRESERVATION OFFICER

By: [signature] Date: 11/20/01
GILBERT COLOMA-AGARAN
State Historic Preservation Officer

CONCURRED BY:

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

By: Brian K. Minaai Date: DEC 04 2001
BRIAN MINAAI
Director of Transportation

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

February 26, 1999

RECEIVED
MAR - 1 1999
HAWAII DIVISION

REPLY TO
ATTENTION OF

Operations Branch

Mr. Pat V. Phung, P.E.
Transportation Engineer
U.S. Department of Transportation
Federal Highway Administration
300 Ala Moana Boulevard, Room 3202
Honolulu, Hawaii 96850

Dear Mr. Phung:

This letter is in regards to the Kihei-Upcountry Maui Highway project located in Maui, Hawaii.

Based on information contained in the Environmental Assessment and a meeting held on February 9, 1999 with Mr. Farley Watanabe of my staff, Mr. Steven Chang, State DOT and yourself, it was determined that a Department of the Army permit would be required. The proposed project appears to have minor environmental impacts, therefore could possibly be authorized under Nationwide Permit #14, Road Crossing. In addition, a Coastal Zone Management Federal Consistency determination from the Office of Planning will be required. The State Department of Health has issued a blanket Section 401 Water Quality Certification for this NW permit and a Best Management Plan addressing any discharge of fill material into intermittent streams will need to be submitted.

File number 990000206 has been assigned to this project. Please refer to this number in any future correspondence with this office. Should you have additional questions or need further information, you may call Mr. Watanabe at 438-9258, extension14.

Sincerely,

George P. Young, P.E.
Chief, Operations Branch

Copy furnished:

Clean Water Branch, Environmental Management Branch, Honolulu, Hawaii
DLNR, State Historic Preservation Office, Honolulu, Hawaii
DBEDT, Office of Planning, Coastal Zone Management Office, Honolulu, Hawaii
U.S. Fish and Wildlife Service, Honolulu, Hawaii
Environmental Protection Agency, Honolulu, Hawaii

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Hawaii Division
300 Ala Moana Blvd., Room 3-306
Honolulu, HI 96850
January 29, 2001

IN REPLY REFER TO
HEC-HI

Mr. David W. Blane, Director
Office of Planning, Department of Business, Economic
Development and Tourism
Hawaii Coastal Zone Management Program
P.O. Box 2359
Honolulu, HI 96804

Subject: Kihei-Upcountry Maui Highway, Federal Activity Consistency,
Hawaii Coastal Zone Management (CZM) Program

Dear Mr. Blane:

We have enclosed for your review a CZM Program Assessment Form for the above Federal-aid highway project. The proposed project is located within the States's CZM area. As required by 15 CFR 930.32, federal activities undertaken in or affecting Hawaii's coastal zone must be consistent with the State's CZM objectives and policies.

The Draft Environmental Impact Statement for this project was completed in July 1999. We provided your office with a copy of this Draft EIS for your review. The Final EIS is expected to be completed by this spring, so we are requesting a CZM Consistency Determination prior to issuance of the Final EIS.

If there are any questions or comments, please call me at 541-2700 ext. 302. We appreciate your assistance in making the determination.

Sincerely yours,

Domingo Galicinao, P.E.
Structural Engineer

Enclosures

cc: Jason Yazawa, Parsons Brinckerhoff Quade & Douglas, Inc.
Wayne Kawahara, HWY-P

HAWAII COASTAL ZONE MANAGEMENT PROGRAM

ASSESSMENT FORM

For

Kihei-Upcountry Maui Highway
Maui County, Hawaii

Submitted To:

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM
Office of Planning
Coastal Zone Management Program

Submitted By:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

And

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

November 2000

INTRODUCTION

This assessment describes the impacts that the proposed Kihei-Upcountry Maui Highway project would have on recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, beach protection, and marine resources. These topics areas were reviewed to assess the project's conformance with Hawaii's Coastal Zone Management (CZM) program.

The State of Hawaii Department of Transportation (SDOT) and the Federal Highway Administration (FHWA) propose to construct a two-lane limited access highway connecting the Upcountry area of East Maui with the coastal Kihei area. The purposes of the project are the following:

- improve Maui's roadway system by providing a direct link between Upcountry Maui and the Kihei-Makena region;
- support further economic development of the established visitor industry, and the growing "high technology" industry centered at the Maui Research and Technology (R&T) Park in Kihei and Science City on the summit of Haleakala;
- address vehicular capacity deficiencies of existing highways;
- satisfy the increasing travel demand of Maui's growing population;
- promote the national interest as expressed through a legislative directive supporting research activities being conducted at the Maui R&T Park and Science City; and
- increase the coastal evacuation capacity of the Kihei-Makena region.

Construction of a two-lane highway is proposed initially because projections indicate that two lanes will be sufficient to accommodate travel demand in the design year, 2020. However, right-of-way will be acquired for a four-lane highway. The width of the right-of-way will be at least 160 feet in rural areas and at least 120 feet in urban areas. The precise width of the right-of-way at a given point will depend on local terrain features. Along most of the alignment, earthwork will only be done for a two-lane roadway. However, where the highway crosses certain gulches, and where an urban design (provision of gutters, sidewalks, etc.) is proposed, earthwork for the ultimate four-lane configuration will be conducted during the initial construction phase.

The alignments that were considered in this project's Draft Environmental Impact Statement (EIS) are the eight possible combinations of four Upcountry and two Kihei termini options (see Figures 1 and 2). The Kihei termini and segments are named K1 and K2, and the Upcountry termini and segments are named U1, U2-A, U2-B and U3. Both of the makai terminus options in Kihei fall on the mauka boundary of the Special Management Area (see Figure 3). A No-Build alternative was also considered. Brief descriptions of the build alternatives are provided below:

1. Alternative U1,K1. This alternative would start at the Haleakala Highway / Haliimaile Road intersection in Upcountry and follow a south to southwest alignment to the Kaonoulu Street / Piilani Highway intersection. The length of this alternative is approximately 9.8 miles.

2. Alternative U1,K2. This alternative shares the same Upcountry terminus as Alternative U1,K1. However, this alternative would proceed southwest to the Ke Alii Alanui Street / Piilani Highway intersection. The length of Alternative U1,K2 is approximately 10.9 miles.

3. Alternative U2-A,K1. This alternative would extend from the Pukalani Bypass / Haleakala Highway / Kula Highway "Five Trees" intersection in Upcountry, and follow a generally west to southwest alignment to the Piilani Highway / Kaonoulu Street intersection in Kihei. The length of this alternative is approximately 9.8 miles.

4. Alternative U2-A,K2. This alternative would extend from the "Five Trees" intersection to the Ke Alii Alanui Street / Piilani Highway intersection. The length of this alternative is approximately 10.9 miles.

5. Alternative U2-B,K2. This alternative would extend west from a point on Kula Highway approximately 2 300 feet south of the "Five Trees" intersection. The alignment runs parallel to Segment U2-A for about 10,000 feet, and then joins the U2-A alignment. This alternative's Kihei terminus is at the Piilani Highway / Kaonoulu Street intersection. The length of this alternative is approximately 9.6 miles.

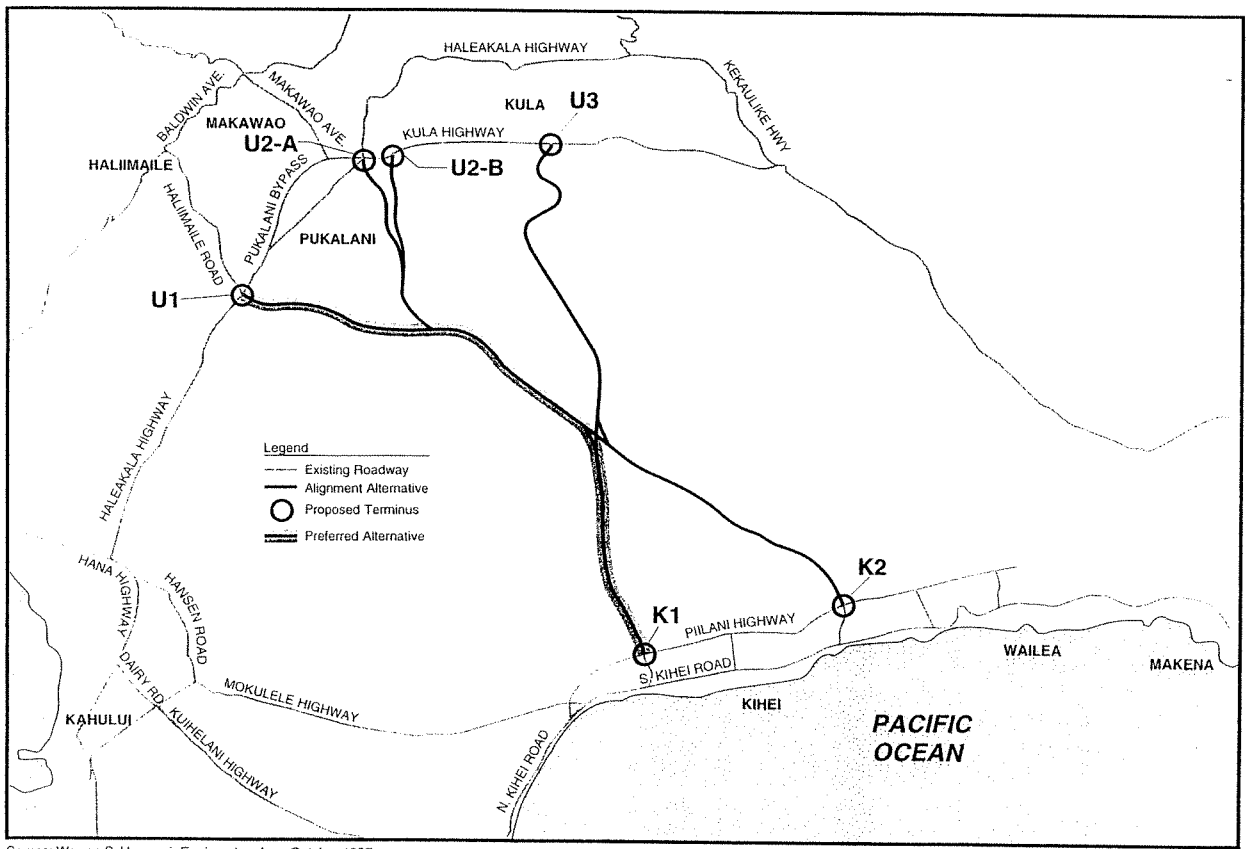
6. Alternative U2-B,K2. This alternative shares the same Upcountry terminus as Alternative U2-B,K1. This alternative's Kihei terminus is at the Piilani Highway / Ke Alii Alanui Street intersection. The length of this alternative is approximately 10.8 miles.

7. Alternative U3,K1. This alternative would extend west from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway / Kaonoulu Street intersection in Kihei. The length of this alternative is approximately 9.0 miles.

8. Alternative U3,K2. This alternative shares the same Upcountry terminus as Alternative U3,K1. This alternative's Kihei terminus is at Piilani Highway / Ke Alii Alanui Street. The length of this alternative is approximately 10.0 miles.

The Department of Business, Economic Development and Tourism, Office of Planning, Coastal Zone Management Program was mailed a copy of the Draft EIS for this project. Please refer to the Draft EIS for additional information.

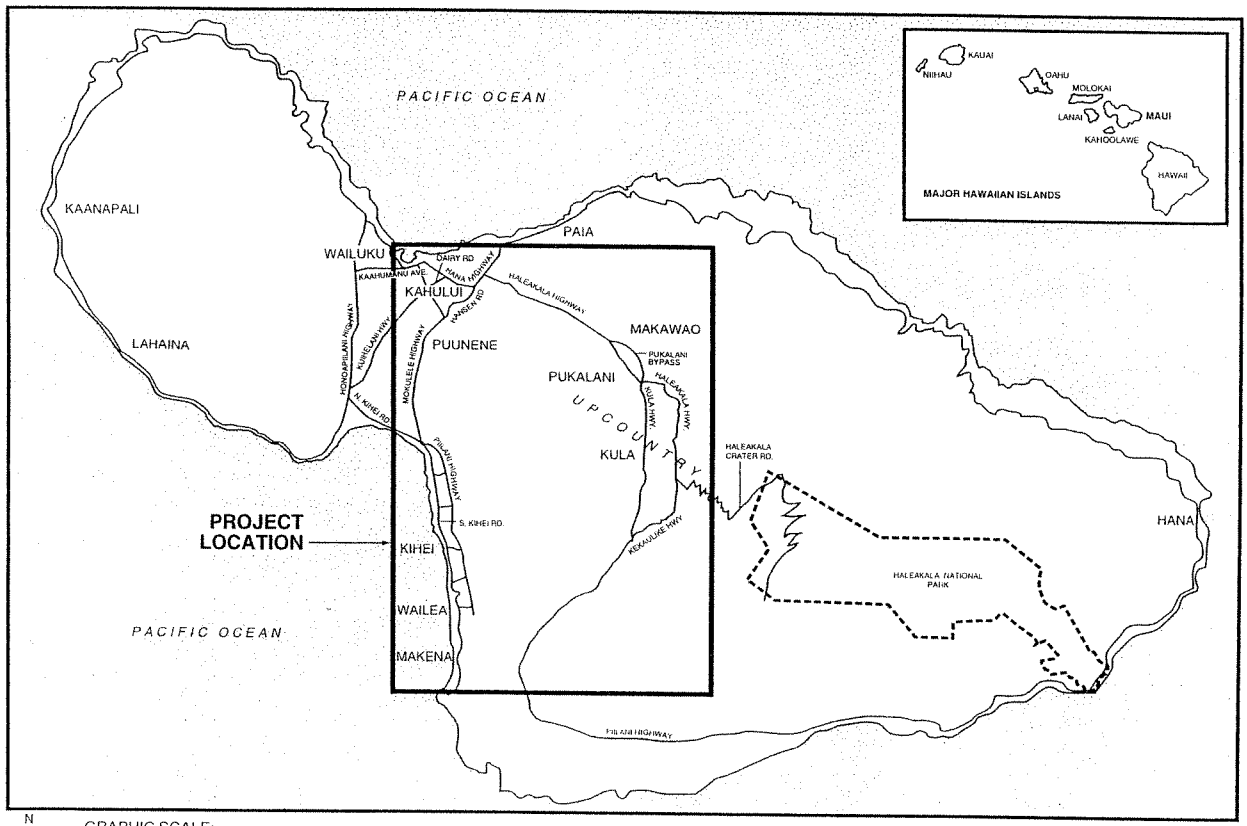
After analyzing a wide range of factors including cost, transportation benefits, potential environmental impacts, comments received on the Draft EIS, conformance with government plans and policies, and community sentiment, SDOT selected the U1,K1 alignment as the preferred alternative. The FHWA approved this decision. The forthcoming Final EIS will identify the U1,K1 alignment as the preferred alternative. The selection of the preferred alternative was announced through the island of Maui news media.



Source: Warren S. Unemori, Engineering, Inc., October 1997

GRAPHIC SCALE:
0 1 km 2 km 3 km
0 1 mi. 2 mi.

Proposed Alternatives and the Preferred Alternative
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 2



N
GRAPHIC SCALE:
0 4 km 8 km
0 3 mi. 6 mi.

Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 1

RECREATION RESOURCES

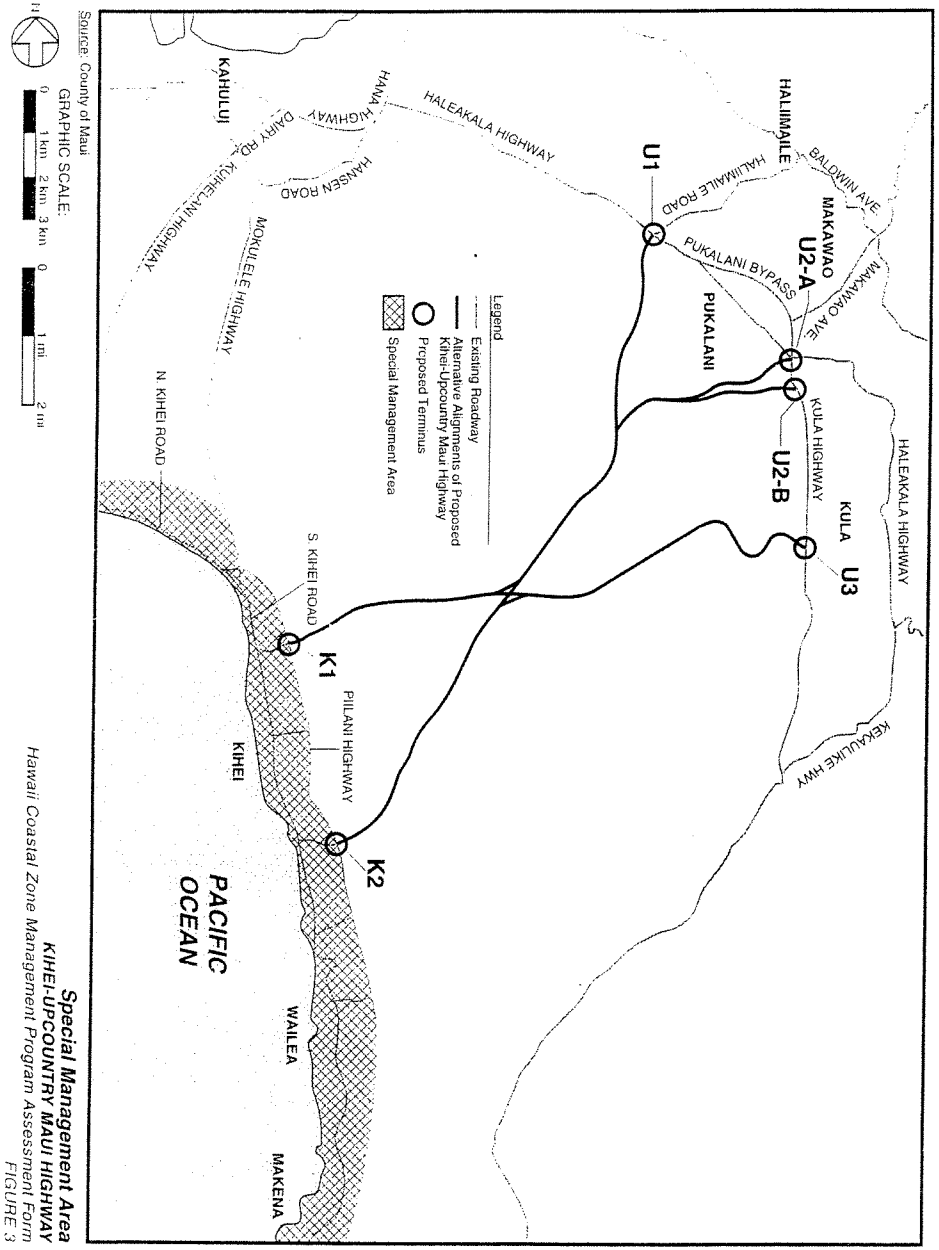
Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

1. Improve coordination and funding of coastal recreation planning and management.
2. Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
   a) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
   b) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites and sandy beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;
   c) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
   d) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
   e) Encouraging expanded public recreational use of County, State and Federally owned or controlled shoreline lands and waters having recreational value;
   f) Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal waters;
   g) Developing new shoreline recreational opportunities, where appropriate, such as artificial reefs for surfing and fishing; and
   h) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, County planning commissions; and crediting such dedication against the requirements of Section 46-6.

Check either "Yes" or "No" for each of the following questions

	Yes	No
1. Will the proposed action involve or be near a dedicated public right-of-way?	X	
2. Does the project site abut the shoreline?		X



Special Management Area
KIHEI-UPCOUNTRY MAUI HIGHWAY
Hawaii Coastal Zone Management Program Assessment Form
FIGURE 3

APPENDIX D

Environmental Assessment

KIHEI-UPCOUNTRY MAUI HIGHWAY ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to
Chapter 343, Hawaii Revised Statutes (HRS)

Prepared for:
State of Hawaii Department of Transportation (SDOT)
Highways Division

The following person may be contacted for additional information concerning this document:

Mr. Kazu Hayashida, Director
State of Hawaii, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
(808) 587-2150

Prepared by:

Warren S. Unemori Engineering, Inc.
2145 Wells Street, Suite 403
Wailuku, Maui, Hawaii 96793

Parsons Brinckerhoff Quade & Douglas, Inc.
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, Hawaii 96813

May 1995

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FIGURES

TABLE

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

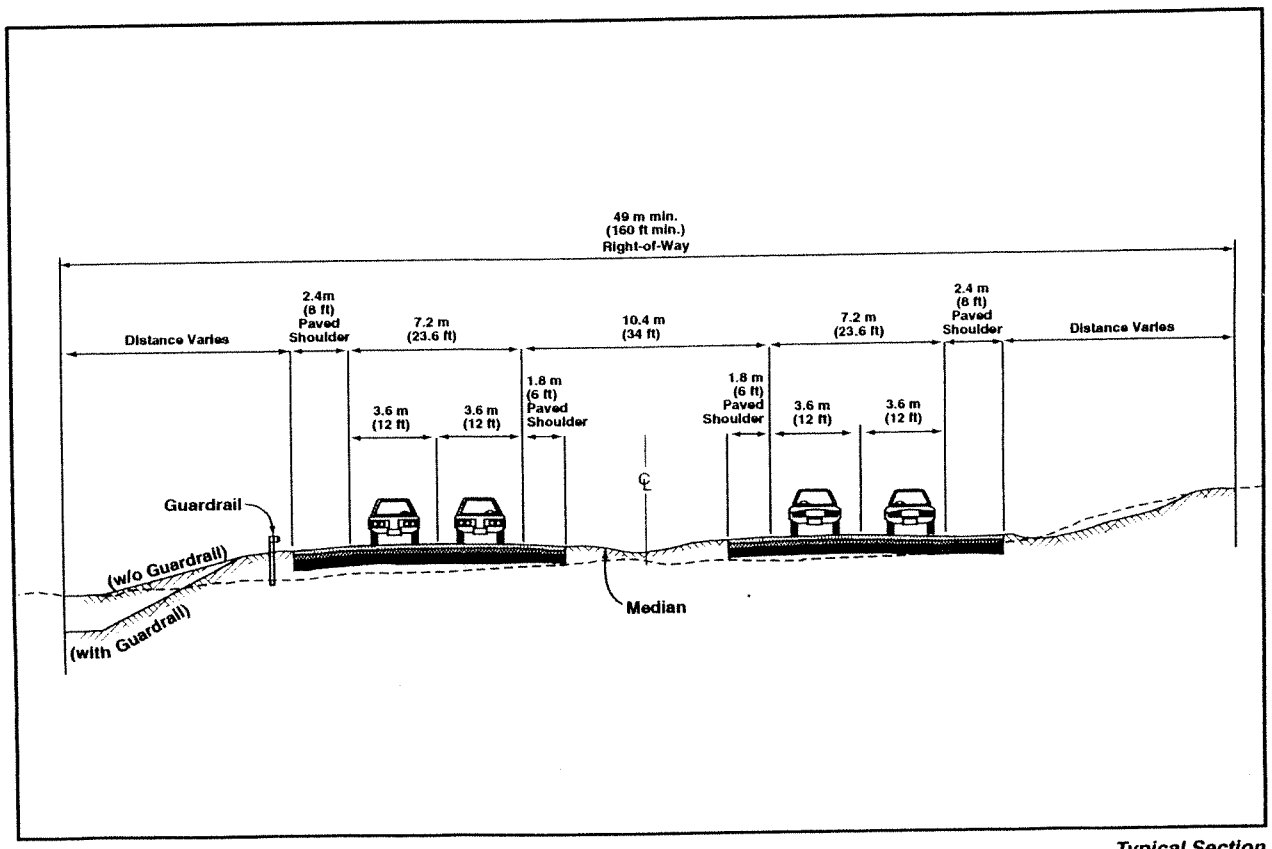
The Highways Division of the State of Hawaii Department of Transportation (SDOT) is filing this Environmental Assessment (EA) with the Office of Environmental Quality Control (OEQC) as the lead local agency for the Kihei-Upcountry Maui Highway project.

Figure 1-1 shows the general project location in Maui County, Hawaii. The proposed highway would connect Piilani Highway with either Haleakala Highway or Kula Highway within an area bounded on the east by Haleakala and Kula Highways, starting at the Haleakala/Haliimaile Road intersection, continuing south past the Kula Sanitarium, toward Ulupalakua, and turning northwest to adjoin Piilani Highway, the western boundary of the area.

The proposed project would be a rural, limited access arterial roadway between the coastal area of Kihei and Upcountry Maui. Design speeds would vary along the roadway depending on the terrain, as indicated below:

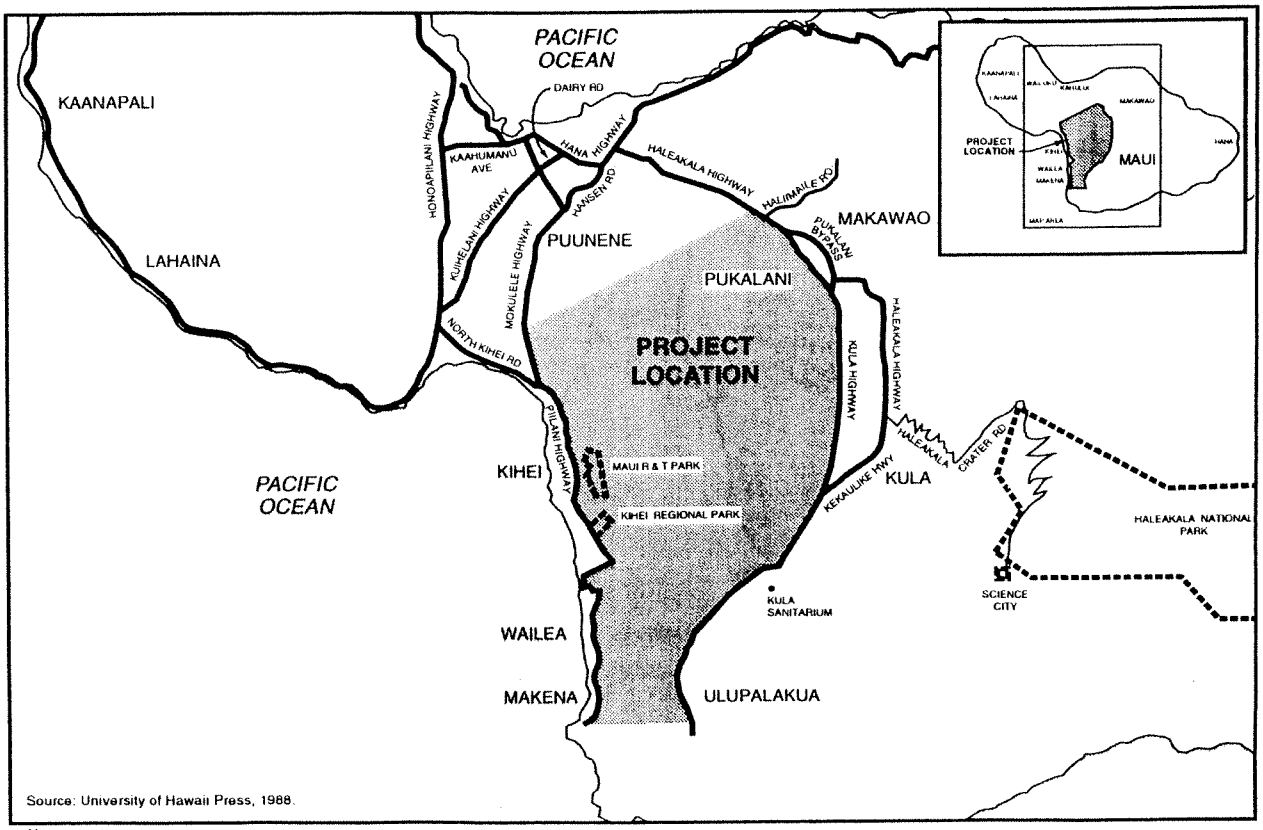
- Level Terrain — 100 km/h (62 mph)
- Rolling Terrain — 80 km/h (50 mph)
- Mountainous Terrain — 60 km/h (37 mph)

Depending on the alignment selected, the roadway length would range from 14.3 kilometers (8.9 miles) to 17.0 kilometers (10.6 miles) in an east-west (mauka-makai) direction. The minimum width of the roadway right-of-way would be 49 meters (160 feet) and would include two 3.6 meter (12.0-foot) lanes in each direction and a 6.8 meter (22.2-foot) median. The roadway shoulders would be paved, with a 1.8 meter (6.0-foot) shoulder between the median and the travel lane, and a 2.4 meter (8.0-foot) shoulder outside of the roadway (see Figure 1-2). Although the highway would ultimately have four lanes, an interim phase may be constructed initially which would consist of one through-lane in each direction and a truck climbing lane in the eastern (mauka) direction.



Not to Scale

Typical Section
KIHEI-UPCOUNTRY MAUI HIGHWAY
Environmental Assessment
FIGURE I-2



Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Environmental Assessment
FIGURE 1-1

The planning phase of the project is projected for completion by September 1996; final design would occur from 1997 to 1999; and construction would begin in 1999 and be completed by 2003. The estimated cost of the project is $50 million.

Upon completion, the highway would satisfy the following four needs: roadway system linkage; existing and projected transportation demand and capacity requirements; economic development requirements; and legislative mandates.

1.2 Roadway System Linkage Needs

There is a need to provide more efficient travel between the Maui Research and Technology (R&T) Park in Kihei and the related scientific facilities at the summit of Haleakala, called Science City. Currently, motorists must traverse Piilani Highway, Mokulele Highway, Puunene Highway, Hansen or Dairy Road, Hana Highway, Haleakala Highway, and finally Haleakala Crater Road to travel from Kihei to Science City. A new highway would provide a more direct route and reduce the 72 kilometer (45-mile) journey by approximately 15.3 kilometers (9.5 miles). In addition to facilitating trips between Kihei and Science City, a more direct roadway would facilitate travel between Kihei and the Upcountry area.

1.3 Transportation Demand and Capacity Needs

The Kula-Kihei Road Study Travel Demand Forecast and Benefit Cost Analysis (1989) estimated existing and future levels of travel demand between Kihei and Upcountry. This study identified a roadway alignment with a benefit/cost ratio greater than one.

Subsequently the Maui Long-Range Highway Planning Study Island-Wide Plan (1991) (hereinafter referred to as the Maui Long-Range Plan) identified several areas where roadway and intersection capacity was deficient, including the Hana Highway/Haleakala Highway intersection. Based on 1987 traffic data collected by SDOT, this study concluded that Haleakala Highway southeast (mauka) of this intersection exceeds a volume/capacity (v/c) ratio of 90 percent during both the a.m. and p.m. peak hour travel periods, producing a level of service (LOS) of E[1] during these periods. The segment of Hana Highway

[1] LOS E and F indicate near congested and congested levels of operation, respectively.

southwest of Haleakala Highway operates at LOS F in the outbound direction during the p.m. peak hour.

Since the completion of the 1991 Maui Long-Range Plan, SDOT has monitored traffic conditions at the Hana Highway/Haleakala Highway intersection on a biennial basis. The latest traffic data were collected in June 1993. These data indicate that daily traffic volume on Haleakala Highway southeast of the Hana Highway/Haleakala Highway intersection has grown approximately 24 percent since 1987, and daily traffic volume on Hana Highway southwest of this intersection has grown approximately 29 percent. Given the levels of congestion in 1987, the 1993 data indicate that congestion has worsened substantially. The proposed highway would help alleviate existing and projected future traffic congestion by providing more roadway capacity between Kihei and the Upcountry area.

1.4 Economic Development Needs

Projected economic growth in West and South Maui is expected to result in the Kihei-Makena area becoming one of the island's major employment centers. The number of jobs in this area is expected to increase from 5,644 in 1987 to 19,353 in 2010 (Maui County Community Plan Update Program, Socio-Economic Forecast Report (Volume 1), 1994 -- hereinafter referred to as the Maui County Community Plan). Growth in the visitor industry is expected to stimulate most of this 83 percent growth.

Population increases in Kihei-Makena are not expected to be sufficient to fully satisfy the local labor market, however. Most of the population increases are expected in the Wailuku -Kahului and Upcountry areas. According to the Maui County Community Plan, population in the Wailuku-Kahului area is expected to increase from 29,839 in 1987 to 48,132 in 2010 (61 percent). Likewise, population in the Upcountry area (Makawao-Pukalani- Kula) is expected to increase by 41 percent, from 17,339 in 1987 to 24,613 in 2010. Consequently, increased commuter travel is expected between the employment center (Kihei) and the growing residential communities of Upcountry and Wailuku-Kahului.

In addition, the average daily visitor count for Maui is expected to increase by 122 percent between 1987 and 2010, from 32,195 to 71,520 visitors (Maui County Community Plan).

Therefore, visitor travel, such as trips between Kihei, Upcountry and Haleakala National Park, is expected to increase.

The proposed highway would help satisfy future economic demands by linking the growing residential area of Upcountry with the growing labor market of Kihei, and by facilitating growing volumes of tourist travel.

1.5 Legislative Mandate

Federal funding for this project was appropriated because the highway would provide an improved connection between defense-related activities at the Maui R&T Park in Kihei and Science City at the Haleakala summit.

2.0 PROPOSED PROJECT ALTERNATIVES

The No Build alternative, one transportation system management (TSM) and public transit alternative, and ten Build alternatives are considered in this EA. Section 3.0 of this EA discusses the possible level of impact associated with the Build alternatives.

2.1 No Build Alternative

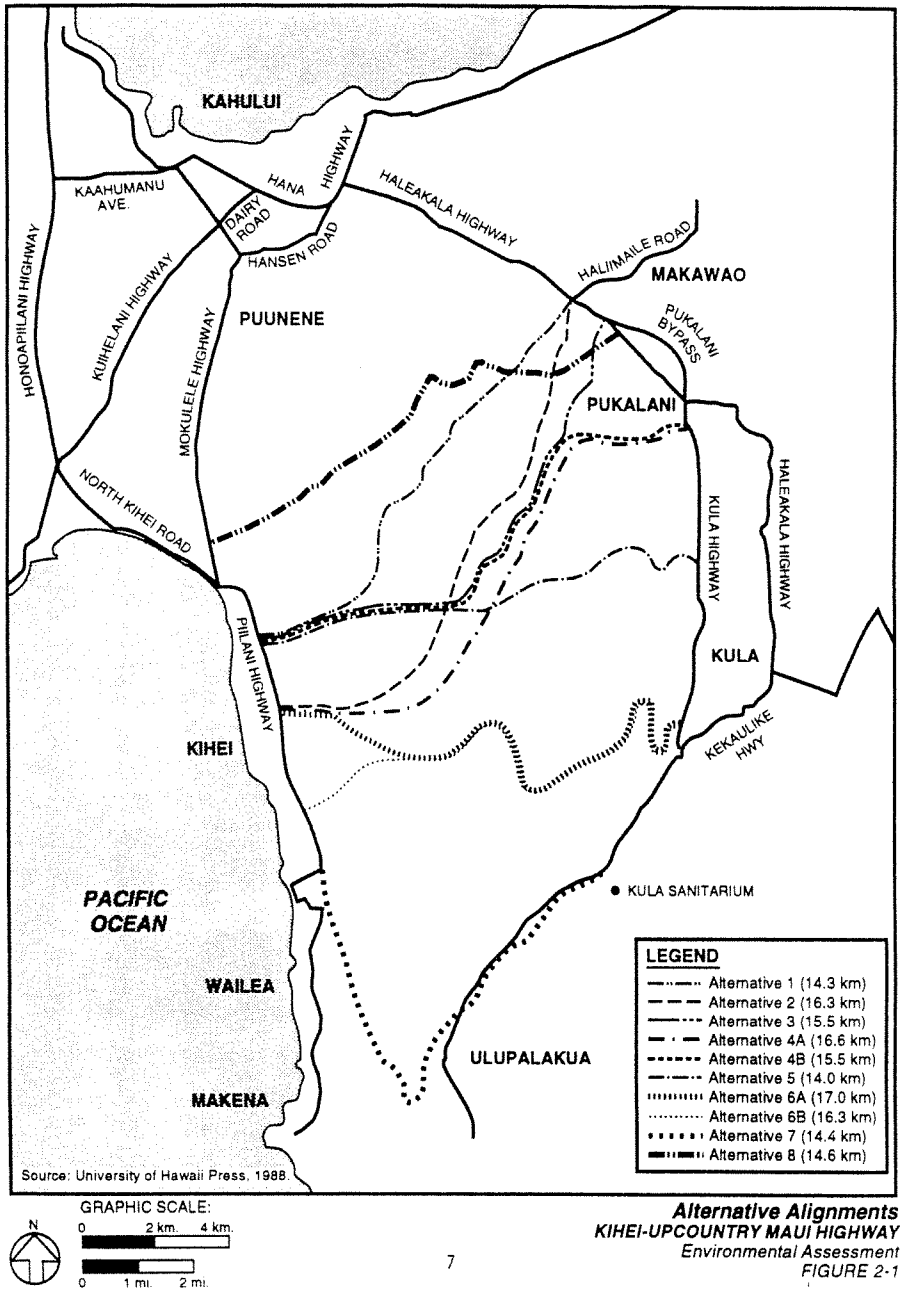
The No Build alternative consists of those roadway improvements apart from this project that are expected to be implemented by 2022 as stated in the Maui Long-Range Plan.

2.2 Transportation System Management (TSM) and Public Transit Alternative

The TSM and public transit alternative to the project would consist of implementing transit or para-transit systems in the region and selected transportation control measures (TCMs), such as High Occupancy Vehicle (HOV) lanes and ridesharing programs. New roadways would not be built.

2.3 Build Alternatives

Ten alignments are being considered in this EA (see Figure 2-1). The Build alternatives are numbered 1 through 8, and include 4A, 4B, 6A, and 6B. These alignments were generated from:



Alternative Alignments
KIHEI-UPCOUNTRY MAUI HIGHWAY
Environmental Assessment
FIGURE 2-1

- alignments that were proposed in prior studies and reports;
- a new examination of the study area; and
- other input provided to SDOT through scoping activities that have occurred to date.

Study of a Kihei-Upcountry Highway began more than 20 years ago when, in 1970, the County studied the feasibility of a road between Upcountry and Kihei. The next study, the County of Maui Toll Road Study (1988), developed Alternatives 5, 6B, and 7. The next study, the Maui Long-Range Plan (1991), developed Alternative 3. Alternatives 1, 2, 4, and 6A were derived from the eight alternatives contained in the State/County Joint Task Force Upcountry/Kihei Highway Final Report (1993). Alternatives 4B and 8 were developed subsequently to link more roadway termini.

The alternatives are described below:

- Alternative 1. This alignment would extend from the Haleakala Highway/Haliimaile Road intersection in the Upcountry area to Piilani Highway/Kaonoulu Street in Kihei. The minimum horizontal radius would be 610 meters (2,000 feet). The alignment's maximum grade would be 3.5 percent. This 14.3 kilometers (8.9-mile) alignment would traverse Agriculture zoned land, affecting five large agricultural parcels. Approximately 9.7 kilometers (6.0 miles) of the alignment would traverse cane fields.

  Alternative 2. This alignment would extend from the Haleakala Highway/Haliimaile Road intersection in the Upcountry area to the Maui R&T Park in Kihei. The minimum horizontal radius would be 915 meters (3,000 feet). The alignment's maximum grade would be 5.0 percent. This 16.3 kilometer (10.1-mile) alignment would traverse about 6.4 kilometers (4.0 miles) of cane field and would affect six large Agriculture zoned parcels

  Alternative 3. This alignment would extend from Haleakala Highway, between Haliimaile Road and Pukalani in the Upcountry area, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 535 meters (1,750 feet). The alignment's maximum grade would be 4.2 percent. This 15.5 kilometer (9.6-mile) alignment would affect approximately five large parcels zoned for Agriculture. The alignment would also skirt the east (mauka) edge of approximately 6.4 kilometers

(4.0 miles) of cane field. The uppermost portion of the alignment is immediately west of Urban zoned lands.

- Alternative 4A. This alignment would extend from Kula Highway, east of the Pukalani Bypass Road in the Upcountry area, to the Maui R&T Park in Kihei. The minimum horizontal radius would be 715 meters (2,350 feet). The alignment's maximum grade would be 6.7 percent. This 16.6 kilometer (10.3-mile) alignment would affect approximately 12 parcels, most of which are used for grazing. At least two parcels are being used for pineapple cultivation. All except the uppermost 1.5 kilometer (0.9 mile) of this alignment traverses agricultural lands. The uppermost portion traverses land designated for urban residential use in the Makawao-Pukalani-Kula Community Plan (1981).

- Alternative 4B. This alignment would extend from Kula Highway, east of the Pukalani Bypass Road in the Upcountry area, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 790 meters (2,600 feet). The alignment's maximum grade would be 6.6 percent. This 15.5 kilometer (9.6-mile) alignment would affect approximately 8 parcels, most of which are used for grazing. At least two parcels are being used for pineapple cultivation. All except the uppermost 1.5 kilometer (0.9 mile) of this alignment traverses agricultural lands. The uppermost portion traverses land designated for urban residential use in the Makawao-Pukalani-Kula Community Plan (1981).

- Alternative 5. This alignment would extend from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 275 meters (900 feet). The alignment's maximum grade would be 6.8 percent. This 14.0 kilometer (8.7-mile) alignment would affect approximately eight parcels zoned as Agriculture land. One parcel near the Kula terminus is in pineapple cultivation, and another is being utilized for truck farming. The other parcels are used for grazing.

- Alternative 6A. This alignment would extend from Kula Highway, approximately 1.2 kilometers (0.5 mile) north of the Kekaulike Highway/Kula Highway intersection in Kula,

to the Maui R&T Park in Kihei. The minimum horizontal radius would be 245 meters (800 feet). The topography is fairly steep and would require switch backs in order to keep maximum grade below 6.8 percent. This 17.0 kilometer (10.6-mile) alignment would traverse five parcels, two of which are owned by the Department of Hawaiian Home Lands.

- Alternative 6B. This alignment would extend from Kula Highway, west of the Kekaulike Highway/Kula Highway intersection in Kula, to Piilani Highway, next to the Kihei Regional Park. The location of the Kihei terminus would be across from the proposed east-west collector (Kihei Traffic Master Plan (1989)). The minimum horizontal radius would be 245 meters (800 feet). The topography is fairly steep and would require switch backs in order to maintain a maximum grade of 7.0 percent. This 16.3 kilometer (10.1-mile) alignment would traverse five parcels, two of which are owned by the Department of Hawaiian Home Lands.

- Alternative 7. This alignment would connect Kula Highway to Piilani Highway by extending Kula Highway south from the Kula Sanitarium to Ulupalakua, and turning northwest toward Piilani Highway. The minimum horizontal radius would be 150 meters (500 feet). The grade of this alignment between the Kihei terminus and Ulupalakua would be nearly the 7.0 percent maximum desired grade. The 14.4 kilometer (8.9-mile) alignment would traverse approximately 12 parcels. In order to meet current highway safety standards, about 6.0 kilometers (3.7 miles) of the existing substandard section of road between Ulupalakua and the Sanitarium would be reconstructed.

- Alternative 8. This alignment would extend from Haleakala Highway below Pukalani to Mokulele Highway, along the old Government right-of-way. The minimum horizontal radius would be 60 meters (200 feet). The maximum grade along the existing alignment would be about 10.0 percent. This 14.6 kilometer (9.1-mile) alignment would traverse 13.6 kilometers (8.5 miles) of cane land.

3.0 IMPACTS

Adverse and beneficial impacts would result from the construction of the Kihei-Upcountry Highway. The following sections summarize the current understanding of potential impacts.

3.1 Social and Economic Activity

Construction and operation of the Kihei-Upcountry Highway would potentially affect the following components of the existing social and economic conditions:

- residential communities;
- land use values;
- commercial activities, including agriculture and tourism; and
- transportation service.

Although no residential relocations would be required for any of the Build alternatives, the Kihei-Upcountry Highway would potentially affect the character of existing residential areas, particularly Upcountry. Facilitation of access to this area, and increased traffic volumes, could be perceived as incongruent with the current character of the Upcountry area. However, even without the proposed roadway, the population of Makawao-Pukalani-Kula is projected to increase by 41 percent between 1987 and 2010. Therefore, some change in the character of this area seems inevitable regardless of the roadway. In addition, the highway could enhance access to Hawaiian Home Lands located in the eastern portion of the project area, thus helping to satisfy residential demand.

The highway could also increase land values in the area by enhancing circulation and access, providing potential access to new areas, and increasing the highest and best use of lands adjacent to the roadway.

The roadway would encourage tourist activity by enhancing access to popular tourist destinations, such as Upcountry and Haleakala. The enhancement of access would facilitate other types of economic activities as well.

Although agricultural activities on or immediately adjacent to the roadway alignment could be adversely impacted, agricultural activity in the general area may be enhanced by providing a more direct route between agricultural areas and the Kihei urban center.

Another beneficial economic impact would be the expenditure of approximately $50 million of construction funds.

Although the Kihei-Upcountry Highway would have beneficial impacts on residential, commercial, and tourist activities, and increase business opportunities by enhancing accessibility, regional circulation, and the level of transportation service, the full range of social and economic impacts of the project are presently unknown. Therefore, further study is appropriate to better determine the potential level of impact.

3.2 Traffic

The project would create new intersections and roadway crossings and produce a redistribution of traffic volumes on roadways in the region. More detailed traffic studies must be performed to better understand the potential level of impact.

3.3 Environmental Resources

3.3.1 Air and Noise

Construction of the highway would have localized, short-term air quality impacts, primarily caused by air-born particulate matter (dust). There would also be an air quality impact from vehicles on the new highway after the roadway opens.

Trucks, construction vehicles, and construction equipment would temporarily affect ambient noise levels, and after the roadway opens, traffic would affect ambient noise levels.

Additional analysis is necessary to determine the potential level of air quality and noise impacts.

3.3.2 Water Resources

Surface Water

Surface water resources in the area consist primarily of intermittent streams (gulches) within the project corridor. The more prominent gulches include:

- Kolaloa Gulch;
- Waiakoa Gulch;
- Kulanihakoi Gulch;
- Waipuilani Gulch; and
- Kaonoulu Gulch.

Although the roadway would cause surface water runoff to increase because of an increase in impermeable surface, with appropriate mitigation, the roadway is not expected to have an adverse impact on surface water resources in the vicinity. Mitigation measures would include maintenance of flow in the gulches at points where the proposed roadway crosses the gulches.

Wetlands

Wetlands are not expected to be encountered along any of the alignments.

Floodplains

According to Flood Insurance Rate Maps (FIRM), the project area is contained within Zone C, indicating that the land is prone to minimal flooding.

Special Management Area (SMA)

The proposed Kihei-Maui Highway would not be located within the County's Special Management Area (SMA).

Ground Water

Maui's four principal groundwater sources are fresh basal water, brackish basal water, dike-confined water, and perched water. With appropriate mitigation, the roadway is not expected to have an adverse impact on groundwater resources.

3.3.3 Farmlands

Agriculture is the dominant economic activity in the Upcountry area, a major vegetable and flower producing region of the State. Major crops include pineapple, cabbage, lettuce, onions, and ornamental flowers. There is also ranching activity, with 80 to 85 percent of the length of Alternatives 4B, 5, 6A, 6B, and 7 traversing lands presently used for grazing.

Agricultural areas within the footprint of the project would be converted to a transportation use. Access to agricultural areas could also be affected. One of the alternative alignments would divide a County agricultural park.

The roadway would traverse soils which have been ranked as "prime"[2] and "important"[3] by the federal and State Departments of Agriculture. "Prime" farmlands proposed for conversion to a transportation corridor, are subject to the Farmland Protection Policy Act.

Further study is required to evaluate the level of potential impact on current agricultural activities and "prime" and "important" farmlands.

3.3.4 Terrestrial Flora

Vegetation communities would be cleared for the roadway. However, it is expected that the vegetational communities which would be affected are abundant in the region.

[2] "Prime" agricultural land is land readily suited for the production of food, feed, forage and fiber crops. This quality of land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops.
[3] "Important" agricultural land is land of statewide or local value for the production of food, feed, fiber, and forage crops that do not qualify to be considered prime or unique due to various soil differences.

3.3.5 Endangered and Threatened Species

Information on the occurrence of endangered and threatened species was requested from the U.S. Fish and Wildlife Service (FWS) on September 1, 1994. In October, the U.S. FWS indicated that there are no endangered, threatened, or candidate species of birds recorded in the project area. However, an October 25, 1994 letter from the National Park Service identified "lowland dry forests...that contain a number of listed or proposed endangered plant species recognized by the U.S. FWS." Therefore, a botanical survey and a biological assessment may be necessary to determine the presence of any listed or proposed endangered species, and the potential impact of the project on such species.

3.3.6 Historic and Archaeological Resources

The State Historic Preservation Division (SHPD) has stated that few archaeological surveys have been conducted in the undeveloped areas between Kula and Kihei. However, a number of historic sites are known to exist in the gulches of Kula. These include:

- Hawaiian petroglyphs;
- burial caves;
- habitational shelters (occurring in Kaluapulani, Kalialinui, Pulehu, Hapapa, Waiakoa, and Alae Gulches); and
- heiau sites (occurring on ridges to the west of Kula Highway in Oma'opio, Waiakoa, Keokea, Waiohuli, Kaonoulu, and Kamaole).

In addition, the following traditional Hawaiian sites could occur in areas not previously disturbed by agricultural activities:

- east-west (mauka-makai) trails and associated temporary shelters;
- ahupua'a boundary walls;
- burial caves;
- special purpose resource gathering sites; and
- dry land agricultural features.

An archaeological inventory survey would be required to determine the potential level of project impact on archaeological resources. The discovery of such sites within the project area could lead to consultations with the SHPD, the Maui County Burial Council, the

Advisory Council on Historic Preservation, the Office of Hawaiian Affairs, Hui Malama I Na Kupuna O Hawai'i Nei, and other concerned parties.

3.3.7 Parklands and Preserves

Kihei Regional Park and Harold M. Rice Memorial Park are in proximity to the project area. The proposed highway is not expected to affect either park although Alternative 6B would be located immediately east of Kihei Regional Park, and Alternatives 6A and 6B would be adjacent to Rice Memorial Park. In general, the proposed highway would enhance access to the parks, and adverse impacts are not anticipated.

3.3.8 Visual and Aesthetic Setting

The Kihei area is primarily commercial and will be undergoing further urbanization, while the Upcountry area is generally rural. The proposed highway would be visible from both project termini, and would create new vistas for highway users. Depending on the alternative selected, the earthmoving required and the width of the construction zone would vary. After the establishment of the landscaping to be provided as part of the project, the project is not expected to alter viewsheds or have significant adverse visual impacts, and would create new vistas for highway users.

Enhancement of access to Upcountry could have an adverse impact on Kula's aesthetic setting, however. Some adverse impacts are expected in any case because of the population increase projected for the area.

In summary, the project's adverse visual impact, with mitigation, is expected to be minor, and would be offset by the creation of new vistas.

3.4 Permits

The following permits or approvals may be required prior to the construction of the highway. Additional permits and approvals may also be necessary.

State

- State Department of Health - National Pollutant Discharge Elimination System (NPDES) Permit (storm water from construction site)

- Office of State Planning - Coastal Zone Management Consistency Concurrence
- State Department of Land and Natural Resources - Historic Sites Review

County

- Department of Public Works - Grading, Grubbing, Stockpiling and Excavation Permit
- Department of Public Works - Permit for Excavation of Highway

4.0 DETERMINATION

In consideration of the information presented in Section 3.0, an Environmental Impact Statement (EIS) is deemed appropriate because the potential level of project impact in several areas is presently unknown and could be significant. Additional investigations are warranted and their results would be reported in the draft EIS. The potential need for mitigation measures would also be disclosed in the draft EIS.

The draft EIS would address all of the topics included in this EA. Based on the information analyzed to date, it is expected that the following areas would be emphasized:

- Social and Economic Activity;
- Traffic;
- Air and Noise;
- Farmlands;
- Endangered and Threatened Species;
- Historic and Archaeological Resources; and
- Visual and Aesthetic Setting.

In addition, the draft EIS would assess the alternatives described in Section 2.0 in more detail, and select from those the three most meriting detailed investigation in the draft EIS.

5.0 PUBLIC AND AGENCY COORDINATION AND CONCERNS

In May 1992, SDOT and the County of Maui appointed a joint task force to assist and advise in the planning of the Kihei-Upcountry Highway. In its final report, the Task Force provided conclusions and recommendations for the proposed roadway. Some of the concerns documented in that report included:

Table 5-1

PUBLIC AND AGENCY CONSULTATION

Agency	Sept. 1, 1994 Consultation Correspondence	Responded to Initial Consultation Correspondence	Invited to Attend Scoping Meeting	Attended Scoping Meeting
FEDERAL				
Army Corps of Engineers	X	X		
Department of Agriculture				
Soil Conservation Service	X			
Ag. Stabilization & Conservation Service			X	
Department of Defense	X			
Department of the Interior				
Fish and Wildlife Service	X		X	
Geological Survey	X		X	
National Park Service	X	X	X	
Department of Transportation Federal Aviation Administration	X			
Environmental Protection Agency (Pacific Islands Contact Office)	X		X	
STATE				
Department of Accounting and General Services	X			
Department of Agriculture				
Director			X	
Soil Conservation Service	X		X	
Department of Education	X			
Department of Business, Economic Development & Tourism	X			
Department of Hawaiian Home Lands				
Hawaiian Homes Commission	X			
Land Division	X		X	X
Maui District Office	X			
Department of Health (Environmental Management Division)	X		X	X

- directness to Haleakala;
- access to the Hawaiian Home Lands tract near Kekaulike;
- identification of existing areas of Hawaiian interest and reverence;
- safety of future intersections with secondary roads; and
- minimizing negative impacts on rural residential areas and farmlands.

SDOT initiated its consultation process on September 1, 1994, by issuing a letter to the agencies and individuals shown in Table 5-1. Responses to the September 1 correspondence identified the following key concerns:

- Alignment selection;
- Directness between the Maui R&T Park and Science City;
- Proposed highway termini;
- Land use and transportation impacts;
- Existing travel demand and traffic congestion;
- Improved commuter and tourist accessibility;
- Socio-economic impacts on existing communities;
- Disruption to agricultural lands and farming activities;
- Endangered species; and
- Archaeological features.

In addition, an EIS scoping meeting for governmental agencies was held on October 26, 1994. Invitations were mailed, and those agencies in attendance are shown in Table 5-1. Concerns raised at the scoping meeting included:

- Congestion at the Maui R&T Park/Piilani Highway intersection;
- Access to Hawaiian Home Lands;
- Farmland impacts; and
- Criteria to be used to select the three alternatives to receive detailed investigation in the draft EIS.

During preparation of the EIS, coordination with the agencies listed above would continue.

Table 5-1

PUBLIC AND AGENCY CONSULTATION
(continued)

Agency	Sept. 1, 1994 Consultation Correspondence	Responded to Initial Consultation Correspondence	Invited to Attend Scoping Meeting	Attended Scoping Meeting
Hawaiian Commercial & Sugar Company	X			
Kaonoulu Ranch Company	X			
Kihei Community Association	X			
Kihei-Upcountry Highway Task Force Committee	X	X		
Kula Community Association	X	X		
Ms. Laura Tamanaha	X			
Maui Chamber of Commerce	X			
Maui Land & Pineapple Company, Inc.	X			
Makawao Main Street Association	X			
Pukalani Community Association	X			
Shinwa International, Inc.	X			
Sports Shinko Company, Ltd.	X			

Table 5-1

PUBLIC AND AGENCY CONSULTATION
(continued)

Agency	Sept. 1, 1994 Consultation Correspondence	Responded to Initial Consultation Correspondence	Invited to Attend Scoping Meeting	Attended Scoping Meeting
Department of Land and Natural Resources				
Historic Preservation Division	X		X	
Director	X	X	X	
Maui Island Burial Council	X		X	
Division of Forestry & Wildlife	X		X	
Conservation and Environmental Affairs			X	
State Parks, Outdoor Rec & Historic Sites			X	
Office of Hawaiian Affairs	X			
Office of State Planning	X		X	
University of Hawaii Environmental Center	X	X		
COUNTY				
Department of Parks and Recreation	X		X	
Department of Public Works & Waste Management	X		X	X
Department of Water Supply	X		X	
Economic Development Agency	X			
Department of Planning	X		X	X
ELECTED OFFICIALS				
United States Senator Daniel K. Inouye	X			
State of Hawaii Senators	X			
State of Hawaii Representatives	X			
Mayor of Maui County	X	X		
Councilmembers of Maui County Council	X			
OTHER PARTIES				
Erehwon Ranch	X			
Haleakala Ranch Company	X	X		

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County of Maui, Department of Public Works, Kihei Traffic Master Plan. May 1991.

County of Maui, Makawao-Pukalani-Kula Community Plan, 1981.

State/County Joint Task Force Upcountry/Kihei Highway Final Report October 1993.

State of Hawaii, Department of Transportation and County of Maui, Department of Public Works and Department of Planning, Maui Long-Range Highway Planning Study, Final Report, May 1991.

Warren S. Unemori Engineering, Inc., Kula-Kihei Road Study Travel Demand Forecast and Benefit Cost Analysis, October 1989.

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APPENDIX E

Alternatives Analysis Report

KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT

Maui, Hawaii

ALTERNATIVES ANALYSIS
FINAL REPORT

Submitted to:

State of Hawaii Department of Transportation
and
Federal Highway Administration

Submitted by:

Warren S. Unemori Engineering, Inc.
and
Parsons Brinckerhoff Quade & Douglas, Inc.

January 1997

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EXECUTIVE SUMMARY AND FINDINGS

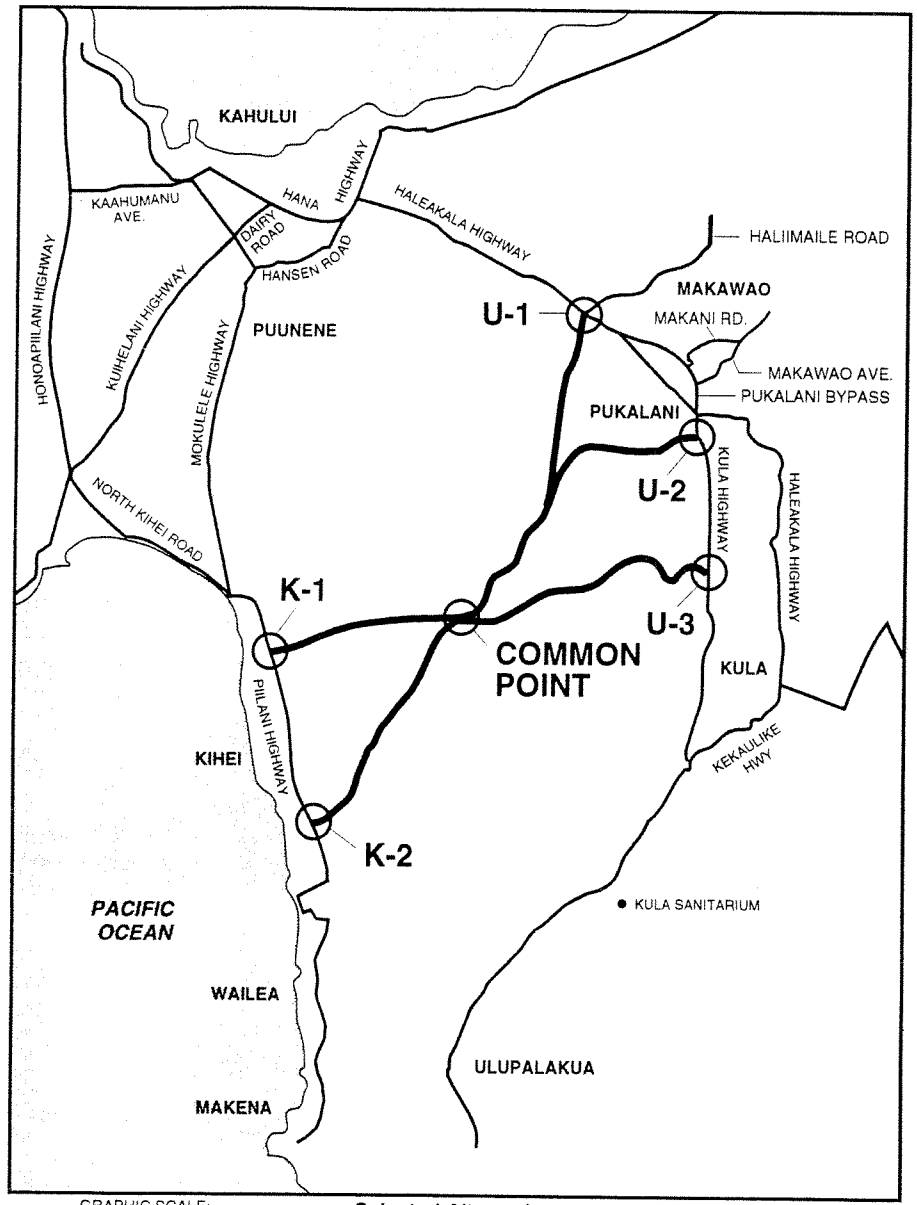
A two-tiered alternatives screening analysis was performed to evaluate alignment alternatives, a widening of adjacent roadways alternative and a transportation systems management (TSM) alternative for the Kihei-Upcountry Maui Highway Project, Maui County, Hawaii. The purpose of the screening was to eliminate alternatives that would have no chance of being selected as the preferred alternative, and to reduce the number of alternatives to a more limited number to receive detailed analysis in the project's draft environmental impact statement (EIS). The No-Build alternative was not evaluated in this screening analysis because it is automatically included in the draft EIS as a reference against which the project impacts are assessed. The No-Build alternative entails the recommended roadway improvements contained in the Maui Long Range Land Transportation Plan (Draft Final Report, February 1996), except for the proposed Kihei-Upcountry Highway.

Alternatives were developed from planning studies, scoping and public participation activities, and FHWA requirements. The screening criteria, developed from technical and planning documents and the project's public participation activities, were separated into two groups. The first group (tier one) consisted of "fatal flaw" criteria. An alternative had to satisfy all of these criteria to be considered under tier two, a group of criteria relating to the nature or degree of adverse or beneficial impact. An alternative did not have to satisfy all the tier two criteria to pass the evaluation.

Four alternatives passed the screening evaluation:

- Alternative 2B: Haliimaile Road/Haleakala Highway intersection to Kaonoulu Street/Piilani Highway intersection;
- Alternative 2C: Haliimaile Road/Haleakala Highway intersection to the proposed Road F /Piilani Highway intersection (south of the Kihei Regional Park);
- Alternative 4B: Kula Highway east of Pukulani Bypass Road to Kaonoulu Street/Piilani Highway intersection; and
- Alternative 5: Kula Highway south of Pulehu Gulch to Kaonoulu Street/Piilani Highway intersection.

The selection of these four alternatives, however, forced the consideration of two new alternatives produced by combining the mauka and makai portions of the alternatives passing the screening analysis (see Figure 1). Using the same alignment segments that passed the screening, the two new alternatives would link the proposed Road F/Piilani Highway intersection terminus with termini at Kula Highway east of Pukulani Bypass Road and Kula Highway south of Pulehu Gulch. Therefore, it is recommended that these two new alternatives join the four alternatives that passed the screening analysis and move forward for detailed analysis as the build alternatives in the forthcoming draft EIS. It is also recommended that the existing alternative naming system be changed to identify alternatives by their Upcountry and Kihei termini as shown on Figure 1.



Selected Alternatives' Termini and Alignment Segments
KIHEI-UPCOUNTRY MAUI HIGHWAY
Alternatives Analysis Final Report
FIGURE 1

1. INTRODUCTION

The proposed Kihei-Upcountry Highway would be located in Maui County, Hawaii (see Figure 2). The proposed highway would connect Piilani Highway and either Haleakala Highway or Kula Highway within a study area bounded on the east by Haleakala and Kula Highways, continuing south past the Kula Sanitarium, toward Ulupalakua, and turning northwest to join Piilani Highway, the western boundary of the study area.

The project would satisfy several goals:

- improvement of the connection between the Maui Research and Technology (R&T) Park and Science City, at the summit of Haleakala;
- establishment of a roadway linkage between Kihei and the Upcountry area;
- provision of additional roadway capacity to meet existing and future travel demand in the region; and
- provision of roadway infrastructure to accommodate projected growth and development.

2. PURPOSE OF REPORT

The purpose of this report is to:

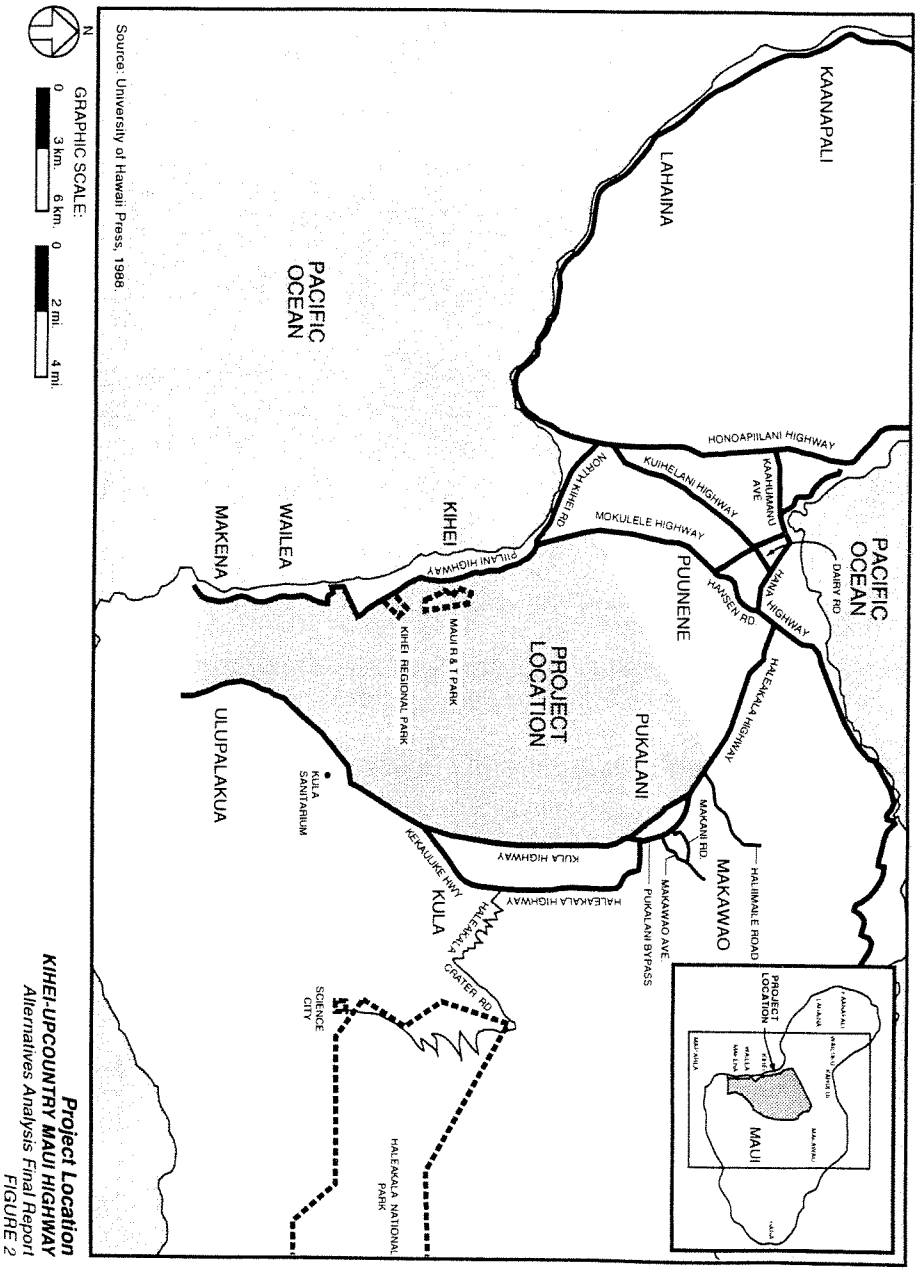
- restate the project alternatives that were identified in the project's Environmental Assessment (EA)(Kihei-Upcountry Maui Highway Environmental Assessment, May, 1995);
- examine whether input received through project scoping activities conducted since publication of the EA warrants the development of additional alternatives;
- present the methodology used to reduce the number of alternatives to be carried forward in the planning phase; and
- present the alternatives that have been selected for detailed study in the forthcoming draft EIS.

An evaluation of the No-Build alternative is not included in this report because this alternative is required to be analyzed in the project's draft EIS as reference against which the selected alternatives' impacts are assessed. The No-Build alternative includes the recommended roadway improvements contained in the Maui Long Range Land Transportation (Draft Final Report, February 1996) except for the Kihei-Upcountry Highway, and consists of primarily widening existing roadways.

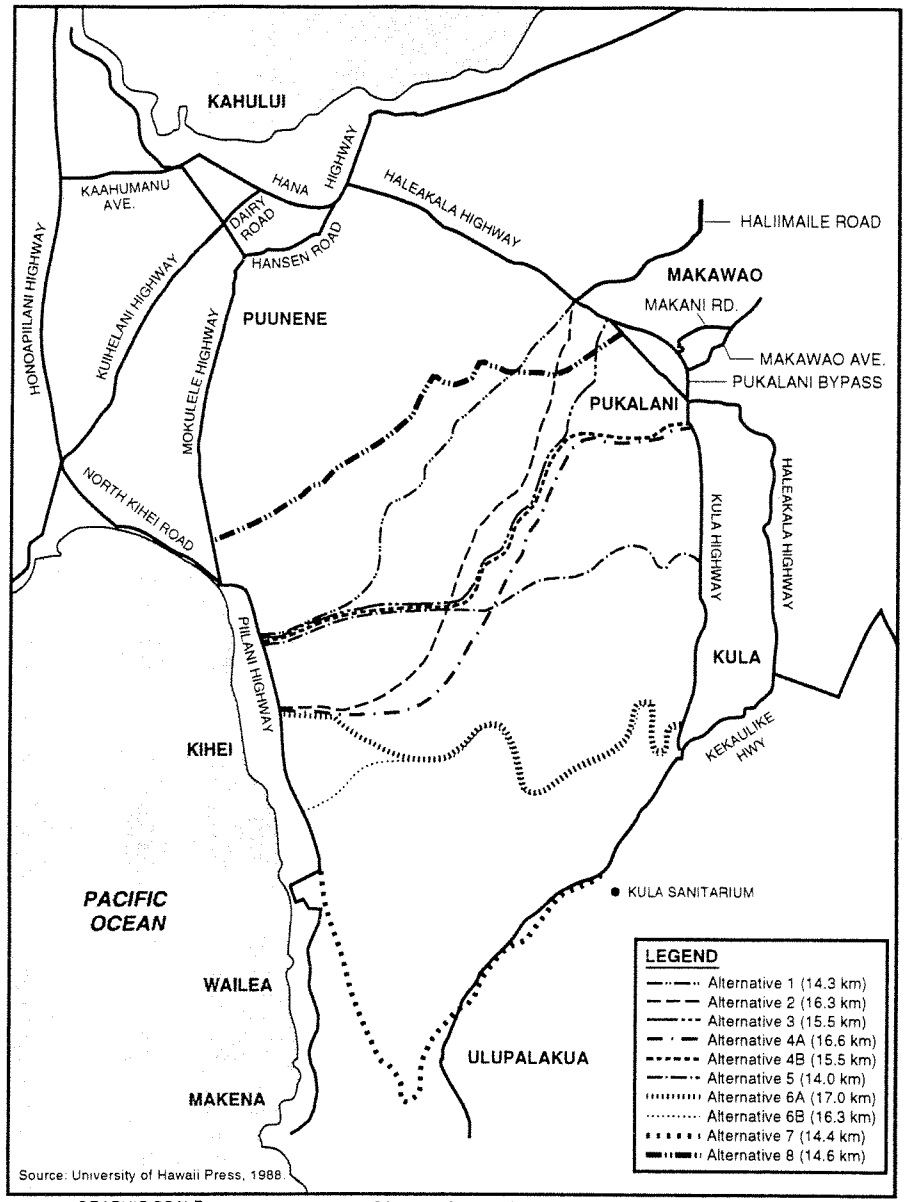
3. ALIGNMENT ALTERNATIVES

Ten alignment alternatives were developed during the public and agency scoping process that preceded the issuance of the project's EA (noticed in the OEQC Bulletin on September 23, 1995 and the Federal Register on September 22, 1995). Descriptions of these ten alignment alternatives (see Figure 3) are provided in the Appendix.

The alignment alternatives were developed from:



Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Alternatives Analysis Final Report
FIGURE 2



Alternatives of the Kihei-Upcountry Maui Highway EA
KIHEI-UPCOUNTRY MAUI HIGHWAY
Alternatives Analysis Final Report
FIGURE 3

- Prior studies and reports: The County of Maui Toll Road Study (1988) produced Alternatives 5, 6A, 6B, and 7. The Maui Long-Range Highway Planning Study (1991) contained Alternative 3. The State/County Joint Task Force Upcountry/Kihei Highway Final Report (October 1, 1993) contained Alternatives 1, 2, 4A, 4B, 6A and 6B.

- Scoping input received before the publication of the EA (May, 1995): Alternative 8, utilization of an abandoned government right-of-way, was suggested at an agency scoping meeting held in October, 1994.

Federal Highway Administration (FHWA) participation in this project requires that Transportation Systems Management (TSM) be considered among the alternatives. TSM would consist of implementing a transit system and/or augmenting Maui's para-transit system in the region and selected transportation control measures (TCMs), such as high-occupancy vehicle (HOV) lanes and ridesharing.

4. SCOPING ACTIVITIES FOLLOWING PUBLICATION OF THE EA

Four major scoping activities have taken place since publication of the EA: written comments generated in response to the EA; oral testimony given at two public information meetings held in October, 1995; testimony provided during a second round of public information meetings held in May 1996; and written comments following the May 1996 information meetings. Information received was reviewed to determine whether additional alternatives were warranted. Most of the testimony focused on the need for the project, its cost, or characteristics of specific alignments. Some comments suggested potential new alignment alternatives.

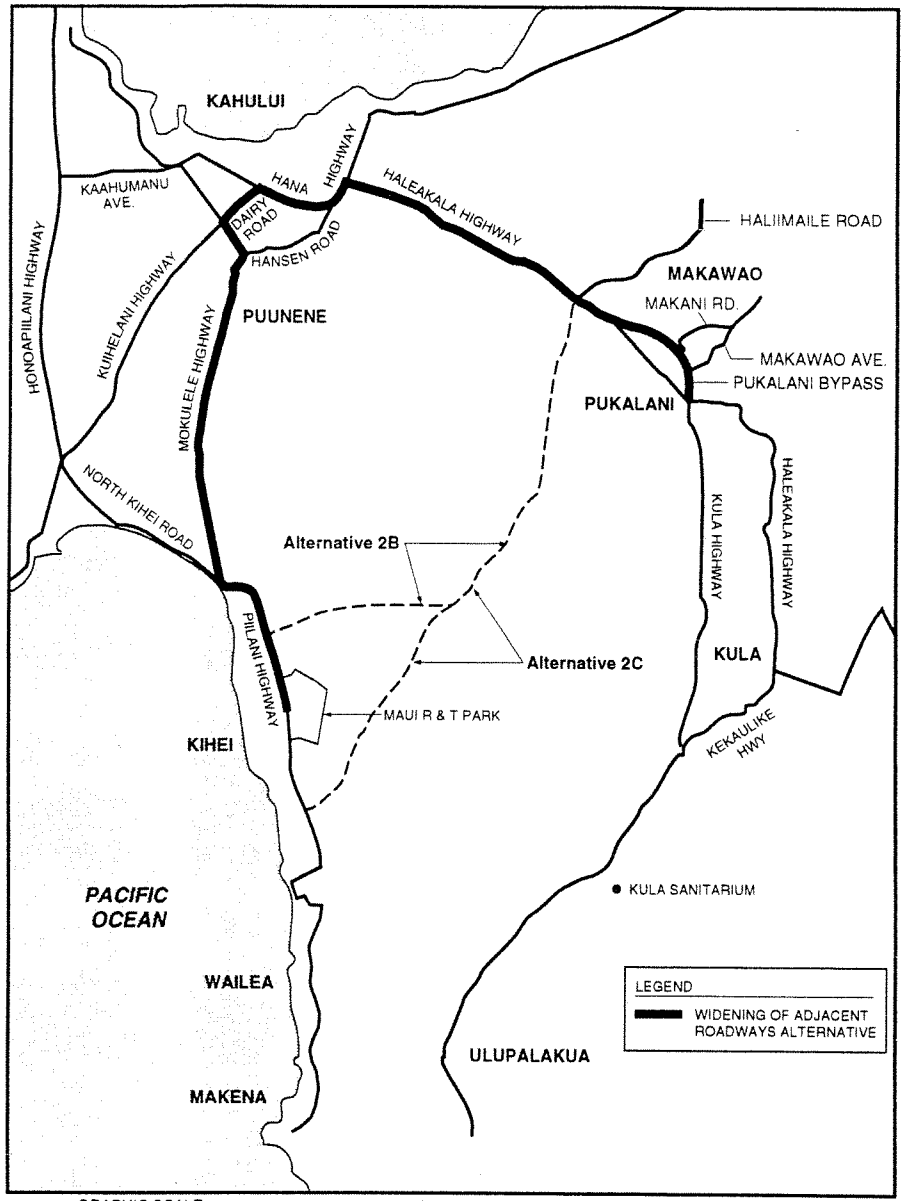
Analysis of public comments resulted in the conceptual engineering of three new alternatives: Alternatives 2B and 2C (modifications of Alternative 2) and the "widening of adjacent roadways" alternative (see Figure 4).

Alternative 2B would extend from Haleakala Highway/Haliimaile Road intersection in the Upcountry area, as Alternative 2, but would then share portions of Alternative 4B's mauka alignment near the Hawaiian Commercial & Sugar Company (HC&S) land to Kihei at Kaonoulu Street. The length of this alternative would be approximately 15.64 kilometers (9.72 miles).

Alternative 2C would maintain the Haliimaile Junction Upcountry terminus and share Alternative 4B's alignment near the HC&S land. However, its Kihei terminus would be located at the intersection of Piilani Highway and the proposed Road F. The length of alternative 2C would be approximately 17.5 kilometers (10.9 miles).

Alternatives 2B and 2C were developed in response to comments such as minimizing impacts to Hawaiian Commercial and Sugar (HC&S) Company land, not having the highway bisect the Maui R&T Park, and moving the Kihei terminus as far south as possible to create an alternative evacuation route for South Kihei and to support hotels and resorts in Wailea / Makena.

The "widening of adjacent roadways" alternative was also developed in response to public comments provided since issuance of the EA. This alternative provides an additional lane in each direction beyond the widening improvements proposed in the Maui Long Range Land



Alternatives 2B, 2C and Widening of Adjacent Roadways
KIHEI-UPCOUNTRY MAUI HIGHWAY
Alternatives Analysis Final Report
FIGURE 4

Transportation Plan (February 1996). The following roadways are included in the widening of adjacent roadways alternative:

- Haleakala Highway (12.4 kilometers (7.7 miles))
- Hana Highway (3.2 kilometers (2.0 miles))
- Dairy Road (1.3 kilometers (0.8 miles))
- Puunene Avenue/Mokulele Highway (10.5 kilometers (6.5 miles))
- Piilani Highway (4.8 kilometers (3.0 miles))

5. SCREENING ANALYSIS

The screening analysis is used to review candidate alternatives and eliminate those with the fewest benefits or overriding adverse characteristics so that only those alternatives that best maximize benefits while minimizing adverse impacts are examined in detail in the project's draft EIS. This section presents the methodology and results of the screening analysis conducted for this project.

5.1 Sources Of Candidate Criteria

The following sources were used to develop possible criteria for evaluating the project alternatives:

- Federal Highway (FHWA) Technical Advisory Guide (October 1987);
- State/County Joint Task Force Upcountry/Kihei Highway Final Report (October 1993);
- Federal, State, County, and local comments to a project initiation letter issued by SDOT on September 1, 1994;
- An agency scoping meeting held on October 26, 1994;
- Engineering standards (Hawaii Statewide Uniform Design Manual for Streets and Highways, American Association of State Highway and Transportation Officials (AASHTO), and American Standard for Testing and Materials (ASTM);
- Kihei-Upcountry Maui Highway Environmental Assessment (EA) (May 1995);
- Written comments received in response to publication of the EA; and
- Comments (oral and written) made at the public information meetings held on Maui on October 17 and 18, 1995, and on May 15 and 16, 1996.

Forty-two letters were received in response to the project's EA and the October 1995 informational meetings. Nine of the letters addressed alignment selection criteria, as summarized in Table 1.

The May public information meetings generated oral comments and 11 subsequent comment letters. Table 2 summarizes the written and oral comments relating to alignment selection criteria.

Table 1
Criteria Mentioned in EA Comment Letters and October 1995 Public Information Meeting Comments

Economic Impact	Cost	Consistency with Comm. Plans	Impacts to Archaeology	Safety	Impacts to Endangered Species	Access to HHL
HC&S	Stellway	Raisbeck	Stellway	Stellway	NPS	Riecke
Riecke	Raisbeck	OEQC	SHPO	Judge		
Maui L&P						
Sutrov						

Abbreviations: Hawaiian Home Lands (HHL), Hawaiian Commercial & Sugar Company (HC&S), Maui L&P (Land & Pineapple), National Park Service (NPS), Office of Environmental Quality Control (OEQC), and State Historic Preservation Office (SHPO).

Table 2
Criteria Mentioned in Response to the May 1996 Public Information Meetings (Oral and Written Comments)

Noise Impacts	Impacts to Agriculture	Access to HHL	Evacuation from Kihei	Bifurcate R&T Park
Amaral	HC&S	Thompson	Thompson	Maui R&T Park
	Maui Planning		Maui Planning	
			Joiner	
			Hironaka	

Based on the sources discussed above, candidate evaluation criteria were generated, and are shown below. These criteria were sorted into two groups, Tier One (fatal flaws) and Tier Two. Nonconformance with any Tier One criterion was considered a "fatal flaw," a feature of the alternative rendering it impractical, unfeasible or unfundable given the constraints associated with the anticipated federal participation in project construction. The Tier Two criteria relate primarily to nature and degree of adverse impact or benefit. An alternative not satisfying these criteria could be feasible, but would not be advantageous with respect to the criterion in question.

Tier One (Fatal Flaw)
- Satisfaction of project goals
- Conformance with engineering design criteria
- Benefit/cost ratio
- Bifurcate Maui R&T Park

Tier Two
- Adverse agricultural impact
- Cost
- Conformance with community plans
- Potential impact on historic and archaeological resources
- Highway operations
- Potential impact on endangered and threatened species
- Enhancement of access to Hawaiian Home Lands (HHL) parcel (TMK 2-02-002:014)
- Visual impacts
- Noise impacts
- Displacements/relocations
- Beneficial and adverse impacts on existing communities
- Enhancement of evacuation from Kihei
- Impact on prime, unique or important soils
- Extent of Right of Way Acquisition

5.2 Evaluation Process

A two-tiered evaluation process was used for this project. An alternative must satisfy all of the Tier One criteria to be considered in Tier Two.

5.2.1 Tier One Screening

5.2.1.1 Satisfaction of Project Goals

The alternatives were evaluated with respect to whether they satisfied the project goals stated in Section 1, such as establishing a roadway linkage between the Kihei and Upcountry areas. An alternative received a "Y" (yes) score if it would satisfy the project goals. A "N" (no) score would mean the alternative would not satisfy the project goals.

5.2.1.2 Design Feasibility

The alternatives were evaluated to determine whether they met engineering design criteria for a rural, limited access arterial roadway, such as minimum curve radius and design speed. A "Y" (yes) would signify that the alternative would have a conforming design, whereas a "N' (no) would mean that its design would not conform to the criteria.

5.2.1.3 Benefit-Cost Ratio

A preliminary benefit-cost analysis to the year 2023 (completion of construction plus 20 years) was performed to eliminate alternatives that would clearly not be cost-effective in achieving the goal of linking Kihei and Upcountry Maui. Calculation of the benefit-cost ratio (BCR) for each alternative was based on its differential comparison with the future No-Build Alternative of travel time between two centroids, one located at the Maui R&T Park in Kihei and the other in Pukalani, Upcountry Maui. Other factors used to calculate the BCRs included:

- cost of each alternative, consisting of initial cost (construction, right-of-way acquisition, design) and annual roadway maintenance;
- user costs for vehicle operation and maintenance; and
- economic factors, such as the expected long-term inflation rate and discount rate.

The methodology conformed to procedures described in the Manual On User Benefit Analysis of Highway and Bus Transit Improvements (AASHTO, 1977). Normally, an alternative's BCR would have to be greater than one (1) in order for the investment to be economically justified (the benefits of the project are greater than its cost). However, because of the preliminary nature of the analysis and the limited definition of what is considered a benefit, an alternative would have to have an extremely low BCR to be considered to have a BCR-related "fatal flaw" at this stage. A more precise benefit-cost analysis will be performed for the alternatives receiving detailed analysis in the draft EIS.

5.2.1.4 Bifurcate Maui R&T Park

The master plan for the Maui R&T Park has recently been revised to create a more campus-like atmosphere, in contrast to the light industrial park atmosphere that was originally envisioned. The revised draft master plan (February 1996) has, as its central roadway element, a large roundabout or "green" located at the core of the park. This master plan is being coordinated with the County Council as part of the Kihei-Makena Community Plan update. Any alignment that divides the Maui R&T Park would be inconsistent with the park's proposed campus-like roadway system. Because the Maui R&T Park is intended to be one of the major beneficiaries of the proposed highway, conformance with the draft master plan's proposed campus-like roadway system was elevated to a Tier One level of significance. Those alternatives that bifurcate the R&T Park were given a "Y" (yes), while those that did not were given a "N" (no). A "Y" score for this criterion indicates that the alternative has a "fatal flaw."

5.2.1.5 Evaluation of Alternatives Considered in Tier One

Table 3 summarizes the outcome of the Tier One evaluation. Scores not satisfying the criteria are shaded. In summary, Alternatives 4A, 6A through 8, the widening of adjacent roadways alternative, and the TSM alternative were eliminated from further study.

Non-satisfaction of the project goals eliminated the widening of adjacent roadways and TSM alternatives. The widening of adjacent roadways alternative would not establish a roadway linkage between Kihei and the Upcountry area. The TSM alternative would also not satisfy this goal, nor other goals, such as providing additional roadway capacity and infrastructure to meet existing and future travel demand in the region.

The design feasibility criterion eliminated Alternative 8 because it is constrained to an existing government right-of-way that does not conform modern highway design standards.

The preliminary benefit-cost analysis generated BCRs ranging from -0.04 to 1.53 (see Table 3). After noting the spread of the results and considering the preliminary nature of the analysis, the allowable threshold was set at 0.67 which eliminated Alternatives 6A, 6B, and 7.

Table 3
Tier One Screening

Criteria	Alternative										
	1	2	2B	2C	3	4A	4B	5	6A	6B	7	8	WR	TSM
Satisfies Project Goals	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Design Feasibility	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N.A.
Benefit-Cost Ratio	1.00	1.00	1.06	0.67	1.01	0.94	1.34	1.53	0.42	0.28	-0.04	1.10	Low[1]	N.A.[2]
Bifurcate Maui R&T Park	N	Y	N	N	N	Y	N	N	Y	N	N	N	N.A.	N.A.

Notes: WR: Widening of Adjacent Roadways Alternative
TSM: Transportation Systems Management Alternative
Y: Yes
N: No
N.A.: Not Applicable

[1] The BCR for the NBE Alternative was not calculated because it failed to satisfy the project goals criterion. If the BCR for the NBE Alternative was calculated, it would be expected to be quite low because the method of calculating BCRs is based on the differential comparison with the future No-Build Alternative of travel time between Kihei and Upcountry Maui. When compared to the No-Build Alternative, the NBE Alternative would offer a slight decrease in travel time because of marginally less congestion along the same circumferential route. This travel time savings, however, would not compare favorably to the decrease in travel time that would be achieved by shortening the distance between Kihei and Upcountry Maui through a new roadway. Therefore, along with its large capital cost ($78 million), its BCR, as calculated here, would be small.

[2] The BCR for the TSM Alternative was not calculated because it failed to satisfy the project goals criterion.

The minimum passing BCR would have to be lowered to 0.42 to affect these results. However, lowering the BCR to this threshold would not have affected the overall screening because Alternative 6A, with its 0.42 BCR, would have been eliminated anyway because it bifurcates the Maui R&T Park, the last Tier One criterion. This last criterion also eliminated Alternatives 2 and 4A.

5.2.2 Tier Two Screening

The candidate Tier Two criteria (listed in Section 5.1) were evaluated to determine whether they would be useful in screening the remaining alternatives (1, 2B, 2C, 3, 4B and 5). Criteria rejected for the Tier Two screening and the rationale for rejection are described below:

- Potential Impacts on Historic and Archaeological Resources: The overview analysis that would have been conducted for this screening would not satisfy Section 106 requirements of the National Historic Preservation Act. Section 106 can only be fulfilled by conducting an inventory survey. Furthermore, the overview analysis would lengthen the project schedule and increase costs. Therefore, the appropriate level of archaeological detail will be conducted in the EIS phase of work. Should archeological resources be encountered, the alternatives are still sufficiently conceptual to allow refinement of the alignment to avoid the resource, or the alternative should not be selected as the preferred alternative.

- Noise impacts: FHWA STAMINA 2.0 Highway Traffic Noise Modeling Program will be used to predict future noise levels for this project for the alternatives carried into the draft EIS. If appropriate, noise mitigation would be provided. Therefore, because noise impacts can be mitigated, potential noise impacts are not viewed as an alignment selection criterion.

- Displacements/Relocations: None of the alignment alternatives involve relocations or displacements of residential or commercial structures. Therefore, this criterion would not discriminate among the alternatives.

- Beneficial and Adverse Impacts on Existing Communities: This criterion was not selected for Tier Two screening because of its importance. For example, the potentially adverse social impacts of the highway on the Upcountry Kula area would be a key concern in the draft EIS. Therefore, it was determined that a cursory examination of this criterion in the initial screening analysis would not be sufficient. A detailed analysis of community impacts of those alternatives that satisfy the other Tier Two criteria is deferred to the draft EIS.

- Enhancement of evacuation from Kihei: At present, evacuation of Kihei must be funneled through the critical junction of Mokulele Highway, Piilani Highway and Kihei Road. While a second access route may be highly desirable to relieve this choke point, enhancement of evacuation from Kihei is not a goal of this project. However, with the exception of Alternative 8 which was eliminated in Tier One, all the alternatives would provide additional evacuation capacity.

- Impacts on prime, unique or important soils: The alignment alternatives have all been rated by the US Natural Resources Conservation Service for their impacts on special soil types. Scores ranged from 51 to 77. In order to trigger the provisions of the Farmland Protection Policy Act, a score of 160 is necessary. Therefore, because all of the alternatives rated similarly, and far below the threshold of 160, this criterion does not indicate substantial differences among the alternatives with respect to this criterion.

- Extent of right-of-way acquisition: This criterion was not selected because it is a component of the project's cost, and cost was retained as a Tier Two criterion.

The remaining Tier Two criteria include adverse agricultural impacts, cost, conformance with community plans, highway operations, potential impacts on endangered and threatened species, enhancement of access to HHL parcel, and visual impacts. Six of the selected Tier Two criteria were mentioned in the public comment letters and oral comments received on the project's EA and public information meetings (see Tables 1 and 2). The selected Tier Two criteria are now described.

5.2.2.1 Adverse Agricultural Impact

The number of hectares presently used for agriculture, such as pineapple or sugarcane cultivation and Upcountry truck farms, which each alternative would displace was calculated. Impacts on pasture lands were not considered as important because of the abundance of pasture land in the area and its substantially reduced investment in irrigation, drainage and other infrastructure. The following five-point scale was defined based on the acreage of encroachment for each alternative:

(1): less than 10 hectares
(2): 10 to 20 hectares
(3): 20 to 30 hectares
(4): 30 to 40 hectares
(5): over 40 hectares

The draft EIS will contain a more complete analysis of impacts on agricultural activity for those alternatives selected for detailed study.

5.2.2.2 Cost

This criterion compares the estimated cost of land acquisition, site work, roadway construction, and drainage system of each alternative. The following four-point scale was used to score these costs:

(1): less than $45 million
(2): $45 to $55 million
(3): $55 to $65 million
(4): over $65 million

5.2.2.3 Conformance with Community Plans

There are nine planning regions in Maui County for which community plans have been prepared. The plans report current and anticipated conditions, and stipulate advance planning goals, objectives, policies and implementation considerations to guide decision making for each region. The study area overlaps planning areas addressed by the Kihei-Makena Community Plan and the Makawao-Pukalani-Kula Community Plan. Although the community plans are not official until adopted by the County Council and the Mayor, it is customary on Maui to use the most recent proposed update to the community plans to assess conformance with county planning.

The most recent proposed update for the Kihei area is the Proposed Kihei-Makena Community Plan (October 1993). This proposed plan recommends a roadway that would link the primary residential area of Upcountry and job centers within the Kihei region. The Plan, therefore, favors those alternatives with mauka termini near Pukalani, and makai termini at or north of the Maui R & T Park. The 1993 plan is now in the early stages of being updated.

The proposed Community Plan Update of Makawao-Pukalani-Kula (July 1996) "files" the proposed Kihei-Upcountry Maui Highway, and states that the No-Build alternative is favored over any build alternative. However, the recommendations also include provisions that if the roadway is built, the preferred Upcountry terminus should be in the vicinity of Haliimaile Road. This Plan has recently passed second reading by the County Council, and the Mayor is expected to officially approve the plan shortly.

The alternatives that best conform to the community plans were scored "Y" (yes). Alternatives that did not conform as well were scored "P" (poor). Alternatives that do not conform to the plans were scored "N" (No).

The draft EIS will contain an updated and more complete analysis of conformance with community plans for those alternatives selected for detailed study.

5.2.2.4 Highway Operations

While all of the alternatives entering the Tier Two screening can be designed to conform with applicable engineering standards (see Section 5.2.1.3), there may be operational problems with certain alternatives when connected to the existing roadway network. Those alternatives that would connect well with the existing roadway network were scored a "B" (better), those that did not, were scored a "W" (worse).

5.2.2.5 Impact on Endangered and Threatened Species

A botanical reconnaissance was conducted to rank the alternatives in terms of their relative adverse impact on those areas where endangered or threatened plant species might exist. The survey included:

- a helicopter reconnaissance of the project area;
- government agency interviews and literature search;

- a comparative ranking of the alternatives for potential botanical impacts, emphasizing impacts on rare species; and
- a general assessment of the level of potential impact of each alternative.

Based on the botanical reconnaissance, alternatives were scored numerically, from "1" (alternatives that were least likely to threaten endangered species) to "5" (alternatives with a higher possibility of displacing endangered species). Potential impacts on endangered species was not considered a "fatal flaw" because at this stage of project planning, the alignment alternatives are considered wide enough to allow some latitude to bypass particularly sensitive locations, if warranted. The draft EIS will contain a more complete analysis of potential impacts on sensitive habitat areas for those alternatives selected for detailed study.

5.2.2.6 Enhancement of Access to Hawaiian Home Lands Parcel

The Kihei-Upcountry Maui Highway State/County Joint Task Force's Final Report (October 1, 1993) identified access to the Hawaiian Home Lands parcel (TMK 2-02-002:014) as a desirable benefit of this project. Alignment alternatives that would enhance future access to the HHL parcel received a "B" (better), while those alternatives that would not enhance access received a "W" (worse).

5.2.2.7 Visual Impact

Since all of the alternatives share a common typical design (see Figure 5: Typical Section) and a similar setting (agricultural lands on the western flank of Haleakala), the amount of earthmoving (cut plus fill) required for roadway construction was used as an approximate indicator of the project's long-term aesthetic impacts. It is assumed that the more material moved during construction, the greater the potential for visual disturbance of the existing landscape, even after the establishment of new plantings.

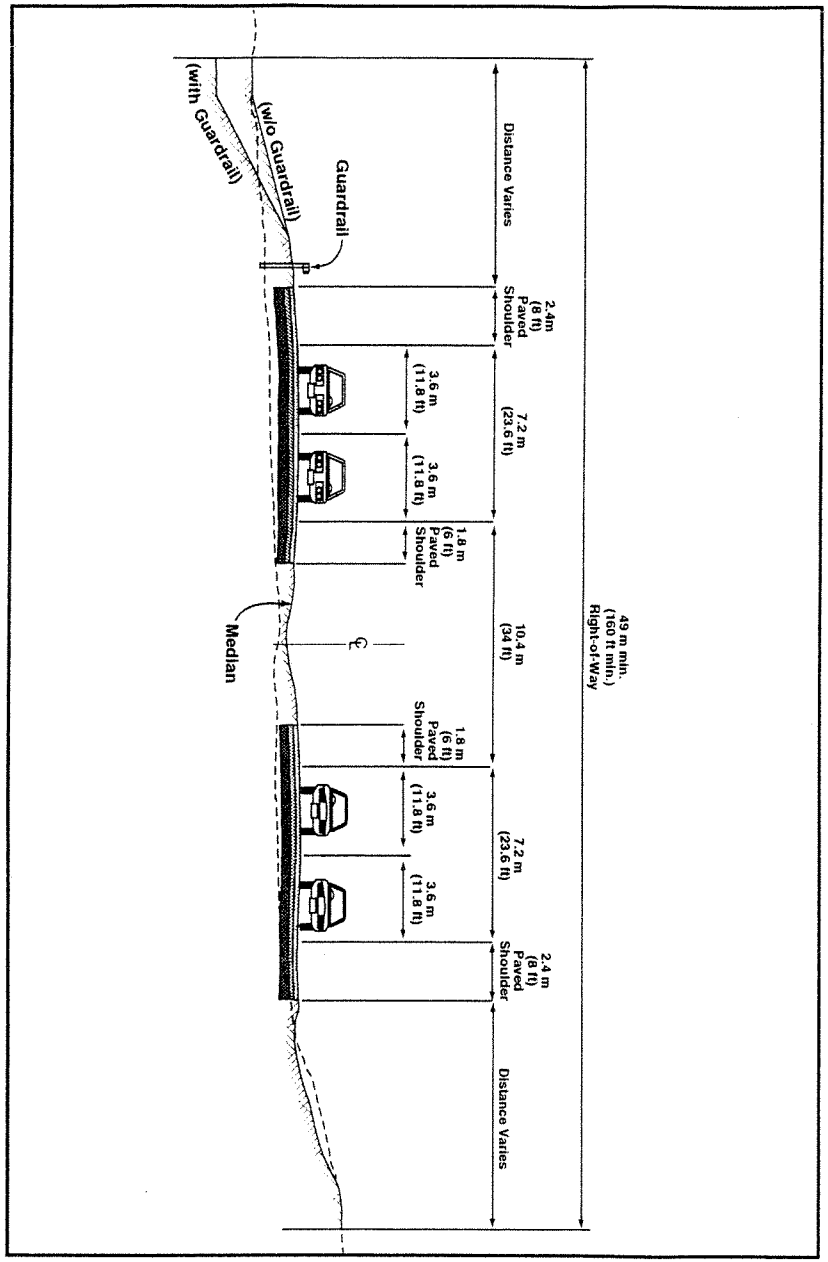
A four-point scale was developed to score the total amount of cut and fill material required for each alternative. Alternatives requiring less earthmoving received lower scores, while those requiring the most activity received a "4."

(1): less than 1.5 million cubic meters
(2): 1.5 to 2.0 million cubic meters
(3): 2.0 to 2.5 million cubic meters
(4): over 2.5 million cubic meters.

The draft EIS will contain a more complete analysis of potential visual impacts for those alternatives selected for detailed study.

5.2.2.8 Evaluation of Alternatives Considered in Tier Two

Table 4 summarizes the Tier Two screening analysis. An alternative need not satisfy every criteria to pass the screening and move forward to the draft EIS. However, in certain



Not to Scale

Typical Section
KIHEI-UPCOUNTRY MAUI HIGHWAY
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FIGURE 5

instances, a particular score or group of scores disqualified the alternative in question from moving forward. These disqualifying scores are shaded.

Table 4
Tier Two Screening

Criteria	Alternative 1	2B	2C	3	4B	5
Adverse Agricultural Impact						
Score	**5**	**3**	**3**	**4**	**3**	**2**
Encroachment (hectares)	56.2	27.1	27.1	32.6	21.6	13.3
Cost						
Score	**3**	**2**	**3**	**2**	**2**	**1**
Estimated Cost ($ millions)	57	47	57	54	52	40
Conformance with Community Plans						
Kihei-Makena	**Y**	**Y**	**Y**	**Y**	**Y**	**P**
Makawao-Pukalani-Kula	**N**	**N**	**N**	**N**	**N**	**N**
Highway Operations	**B**	**B**	**B**	**W**	**B**	**B**
Potential Impact to Endangered & Threatened Species	**1**	**1**	**2**	**2**	**3**	**5**
Enhancement of Access to HHL	**W**	**W**	**B**	**W**	**W**	**W**
Visual Impacts						
Score	**3**	**1**	**2**	**2**	**2**	**1**
Est. Earthmoving (millions of cubic meters)	2.1	1.4	1.7	1.9	1.8	1.4

Notes: B: Better
P: Poor
W: Worse
Y: Yes
N: No

Based on the Tier Two criteria, Alternatives 1 and 3 were dropped from future study in the draft EIS for the following reasons:

- Alternative 1. This alternative would produce a substantially greater displacement of cultivated fields than any other alternative. It would displace approximately 56.2 hectares (139 acres), while the alternative with the next largest impact, Alternative 3, would displace approximately 32.6 hectares (81 acres), 42 percent less.

- Alternative 3. This alternative was eliminated because of its poorer operational aspects, particularly at its mauka terminus at the intersection of Haleakala Highway and Pukalani Bypass Highway where there is a seven percent grade. Because of this steep grade, a very long left turn storage lane would be required for makai-bound traffic on

Haleakala Highway turning left onto Kihei-Upcountry Highway. The length of this left turn lane plus the proximity of the two intersections would cause a conflict in turning movements. Furthermore, this alternative scored a four (4) in terms of displacement of cultivated acreage.

Alternatives 2B, 2C, 4B and 5 passed the screening evaluation for the following reasons:

- Alternative 2B. The advantages of Alternative 2B are its cost (the second cheapest alternative), and its relatively minimal environmental impacts in those disciplines selected for this screening analysis. Although this alternative scored a three (3) in the agricultural impact criterion, the alignment was coordinated with HC&S officials to minimize adverse impacts to their sugarcane operations.

- Alternative 2C. Since this alternative is similar to Alternatives 2B and 4B, it too passed the Tier Two screening. The major disadvantage of this alternative, in comparison to these other two alternatives, is its cost (21 percent greater than Alternative 2B and 10 percent greater than Alternative 4B). Its advantages are that it is the only remaining alternative that may facilitate access to the HHL parcel and it provides another Kihei terminus option (Alternatives 2B, 4B and 5 all have the same Kihei terminus at Kaonoulu Street).

- Alternative 4B. This alternative compares favorably against other alternatives regarding level of impact, such as its moderate cost, impacts to cultivated fields and visual environment. It scores relatively high (3) under the "potential impact to endangered and threatened species" criterion. However, because the botanical reconnaissance was done from the air and because there is some latitude in modifying alternatives to avoid sensitive locations (see Section 5.2.2.5), this moderately high score did not warrant eliminating this alternative at this stage.

- Alternative 5. The primary benefits of this alternative are its cost (the least expensive alternative) and its least impact on cultivated fields. The negative aspects of this alternative are its higher probability of encountering endangered species habitats, and its "P" (poor) score in regards to conformance to the Kihei-Makena Community Plan (October 1993). However, these factors did not warrant eliminating this alternative.

In general, the alternatives passing Tier Two would generate comparatively fewer adverse environmental impacts in the topics selected for the screening analysis, and would not present operational difficulties interfacing with the existing roadway network. Only one of the selected alternatives would facilitate access to the HHL parcel. Potential community impacts, such as air quality and noise impacts, and other impact categories, such as potential impacts to archaeological resources, were not included in this analysis. However, these types of impacts will be addressed in detail in the draft EIS.

6. FINDINGS AND RECOMMENDATIONS

Twelve alignment alternatives, a widening of adjacent roadways alternative, and a TSM alternative for a Kihei-Upcountry Maui Highway were evaluated using two sets of screening criteria that were developed from previous planning efforts, engineering guides and public

input. Eight alternatives (2, 4A, 6A, 6B, 7 and 8, widening of adjacent roadways, and TSM) were dropped because they did not satisfy the first tier of screening criteria.

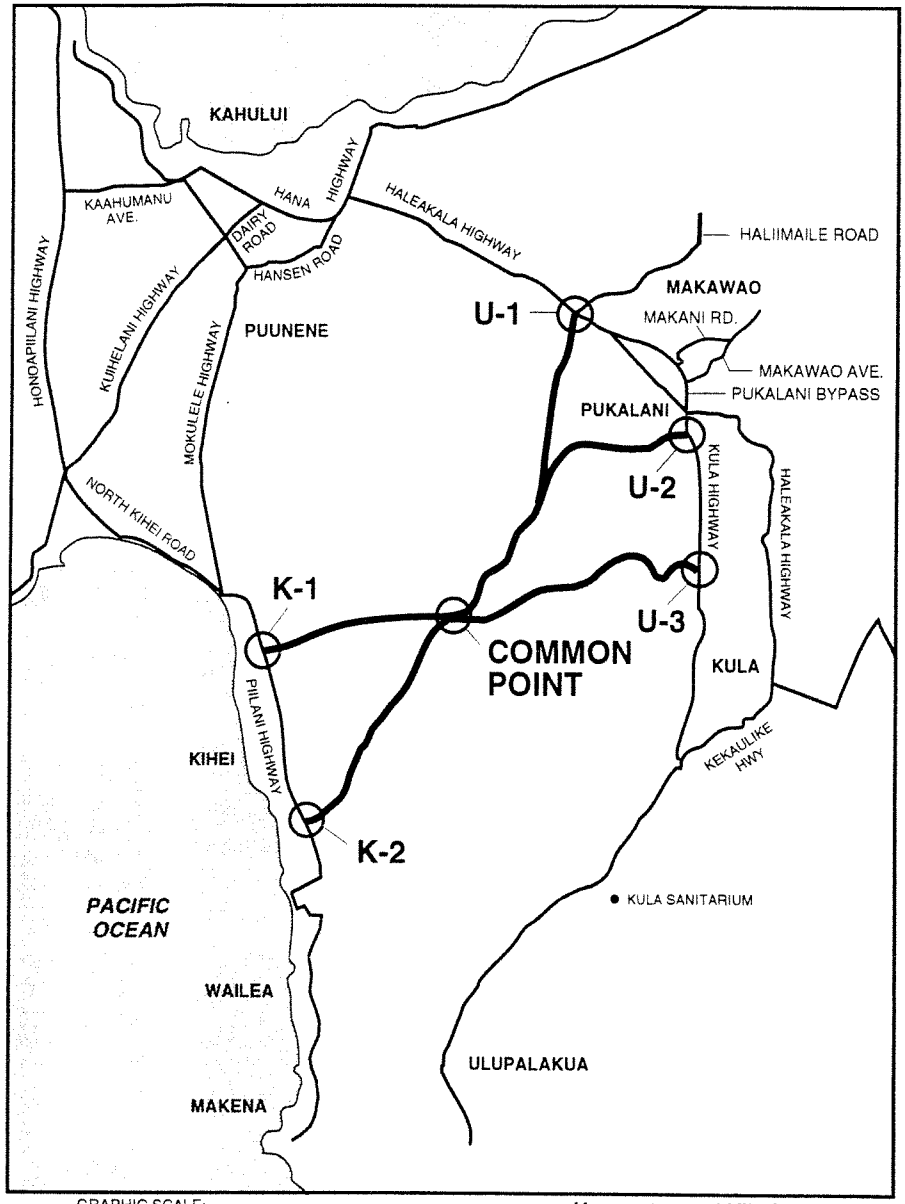
The Tier Two criteria were used to evaluate the remaining six alternatives. The Tier Two criteria eliminated Alternatives 1 and 3 because of their agricultural impacts and operational difficulties.

The remaining four alternatives' (2B, 2C, 4B and 5) were then reconceptualized as combinations of mauka and makai segments. By combining two makai termini with three mauka termini, it became possible to generate six alternatives comprised of common roadway segments.

Figure 6 shows the Upcountry and Kihei termini choices and the alignment segments or "footprints" that would be used by the six alternatives. As shown on this figure, it is recommended that the Upcountry termini and segments be named U-1, U-2 and U-3 and the Kihei termini and segments be named K-1 and K-2. The descriptions of these segments are as follows:

- Segment U-1: Haliimaile Road/Haleakala Highway Intersection to Omaopio Road, and ending at the common point of all the segments located on Waiakoa Ridge approximately 5.75 km (3.5 miles) mauka (east) from Piilani Highway (see Figure 6).
- Segment U-2: Kula Highway east of Pukulani Bypass Road to Omaopio Road and ending at the common point.
- Segment U-3: Kula Highway south of Pulehu Gulch, down Waiakoa Ridge and ending at the common point.
- Segment K-1: Kaonoulu Street/Piilani Highway intersection up Waiakoa Ridge and ending at the common point.
- Segment K-2: proposed Road F/Piilani Highway intersection to the common point.

Table 5 provides the suggested naming system for the alternatives.



Upcountry and Kihei Termini and Alignment Segments of Selected Alternatives
KIHEI-UPCOUNTRY MAUI HIGHWAY
Alternatives Analysis Final Report
FIGURE 6

Table 5
Suggested Alternative Naming System

Old Name	Suggested New Name	Description
2B	U-1, K-1	Haliimaile Road/Haleakala Highway Intersection to Kaonoulu Street/Piilani Highway intersection.
2C	U-1, K-2	Haliimaile Road/Haleakala Highway Intersection to proposed Road F/Piilani Highway intersection
4B	U-2, K-1	Kula Highway east of Pukulani Bypass Road to Kaonoulu Street/Piilani Highway intersection.
5	U-3, K-1	Kula Highway south of Pulehu Gulch to Kaonoulu Street/Piilani Highway intersection.
None	U-2, K-2	Kula Highway east of Pukulani Bypass Road to proposed Road F/Piilani Highway intersection.
None	U-3, K-2	Kula Highway south of Pulehu Gulch to proposed Road F/Piilani Highway intersection.

APPENDIX

KIHEI-UPCOUNTRY HIGHWAY
MAUI, HAWAII

INITIAL TEN ALTERNATIVES FROM THE ENVIRONMENTAL ASSESSMENT

Alternative 1. This alignment would extend from the Haleakala Highway/Haliimaile Road intersection in the Upcountry area to Piilani Highway/Kaonoulu Street in Kihei. The minimum horizontal radius would be 610 meters (2,000 feet). The alignment's maximum grade would be 3.5 percent. This 14.3 kilometers (8.9-mile) alignment would traverse Agriculture zoned land, affecting five large agricultural parcels. Approximately 9.7 kilometers (6.0 miles) of the alignment would traverse cane fields.

Alternative 2. This alignment would extend from the Haleakala Highway/Haliimaile Road intersection in the Upcountry area to the Maui R&T Park in Kihei. The minimum horizontal radius would be 915 meters (3,000 feet). The alignment's maximum grade would be 5.0 percent. This 16.3 kilometer (10.1-mile) alignment would traverse about 6.4 kilometers (4.0 miles) of cane field and would affect six large Agriculture zoned parcels.

Alternative 3. This alignment would extend from Haleakala Highway, between Haliimaile Road and Pukalani in the Upcountry area, to the Piilani Highway/ Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 535 meters (1,750 feet). The alignment's maximum grade would be 4.2 percent. This 15.5 kilometer (9.6- mile) alignment would affect approximately five large parcels zoned for Agriculture. The alignment would also skirt the east (mauka) edge of approximately 6.4 kilometers (4.0 miles) of cane field. The uppermost portion of the alignment is immediately west of Urban zoned lands.

Alternative 4A. This alignment would extend from Kula Highway, east of the Pukalani Bypass Road in the Upcountry area, to the Maui R&T Park in Kihei. The minimum horizontal radius would be 715 meters (2,350 feet). The alignment's maximum grade would be 6.7 percent. This 16.6 kilometer (10.3-mile) alignment would affect approximately 12 parcels, most of which are used for grazing. At least two parcels are being used for pineapple cultivation. All except the uppermost 1.5 kilometer (0.9 mile) of this alignment traverses agricultural lands. The uppermost portion traverses land designated for urban residential use in the Makawao-Pukalani-Kula Community Plan (1981).

Alternative 4B. This alignment would extend from Kula Highway, east of the Pukalani Bypass Road in the Upcountry area, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 790 meters (2,600 feet). The alignment's maximum grade would be 6.6 percent. This 15.5 kilometer (9.6-mile) alignment would affect approximately 8 parcels, most of which are used for grazing. At least two parcels are being used for pineapple cultivation. All except the uppermost 1.5 kilometer (0.9 mile) of this alignment traverses agricultural lands. The uppermost portion traverses land designated for urban residential use in the Makawao-Pukalani-Kula Community Plan (1981).

Alternative 5. This alignment would extend from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 275 meters (900 feet). The alignment's maximum grade would be 6.8 percent. This 14.0 kilometer (8.7-mile) alignment would affect approximately eight parcels zoned as Agriculture land. One parcel near the Kula terminus is in pineapple cultivation, and another is being utilized for truck farming. The other parcels are used for grazing.

Alternative 6A. This alignment would extend from Kula Highway, approximately 1.2 kilometers (0.5 mile) north of the Kekaulike Highway/Kula Highway intersection in Kula, to the Maui R&T Park in Kihei. The minimum horizontal radius would be 245 meters (800 feet). The topography is fairly steep and would require switch backs in order to keep maximum grade below 6.8 percent. This 17.0 kilometer (10.6-mile) alignment would traverse five parcels, two of which are owned by the Department of Hawaiian Home Lands.

Alternative 6B. This alignment would extend from Kula Highway, west of the Kekaulike Highway/Kula Highway intersection in Kula, to Piilani Highway, next to the Kihei Regional Park. The location of the Kihei terminus would be across from the proposed Road F (Kihei Traffic Master Plan (1989)). The minimum horizontal radius would be 245 meters (800 feet). The topography is fairly steep and would require switch backs in order to maintain a maximum grade of 7.0 percent. This 16.3 kilometer (10.1-mile) alignment would traverse five parcels, two of which are owned by the Department of Hawaiian Home Lands.

Alternative 7. This alignment would connect Kula Highway to Piilani Highway by extending Kula Highway south from the Kula Sanitarium to Ulupalakua, and turning northwest toward Piilani Highway. The minimum horizontal radius would be 150 meters (500 feet). The grade of this alignment between the Kihei terminus and Ulupalakua would be nearly the 7.0 percent maximum desired grade. The 14.4 kilometer (8.9-mile) alignment would traverse approximately 12 parcels. In order to meet current highway safety standards, about 6.0 kilometers (3.7 miles) of the existing substandard section of road between Ulupalakua and the Sanitarium would be reconstructed.

Alternative 8. This alignment would extend from Haleakala Highway below Pukalani to Mokulele Highway, along the old Government right-of-way. The minimum horizontal radius would be 60 meters (200 feet). The maximum grade along the existing alignment would be about 10.0 percent. This 14.6 kilometer (9.1-mile) alignment would traverse 13.6 kilometers (8.5 miles) of cane land.

APPENDIX A
KIHEI-UPCOUNTRY HIGHWAY
MAUI, HAWAII

INITIAL TEN ALTERNATIVES FROM THE ENVIRONMENTAL ASSESSMENT

Alternative 1. This alignment would extend from the Haleakala Highway/Haliimaile Road intersection in the Upcountry area to Piilani Highway/Kaonoulu Street in Kihei. The minimum horizontal radius would be 610 meters (2,000 feet). The alignment's maximum grade would be 3.5 percent. This 14.3 kilometers (8.9-mile) alignment would traverse Agriculture zoned land, affecting five large agricultural parcels. Approximately 9.7 kilometers (6.0 miles) of the alignment would traverse cane fields.

Alternative 2. This alignment would extend from the Haleakala Highway/Haliimaile Road intersection in the Upcountry area to the Maui R&T Park in Kihei. The minimum horizontal radius would be 915 meters (3,000 feet). The alignment's maximum grade would be 5.0 percent. This 16.3 kilometer (10.1-mile) alignment would traverse about 6.4 kilometers (4.0 miles) of cane field and would affect six large Agriculture zoned parcels.

Alternative 3. This alignment would extend from Haleakala Highway, between Haliimaile Road and Pukalani in the Upcountry area, to the Piilani Highway/ Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 535 meters (1,750 feet). The alignment's maximum grade would be 4.2 percent. This 15.5 kilometer (9.6- mile) alignment would affect approximately five large parcels zoned for Agriculture. The alignment would also skirt the east (mauka) edge of approximately 6.4 kilometers (4.0 miles) of cane field. The uppermost portion of the alignment is immediately west of Urban zoned lands.

Alternative 4A. This alignment would extend from Kula Highway, east of the Pukalani Bypass Road in the Upcountry area, to the Maui R&T Park in Kihei. The minimum horizontal radius would be 715 meters (2,350 feet). The alignment's maximum grade would be 6.7 percent. This 16.6 kilometer (10.3-mile) alignment would affect approximately 12 parcels, most of which are used for grazing. At least two parcels are being used for pineapple cultivation. All except the uppermost 1.5 kilometer (0.9 mile) of this alignment traverses agricultural lands. The uppermost portion traverses land designated for urban residential use in the Makawao-Pukalani-Kula Community Plan (1981).

Alternative 4B. This alignment would extend from Kula Highway, east of the Pukalani Bypass Road in the Upcountry area, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 790 meters (2,600 feet). The alignment's maximum grade would be 6.6 percent. This 15.5 kilometer (9.6-mile) alignment would affect approximately 8 parcels, most of which are used for grazing. At least two parcels are being used for pineapple cultivation. All except the uppermost 1.5 kilometer (0.9 mile) of this alignment traverses agricultural lands. The uppermost portion traverses land designated for urban residential use in the Makawao-Pukalani-Kula Community Plan (1981).

Alternative 5. This alignment would extend from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway/Kaonoulu Street intersection in Kihei. The minimum horizontal radius would be 275 meters (900 feet). The alignment's maximum grade would be 6.8 percent. This 14.0 kilometer (8.7-mile) alignment would affect approximately eight parcels zoned as Agriculture land. One parcel near the Kula terminus is in pineapple cultivation, and another is being utilized for truck farming. The other parcels are used for grazing.

Alternative 6A. This alignment would extend from Kula Highway, approximately 1.2 kilometers (0.5 mile) north of the Kekaulike Highway/Kula Highway intersection in Kula, to the Maui R&T Park in Kihei. The minimum horizontal radius would be 245 meters (800 feet). The topography is fairly steep and would require switch backs in order to keep maximum grade below 6.8 percent. This 17.0 kilometer (10.6-mile) alignment would traverse five parcels, two of which are owned by the Department of Hawaiian Home Lands.

Alternative 6B. This alignment would extend from Kula Highway, west of the Kekaulike Highway/Kula Highway intersection in Kula, to Piilani Highway, next to the Kihei Regional Park. The location of the Kihei terminus would be across from the proposed Road F (Kihei Traffic Master Plan (1989)). The minimum horizontal radius would be 245 meters (800 feet). The topography is fairly steep and would require switch backs in order to maintain a maximum grade of 7.0 percent. This 16.3 kilometer (10.1-mile) alignment would traverse five parcels, two of which are owned by the Department of Hawaiian Home Lands.

Alternative 7. This alignment would connect Kula Highway to Piilani Highway by extending Kula Highway south from the Kula Sanitarium to Ulupalakua, and turning northwest toward Piilani Highway. The minimum horizontal radius would be 150 meters (500 feet). The grade of this alignment between the Kihei terminus and Ulupalakua would be nearly the 7.0 percent maximum desired grade. The 14.4 kilometer (8.9-mile) alignment would traverse approximately 12 parcels. In order to meet current highway safety standards, about 6.0 kilometers (3.7 miles) of the existing substandard section of road between Ulupalakua and the Sanitarium would be reconstructed.

Alternative 8. This alignment would extend from Haleakala Highway below Pukalani to Mokulele Highway, along the old Government right-of-way. The minimum horizontal radius would be 60 meters (200 feet). The maximum grade along the existing alignment would be about 10.0 percent. This 14.6 kilometer (9.1-mile) alignment would traverse 13.6 kilometers (8.5 miles) of cane land.

APPENDIX B
KIHEI-UPCOUNTRY HIGHWAY
MAUI, HAWAII

BENEFIT-COST ANALYSIS TABLES

ASSUMPTIONS		
Value of Time	$4.10	per hr/per person (Assumed 1/3 of ave. wage. Based on 1992 ave. annual wage of Maui Co. infl. to 1996 $'s)
Veh. Oper. Cost	$0.31	per mile (based on federal rate of $0.31 for tax purposes)
Veh. Occupancy	1.5	passengers per car (based on NCHRP 187, Table 12))
Days per year	245	(work days per year based on 52 5-day work weeks, less 15 holidays)
	120	(remaining days of year, use 80% of ADT since peak hours comprise 20% of ADT)
Average speed of	40	mph for existing roadways
Average speed of	40	mph for alternatives
Road Maint. Cost	$0.16	Million per 10 lane-miles (Based on State DOT fig. of $163,784 per 10 lane-miles for Oahu for year 1996)

Year	Alternative	Roadway Length km	Roadway Length mi	Length km	Length mi	Average Speed km/hr	Average Speed mi/hr	Travel Time hours	Travel Time	Traffic Volume ADT	Annual User Cost ($1 M)	Annual Benefit ($1 M)	Annual Maint ($1M)
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1800	$6.40		
	1	14.3	8.9	22.9	14.2	64.4	40	0.36	0.36	1800	$4.05	$2.35	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	6380	$22.70		
	1			22.9	14.2	64.4	40	0.36	0.36	6380	$14.36	$8.34	$0.29
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1730	$6.16		
	2	16.4	10.2	22.5	14.0	64.4	40	0.35	0.35	1730	$3.83	$2.33	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	6125	$21.79		
	2			22.5	14.0	64.4	40	0.35	0.35	6125	$13.55	$8.24	$0.33
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1730	$6.16		
	2B	15.6	9.7	24.0	14.9	64.4	40	0.37	0.37	1730	$4.08	$2.08	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	6125	$21.79		
	2B			24.0	14.9	64.4	40	0.37	0.37	6125	$14.43	$7.36	$0.32
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1730	$6.16		
	2C	17.5	10.9	26.7	16.6	64.4	40	0.41	0.42	1730	$4.54	$1.61	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	6125	$21.79		
	2C			26.7	16.6	64.4	40	0.41	0.42	6125	$16.08	$5.71	$0.36
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1750	$6.23		
	3	15.5	9.7	22.9	14.3	64.4	40	0.36	0.36	1750	$3.95	$2.28	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	6219	$22.13		
	3			22.9	14.3	64.4	40	0.36	0.36	6219	$14.04	$8.09	$0.32
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1600	$5.69		
	4A	16.6	10.3	16.6	10.3	64.4	40	0.26	0.26	1600	$2.61	$3.09	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	5669	$20.17		
	4A			16.6	10.3	64.4	40	0.26	0.26	5669	$9.23	$10.94	$0.34
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1660	$5.91		
	4B	15.6	9.7	18.1	11.2	64.4	40	0.28	0.28	1660	$2.95	$2.95	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	5894	$20.97		
	4B			18.1	11.2	64.4	40	0.28	0.28	5894	$10.48	$10.49	$0.32
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1750	$6.23		
	5	14.1	8.8	21.1	13.1	64.4	40	0.33	0.33	1750	$3.63	$2.59	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	6216	$22.12		
	5			21.1	13.1	64.4	40	0.33	0.33	6216	$12.90	$9.22	$0.29
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1420	$5.05		
	6A	16.9	10.5	26.8	16.6	64.4	40	0.42	0.42	1420	$3.73	$1.32	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	5043	$17.94		
	6A			26.8	16.6	64.4	40	0.42	0.42	5043	$13.26	$4.69	$0.34
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1350	$4.80		
	6B	16.3	10.2	29.6	18.5	64.4	40	0.46	0.46	1350	$3.94	$0.86	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	4775	$16.99		
	6B			29.6	18.5	64.4	40	0.46	0.46	4775	$13.95	$3.04	$0.33
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	700	$2.49		
	7	14.5	9.0	37.9	23.5	64.4	40	0.59	0.59	700	$2.60	($0.11)	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	2496	$8.88		
	7			37.9	23.5	64.4	40	0.59	0.59	2496	$9.28	($0.40)	$0.29
2003	No Build			36.2	22.5	64.4	40	0.56	0.56	1490	$5.30		
	8	14.4	9.0	24.4	15.2	64.4	40	0.38	0.38	1490	$3.59	$1.72	
2022	No Build			36.2	22.5	64.4	40	0.56	0.56	5284	$18.80		
	8			24.4	15.2	64.4	40	0.38	0.38	5284	$12.72	$6.08	$0.29

Kihei-Upcountry Highway
Benefit-Cost Analysis
Alternative 1

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	4,000	4,120	3,780				
1998	Start R/W Acquisition; End PS&E	2	6,800	7,214	6,072				
1999	Start Construction	3	10,780	11,780	9,096				
2000		4	10,780	12,133	8,595				
2001		5	10,780	12,497	8,122				
2002		6	10,780	12,872	7,675				
2003	Road Opens	7	10,780	13,258	7,253				
2004	First Benefit Year	8	290	367	184	1	2,350	2,977	1,494
2005		9	290	378	174	2	2,665	3,478	1,601
2006		10	290	390	165	3	2,981	4,006	1,692
2007		11	290	401	156	4	3,296	4,562	1,768
2008		12	290	413	147	5	3,611	5,148	1,830
2009		13	290	426	139	6	3,926	5,766	1,881
2010		14	290	439	131	7	4,242	6,416	1,920
2011		15	290	452	124	8	4,557	7,099	1,949
2012		16	290	465	117	9	4,872	7,818	1,969
2013		17	290	479	111	10	5,187	8,574	1,981
2014		18	290	494	105	11	5,503	9,368	1,986
2015		19	290	509	99	12	5,818	10,202	1,984
2016		20	290	524	93	13	6,133	11,077	1,977
2017		21	290	539	88	14	6,448	11,996	1,964
2018		22	290	556	83	15	6,764	12,960	1,946
2019		23	290	572	79	16	7,079	13,971	1,925
2020		24	290	590	75	17	7,394	15,031	1,900
2021		25	290	607	70	18	7,709	16,142	1,872
2022		26	290	625	67	19	8,025	17,306	1,841
2023		27	290	644	63	20	8,340	18,526	1,808
2024		28	290	663	59	21	8,655	19,803	1,773
2025		29	290	683	56	22	8,971	21,140	1,737
2026		30	290	704	53	23	9,286	22,539	1,699
2027		31	290	725	50	24	9,601	24,003	1,660
2028		32	290	747	47	25	9,916	25,535	1,620
2029		33	290	769	45	26	10,232	27,138	1,579
2030		34	290	792	42	27	10,547	28,813	1,538
2031		35	290	816	40	28	10,862	30,564	1,497
2032		36	290	841	38	29	11,177	32,395	1,456
2033	Last Benefit Year	37	290	866	36	30	11,493	34,308	1,415
Total					53,330				53,263
B/C Ratio:	1.00								

	Inputs	
	Annual Main. Cost	290
1	Year 2004 Benefits (Base)	2,350
20	Year 2023 Benefits (20-y fore.)	8,340
	Y-Intercept	2,035
	Slope	315
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei-Upcountry Highway
Benefit-Cost Analysis
Alternative 2

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	3,900	4,017	3,685				
1998	Start R/W Acquisition; End PS&E	2	7,230	7,670	6,456				
1999	Start Construction	3	10,400	11,364	8,775				
2000		4	10,400	11,705	8,292				
2001		5	10,400	12,056	7,836				
2002		6	10,400	12,418	7,405				
2003	Road Opens	7	10,400	12,791	6,997				
2004	First Benefit Year	8	330	418	210	1	2,330	2,952	1,481
2005		9	330	431	198	2	2,641	3,446	1,587
2006		10	330	443	187	3	2,952	3,967	1,676
2007		11	330	457	177	4	3,263	4,517	1,750
2008		12	330	471	167	5	3,574	5,096	1,812
2009		13	330	485	158	6	3,885	5,706	1,861
2010		14	330	499	149	7	4,196	6,347	1,899
2011		15	330	514	141	8	4,507	7,022	1,928
2012		16	330	530	133	9	4,818	7,732	1,947
2013		17	330	545	126	10	5,129	8,478	1,959
2014		18	330	562	119	11	5,441	9,262	1,964
2015		19	330	579	113	12	5,752	10,085	1,962
2016		20	330	596	106	13	6,063	10,950	1,954
2017		21	330	614	100	14	6,374	11,857	1,941
2018		22	330	632	95	15	6,685	12,809	1,924
2019		23	330	651	90	16	6,996	13,807	1,902
2020		24	330	671	85	17	7,307	14,853	1,878
2021		25	330	691	80	18	7,618	15,950	1,850
2022		26	330	712	76	19	7,929	17,099	1,819
2023		27	330	733	72	20	8,240	18,303	1,787
2024		28	330	755	68	21	8,551	19,564	1,752
2025		29	330	778	64	22	8,862	20,884	1,716
2026		30	330	801	60	23	9,173	22,266	1,678
2027		31	330	825	57	24	9,484	23,711	1,640
2028		32	330	850	54	25	9,795	25,224	1,600
2029		33	330	875	51	26	10,106	26,805	1,560
2030		34	330	902	48	27	10,417	28,459	1,520
2031		35	330	929	45	28	10,728	30,188	1,479
2032		36	330	956	43	29	11,039	31,995	1,438
2033	Last Benefit Year	37	330	985	41	30	11,351	33,884	1,397
Total					52,560				52,659
B/C Ratio:	1.00								

	Inputs	
	Annual Main. Cost	330
1	Year 2004 Benefits (Base)	2,330
20	Year 2023 Benefits (20-y fore.)	8,240
	Y-Intercept	2,019
	Slope	311
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei-Upcountry Highway
Benefit-Cost Analysis
Alternative 2B

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	3,300	3,399	3,118				
1998	Start R/W Acquisition; End PS&E	2	5,800	6,153	5,179				
1999	Start Construction	3	8,800	9,616	7,425				
2000		4	8,800	9,904	7,017				
2001		5	8,800	10,202	6,630				
2002		6	8,800	10,508	6,265				
2003	Road Opens	7	8,800	10,823	5,920				
2004	First Benefit Year	8	320	405	203	1	2,080	2,635	1,322
2005		9	320	418	192	2	2,358	3,077	1,417
2006		10	320	430	182	3	2,636	3,542	1,496
2007		11	320	443	172	4	2,914	4,033	1,563
2008		12	320	456	162	5	3,192	4,550	1,618
2009		13	320	470	153	6	3,469	5,095	1,662
2010		14	320	484	145	7	3,747	5,668	1,696
2011		15	320	499	137	8	4,025	6,271	1,722
2012		16	320	514	129	9	4,303	6,905	1,739
2013		17	320	529	122	10	4,581	7,572	1,750
2014		18	320	545	115	11	4,859	8,272	1,754
2015		19	320	561	109	12	5,137	9,007	1,752
2016		20	320	578	103	13	5,415	9,780	1,745
2017		21	320	595	97	14	5,693	10,590	1,734
2018		22	320	613	92	15	5,971	11,440	1,718
2019		23	320	632	87	16	6,248	12,332	1,699
2020		24	320	650	82	17	6,526	13,267	1,677
2021		25	320	670	78	18	6,804	14,247	1,652
2022		26	320	690	73	19	7,082	15,273	1,625
2023		27	320	711	69	20	7,360	16,349	1,596
2024		28	320	732	66	21	7,638	17,475	1,565
2025		29	320	754	62	22	7,916	18,654	1,533
2026		30	320	777	59	23	8,194	19,888	1,499
2027		31	320	800	55	24	8,472	21,180	1,465
2028		32	320	824	52	25	8,749	22,531	1,429
2029		33	320	849	49	26	9,027	23,944	1,394
2030		34	320	874	47	27	9,305	25,421	1,357
2031		35	320	900	44	28	9,583	26,966	1,321
2032		36	320	927	42	29	9,861	28,580	1,284
2033	Last Benefit Year	37	320	955	39	30	10,139	30,267	1,248
Total					44,575				47,030
B/C Ratio:	1.06								

	Inputs	
	Annual Main. Cost	320
1	Year 2004 Benefits (Base)	2,080
20	Year 2023 Benefits (20-y fore	7,360
	Y-Intercept	1,802
	Slope	278
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei-Upcountry Highway
Benefit-Cost Analysis
Alternative 2C

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	4,100	4,223	3,874				
1998	Start R/W Acquisition; End PS&E	2	6,800	7,214	6,072				
1999	Start Construction	3	10,880	11,889	9,180				
2000		4	10,880	12,246	8,675				
2001		5	10,880	12,613	8,198				
2002		6	10,880	12,991	7,746				
2003	Road Opens	7	10,880	13,381	7,320				
2004	First Benefit Year	8	360	456	229	1	1,610	2,039	1,024
2005		9	360	470	216	2	1,826	2,382	1,097
2006		10	360	484	204	3	2,042	2,744	1,159
2007		11	360	498	193	4	2,257	3,125	1,211
2008		12	360	513	182	5	2,473	3,526	1,254
2009		13	360	529	172	6	2,689	3,949	1,288
2010		14	360	545	163	7	2,905	4,394	1,315
2011		15	360	561	154	8	3,121	4,862	1,335
2012		16	360	578	146	9	3,336	5,354	1,348
2013		17	360	595	137	10	3,552	5,871	1,357
2014		18	360	613	130	11	3,768	6,415	1,360
2015		19	360	631	123	12	3,984	6,985	1,359
2016		20	360	650	116	13	4,199	7,585	1,353
2017		21	360	670	110	14	4,415	8,214	1,345
2018		22	360	690	104	15	4,631	8,874	1,333
2019		23	360	710	98	16	4,847	9,566	1,318
2020		24	360	732	93	17	5,063	10,291	1,301
2021		25	360	754	87	18	5,278	11,052	1,282
2022		26	360	776	83	19	5,494	11,849	1,261
2023		27	360	800	78	20	5,710	12,684	1,238
2024		28	360	824	74	21	5,926	13,558	1,214
2025		29	360	848	70	22	6,142	14,473	1,189
2026		30	360	874	66	23	6,357	15,431	1,163
2027		31	360	900	62	24	6,573	16,433	1,136
2028		32	360	927	59	25	6,789	17,482	1,109
2029		33	360	955	56	26	7,005	18,579	1,081
2030		34	360	983	53	27	7,221	19,726	1,053
2031		35	360	1,013	50	28	7,436	20,925	1,025
2032		36	360	1,043	47	29	7,652	22,178	997
2033	Last Benefit Year	37	360	1,075	44	30	7,868	23,487	968
Total					54,463				36,471
B/C Ratio:	0.67								

	Inputs	
	Annual Main. Cost	360
1	Year 2004 Benefits (Base)	1,610
20	Year 2023 Benefits (20-y fore	5,710
	Y-Intercept	1,394
	Slope	216
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei-Upcountry Highway
Benefit-Cost Analysis
Alternative 3

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	3,850	3,966	3,638				
1998	Start R/W Acquisition; End PS&E	2	6,550	6,949	5,849				
1999	Start Construction	3	10,260	11,211	8,657				
2000		4	10,260	11,548	8,181				
2001		5	10,260	11,894	7,730				
2002		6	10,260	12,251	7,305				
2003	Road Opens	7	10,260	12,619	6,903				
2004	First Benefit Year	8	320	405	203	1	2,280	2,888	1,450
2005		9	320	418	192	2	2,586	3,374	1,553
2006		10	320	430	182	3	2,892	3,886	1,642
2007		11	320	443	172	4	3,197	4,426	1,715
2008		12	320	456	162	5	3,503	4,995	1,776
2009		13	320	470	153	6	3,809	5,594	1,825
2010		14	320	484	145	7	4,115	6,224	1,862
2011		15	320	499	137	8	4,421	6,887	1,891
2012		16	320	514	129	9	4,726	7,584	1,910
2013		17	320	529	122	10	5,032	8,317	1,922
2014		18	320	545	115	11	5,338	9,087	1,926
2015		19	320	561	109	12	5,644	9,896	1,925
2016		20	320	578	103	13	5,949	10,745	1,917
2017		21	320	595	97	14	6,255	11,637	1,905
2018		22	320	613	92	15	6,561	12,572	1,888
2019		23	320	632	87	16	6,867	13,552	1,867
2020		24	320	650	82	17	7,173	14,580	1,843
2021		25	320	670	78	18	7,478	15,658	1,816
2022		26	320	690	73	19	7,784	16,787	1,786
2023		27	320	711	69	20	8,090	17,970	1,754
2024		28	320	732	66	21	8,396	19,209	1,720
2025		29	320	754	62	22	8,702	20,506	1,685
2026		30	320	777	59	23	9,007	21,863	1,648
2027		31	320	800	55	24	9,313	23,284	1,610
2028		32	320	824	52	25	9,619	24,770	1,571
2029		33	320	849	49	26	9,925	26,324	1,532
2030		34	320	874	47	27	10,231	27,949	1,492
2031		35	320	900	44	28	10,536	29,648	1,452
2032		36	320	927	42	29	10,842	31,423	1,412
2033	Last Benefit Year	37	320	955	39	30	11,148	33,279	1,372
Total					51,282				51,668
B/C Ratio:	1.01								

	Inputs	
	Annual Main. Cost	320
1	Year 2004 Benefits (Base)	2,280
20	Year 2023 Benefits (20-y fore.)	8,090
	Y-Intercept	1,974
	Slope	306
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 4A

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	5,450	5,614	5,150				
1998	Start R/W Acquisition; End PS&E	2	12,350	13,102	11,028				
1999	Start Construction	3	14,540	15,888	12,269				
2000		4	14,540	16,365	11,593				
2001		5	14,540	16,856	10,955				
2002		6	14,540	17,362	10,352				
2003	Road Opens	7	14,540	17,882	9,782				
2004	First Benefit Year	8	340	431	216	1	3,090	3,914	1,964
2005		9	340	444	204	2	3,503	4,571	2,105
2006		10	340	457	193	3	3,916	5,263	2,223
2007		11	340	471	182	4	4,329	5,993	2,322
2008		12	340	485	172	5	4,743	6,762	2,404
2009		13	340	499	163	6	5,156	7,571	2,470
2010		14	340	514	154	7	5,569	8,424	2,521
2011		15	340	530	145	8	5,982	9,320	2,559
2012		16	340	546	137	9	6,395	10,263	2,585
2013		17	340	562	130	10	6,808	11,253	2,600
2014		18	340	579	123	11	7,222	12,294	2,606
2015		19	340	596	116	12	7,635	13,388	2,604
2016		20	340	614	110	13	8,048	14,535	2,594
2017		21	340	633	104	14	8,461	15,740	2,577
2018		22	340	651	98	15	8,874	17,004	2,554
2019		23	340	671	92	16	9,287	18,329	2,525
2020		24	340	691	87	17	9,701	19,719	2,493
2021		25	340	712	83	18	10,114	21,176	2,456
2022		26	340	733	78	19	10,527	22,702	2,415
2023		27	340	755	74	20	10,940	24,301	2,372
2024		28	340	778	70	21	11,353	25,975	2,326
2025		29	340	801	66	22	11,766	27,728	2,278
2026		30	340	825	62	23	12,179	29,563	2,228
2027		31	340	850	59	24	12,593	31,483	2,177
2028		32	340	876	56	25	13,006	33,491	2,125
2029		33	340	902	52	26	13,419	35,592	2,071
2030		34	340	929	50	27	13,832	37,788	2,018
2031		35	340	957	47	28	14,245	40,084	1,964
2032		36	340	985	44	29	14,658	42,484	1,909
2033	Last Benefit Year	37	340	1,015	42	30	15,072	44,992	1,855
Total					74,338				69,899
B/C Ratio:	0.94								

	Inputs	
	Annual Main. Cost	340
1	Year 2004 Benefits (Base)	3,090
20	Year 2023 Benefits (20-y fore.)	10,940
	Y-Intercept	2,677
	Slope	413
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 4B

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	3,500	3,605	3,307				
	Start R/W Acquisition;								
1998	End PS&E	2	9,000	9,548	8,036				
1999	Start Construction	3	9,380	10,250	7,915				
2000		4	9,380	10,557	7,479				
2001		5	9,380	10,874	7,067				
2002		6	9,380	11,200	6,678				
2003	Road Opens	7	9,380	11,536	6,311				
2004	First Benefit Year	8	320	405	203	1	2,950	3736.97174	1875.4601
2005		9	320	418	192	2	3,347	4,367	2,011
2006		10	320	430	182	3	3,744	5,031	2,125
2007		11	320	443	172	4	4,141	5,731	2,221
2008		12	320	456	162	5	4,537	6,469	2,300
2009		13	320	470	153	6	4,934	7,246	2,364
2010		14	320	484	145	7	5,331	8,064	2,413
2011		15	320	499	137	8	5,728	8,924	2,450
2012		16	320	514	129	9	6,125	9,828	2,475
2013		17	320	529	122	10	6,522	10,779	2,491
2014		18	320	545	115	11	6,918	11,778	2,497
2015		19	320	561	109	12	7,315	12,827	2,495
2016		20	320	578	103	13	7,712	13,929	2,485
2017		21	320	595	97	14	8,109	15,085	2,469
2018		22	320	613	92	15	8,506	16,298	2,448
2019		23	320	632	87	16	8,903	17,570	2,421
2020		24	320	650	82	17	9,299	18,904	2,390
2021		25	320	670	78	18	9,696	20,302	2,354
2022		26	320	690	73	19	10,093	21,767	2,316
2023		27	320	711	69	20	10,490	23,301	2,274
2024		28	320	732	66	21	10,887	24,908	2,231
2025		29	320	754	62	22	11,284	26,591	2,185
2026		30	320	777	59	23	11,681	28,352	2,137
2027		31	320	800	55	24	12,077	30,194	2,088
2028		32	320	824	52	25	12,474	32,122	2,038
2029		33	320	849	49	26	12,871	34,138	1,987
2030		34	320	874	47	27	13,268	36,247	1,935
2031		35	320	900	44	28	13,665	38,451	1,884
2032		36	320	927	42	29	14,062	40,754	1,832
2033	Last Benefit Year	37	320	955	39	30	14,458	43,162	1,780
Total					49,814				66,969
B/C Ratio:	1.34								

	Inputs	
	Annual Main. Cost	320
1	Year 2004 Benefits (Base)	2,950
20	Year 2023 Benefits (20-y fore.)	10,490
	Y-Intercept	2,553
	Slope	397
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 5

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	2,750	2,833	2,599				
	Start R/W Acquisition;								
1998	End PS&E	2	5,750	6,100	5,134				
1999	Start Construction	3	7,380	8,064	6,227				
2000		4	7,380	8,306	5,884				
2001		5	7,380	8,555	5,560				
2002		6	7,380	8,812	5,254				
2003	Road Opens	7	7,380	9,076	4,965				
2004	First Benefit Year	8	290	367	184	1	2,590	3,281	1,647
2005		9	290	378	174	2	2,939	3,835	1,766
2006		10	290	390	165	3	3,288	4,419	1,866
2007		11	290	401	156	4	3,637	5,034	1,951
2008		12	290	413	147	5	3,986	5,683	2,020
2009		13	290	426	139	6	4,335	6,366	2,076
2010		14	290	439	131	7	4,684	7,084	2,120
2011		15	290	452	124	8	5,033	7,841	2,153
2012		16	290	465	117	9	5,382	8,636	2,175
2013		17	290	479	111	10	5,731	9,472	2,189
2014		18	290	494	105	11	6,079	10,350	2,194
2015		19	290	509	99	12	6,428	11,272	2,192
2016		20	290	524	93	13	6,777	12,241	2,184
2017		21	290	539	88	14	7,126	13,257	2,170
2018		22	290	556	83	15	7,475	14,323	2,151
2019		23	290	572	79	16	7,824	15,442	2,128
2020		24	290	590	75	17	8,173	16,614	2,100
2021		25	290	607	70	18	8,522	17,843	2,069
2022		26	290	625	67	19	8,871	19,131	2,035
2023		27	290	644	63	20	9,220	20,480	1,999
2024		28	290	663	59	21	9,569	21,893	1,960
2025		29	290	683	56	22	9,918	23,372	1,920
2026		30	290	704	53	23	10,267	24,920	1,878
2027		31	290	725	50	24	10,616	26,540	1,835
2028		32	290	747	47	25	10,965	28,235	1,791
2029		33	290	769	45	26	11,314	30,008	1,746
2030		34	290	792	42	27	11,663	31,861	1,701
2031		35	290	816	40	28	12,012	33,799	1,656
2032		36	290	841	38	29	12,361	35,824	1,610
2033	Last Benefit Year	37	290	866	36	30	12,709	37,941	1,564
Total					36,361				58,849
B/C Ratio:	1.53								

	Inputs	
	Annual Main. Cost	290
1	Year 2004 Benefits (Base)	2,590
20	Year 2023 Benefits (20-y fore.)	9,220
	Y-Intercept	2,241
	Slope	349
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 6A

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	5,450	5,614	5,150				
1998	Start R/W Acquisition; End PS&E	2	8,950	9,495	7,992				
1999	Start Construction	3	14,560	15,910	12,286				
2000		4	14,560	16,387	11,609				
2001		5	14,560	16,879	10,970				
2002		6	14,560	17,385	10,366				
2003	Road Opens	7	14,560	17,907	9,796				
2004	First Benefit Year	8	340	431	216	1	1,320	1,672	839
2005		9	340	444	204	2	1,497	1,954	900
2006		10	340	457	193	3	1,675	2,251	951
2007		11	340	471	182	4	1,852	2,564	994
2008		12	340	485	172	5	2,029	2,894	1,029
2009		13	340	499	163	6	2,207	3,241	1,057
2010		14	340	514	154	7	2,384	3,606	1,079
2011		15	340	530	145	8	2,562	3,991	1,096
2012		16	340	546	137	9	2,739	4,395	1,107
2013		17	340	562	130	10	2,916	4,820	1,114
2014		18	340	579	123	11	3,094	5,267	1,117
2015		19	340	596	116	12	3,271	5,736	1,116
2016		20	340	614	110	13	3,448	6,228	1,111
2017		21	340	633	104	14	3,626	6,745	1,104
2018		22	340	651	98	15	3,803	7,287	1,094
2019		23	340	671	92	16	3,981	7,856	1,082
2020		24	340	691	87	17	4,158	8,452	1,068
2021		25	340	712	83	18	4,335	9,077	1,053
2022		26	340	733	78	19	4,513	9,732	1,035
2023		27	340	755	74	20	4,690	10,418	1,017
2024		28	340	778	70	21	4,867	11,136	997
2025		29	340	801	66	22	5,045	11,888	977
2026		30	340	825	62	23	5,222	12,675	955
2027		31	340	850	59	24	5,399	13,499	933
2028		32	340	876	56	25	5,577	14,361	911
2029		33	340	902	52	26	5,754	15,262	888
2030		34	340	929	50	27	5,932	16,205	865
2031		35	340	957	47	28	6,109	17,190	842
2032		36	340	985	44	29	6,286	18,219	819
2033	Last Benefit Year	37	340	1,015	42	30	6,464	19,296	796
Total					71,377		116,755		29,946
B/C Ratio:	0.42								

	Inputs	
	Annual Main. Cost	340
1	Year 2004 Benefits (Base)	1,320
20	Year 2023 Benefits (20-y fore.)	4,690
	Y-Intercept	1,143
	Slope	177
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 6B

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	5,450	5,614	5,150				
1998	Start R/W Acquisition; End PS&E	2	8,150	8,646	7,277				
1999	Start Construction	3	14,560	15,910	12,286				
2000		4	14,560	16,387	11,609				
2001		5	14,560	16,879	10,970				
2002		6	14,560	17,385	10,366				
2003	Road Opens	7	14,560	17,907	9,796				
2004	First Benefit Year	8	330	418	210	1	860	1,089	547
2005		9	330	431	198	2	975	1,272	586
2006		10	330	443	187	3	1,089	1,464	618
2007		11	330	457	177	4	1,204	1,667	646
2008		12	330	471	167	5	1,319	1,881	669
2009		13	330	485	158	6	1,434	2,105	687
2010		14	330	499	149	7	1,548	2,342	701
2011		15	330	514	141	8	1,663	2,591	711
2012		16	330	530	133	9	1,778	2,853	719
2013		17	330	545	126	10	1,893	3,128	723
2014		18	330	562	119	11	2,007	3,417	724
2015		19	330	579	113	12	2,122	3,721	724
2016		20	330	596	106	13	2,237	4,040	721
2017		21	330	614	100	14	2,352	4,375	716
2018		22	330	632	95	15	2,466	4,726	710
2019		23	330	651	90	16	2,581	5,094	702
2020		24	330	671	85	17	2,696	5,480	693
2021		25	330	691	80	18	2,811	5,885	682
2022		26	330	712	76	19	2,925	6,309	671
2023		27	330	733	72	20	3,040	6,753	659
2024		28	330	755	68	21	3,155	7,218	646
2025		29	330	778	64	22	3,269	7,705	633
2026		30	330	801	60	23	3,384	8,214	619
2027		31	330	825	57	24	3,499	8,748	605
2028		32	330	850	54	25	3,614	9,306	590
2029		33	330	875	51	26	3,728	9,889	576
2030		34	330	902	48	27	3,843	10,499	561
2031		35	330	929	45	28	3,958	11,137	546
2032		36	330	956	43	29	4,073	11,804	530
2033	Last Benefit Year	37	330	985	41	30	4,187	12,500	515
Total					70,569				19,429
B/C Ratio:	0.28								

	Inputs	
	Annual Main. Cost	330
1	Year 2004 Benefits (Base)	860
20	Year 2023 Benefits (20-y fore.)	3,040
	Y-Intercept	745
	Slope	115
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 7

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	4,500	4,635	4,252				
1998	Start R/W Acquisition; End PS&E	2	20,300	21,536	18,127				
1999	Start Construction	3	12,080	13,200	10,193				
2000		4	12,080	13,596	9,632				
2001		5	12,080	14,004	9,102				
2002		6	12,080	14,424	8,601				
2003	Road Opens	7	12,080	14,857	8,127				
2004	First Benefit Year	8	290	367	184	1	-110	-139	-70
2005		9	290	378	174	2	-125	-163	-75
2006		10	290	390	165	3	-141	-189	-80
2007		11	290	401	156	4	-156	-216	-84
2008		12	290	413	147	5	-171	-244	-87
2009		13	290	426	139	6	-186	-274	-89
2010		14	290	439	131	7	-202	-305	-91
2011		15	290	452	124	8	-217	-338	-93
2012		16	290	465	117	9	-232	-372	-94
2013		17	290	479	111	10	-247	-409	-94
2014		18	290	494	105	11	-263	-447	-95
2015		19	290	509	99	12	-278	-487	-95
2016		20	290	524	93	13	-293	-529	-94
2017		21	290	539	88	14	-308	-574	-94
2018		22	290	556	83	15	-324	-620	-93
2019		23	290	572	79	16	-339	-669	-92
2020		24	290	590	75	17	-354	-720	-91
2021		25	290	607	70	18	-369	-774	-90
2022		26	290	625	67	19	-385	-830	-88
2023		27	290	644	63	20	-400	-889	-87
2024		28	290	663	59	21	-415	-950	-85
2025		29	290	683	56	22	-431	-1,015	-83
2026		30	290	704	53	23	-446	-1,082	-82
2027		31	290	725	50	24	-461	-1,153	-80
2028		32	290	747	47	25	-476	-1,227	-78
2029		33	290	769	45	26	-492	-1,304	-76
2030		34	290	792	42	27	-507	-1,385	-74
2031		35	290	816	40	28	-522	-1,469	-72
2032		36	290	841	38	29	-537	-1,557	-70
2033	Last Benefit Year	37	290	866	36	30	-553	-1,650	-68
Total					70,770				-2,543
B/C Ratio:	-0.04								

	Inputs	
	Annual Main. Cost	290
1	Year 2004 Benefits (Base)	-110
20	Year 2023 Benefits (20-y fore.)	-400
	Y-Intercept	-95
	Slope	-15
	Inflation Rate	0.03
	Discount Rate	0.090

Kihei Upcountry Highway
Benefit-Cost Analysis
Alternative 8

nual Benefit

			Costs (in $1,000s)				Benefits (in $1,000s)		
Year	Major Event	N	Amount	Inflation Adjusted[2]	Present Value[3]	X	Amount	Inflation Adjusted[2]	Present Value[3]
1996	Base Year	0							
1997	Start PS&E[1]	1	2,500	2,575	2,362				
1998	Start R/W Acquisition; End PS&E	2	5,300	5,623	4,733				
1999	Start Construction	3	6,740	7,365	5,687				
2000		4	6,740	7,586	5,374				
2001		5	6,740	7,814	5,078				
2002		6	6,740	8,048	4,799				
2003	Road Opens	7	6,740	8,289	4,535				
2004	First Benefit Year	8	290	367	184	1	1,720	2,179	1,093
2005		9	290	378	174	2	1,949	2,544	1,171
2006		10	290	390	165	3	2,179	2,928	1,237
2007		11	290	401	156	4	2,408	3,334	1,292
2008		12	290	413	147	5	2,638	3,761	1,337
2009		13	290	426	139	6	2,867	4,211	1,373
2010		14	290	439	131	7	3,097	4,684	1,402
2011		15	290	452	124	8	3,326	5,182	1,423
2012		16	290	465	117	9	3,556	5,706	1,437
2013		17	290	479	111	10	3,785	6,256	1,446
2014		18	290	494	105	11	4,015	6,835	1,449
2015		19	290	509	99	12	4,244	7,442	1,447
2016		20	290	524	93	13	4,474	8,080	1,442
2017		21	290	539	88	14	4,703	8,749	1,432
2018		22	290	556	83	15	4,933	9,451	1,419
2019		23	290	572	79	16	5,162	10,188	1,404
2020		24	290	590	75	17	5,392	10,960	1,385
2021		25	290	607	70	18	5,621	11,769	1,365
2022		26	290	625	67	19	5,851	12,617	1,342
2023		27	290	644	63	20	6,080	13,505	1,318
2024		28	290	663	59	21	6,309	14,436	1,293
2025		29	290	683	56	22	6,539	15,409	1,266
2026		30	290	704	53	23	6,768	16,429	1,238
2027		31	290	725	50	24	6,998	17,495	1,210
2028		32	290	747	47	25	7,227	18,611	1,181
2029		33	290	769	45	26	7,457	19,778	1,151
2030		34	290	792	42	27	7,686	20,998	1,121
2031		35	290	816	40	28	7,916	22,274	1,091
2032		36	290	841	38	29	8,145	23,607	1,061
2033	Last Benefit Year	37	290	866	36	30	8,375	25,000	1,031
Total					35,304				38,858
B/C Ratio:	1.10								

	Inputs	
	Annual Main. Cost	290
1	Year 2004 Benefits (Base)	1,720
20	Year 2023 Benefits (20-y fore.	6,080
	Y-Intercept	1,491
	Slope	229
	Inflation Rate	0.03
	Discount Rate	0.090

APPENDIX F

Air Quality Analysis Technical Memorandum

Kihei-Upcountry Maui Highway Project

Project Number: HDPS-9203(1)

Air Quality Analysis Technical Memorandum

Prepared for:

State of Hawaii
Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.

October 1998

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INTRODUCTION

The purpose of this report is to describe the air pollutants associated with motor vehicle exhaust, discuss applicable air quality standards and regulations, summarize the existing air quality conditions in the study area, and identify and quantify the potential air quality impacts of Kihei-Upcountry Maui Highway.

1. PROJECT DESCRIPTION

The Highways Division of the State of Hawaii Department of Transportation (SDOT) and the Federal Highway Administration (FHWA) are proposing the Kihei-Upcountry Maui Highway project on the island of Maui, Hawaii. Figure 1 shows the general project location. The proposed federal-aid two-lane limited access highway would link the Kihei-Makena and Upcountry Maui regions.

The alternatives under consideration are all eight possible combinations of two Kihei terminus options and four Upcountry terminus options. The Kihei termini and segments are named K1 and K2, and the Upcountry termini and segments are named U1, U2-A, U2-B and U3.

Descriptions of the alternatives are as follows:

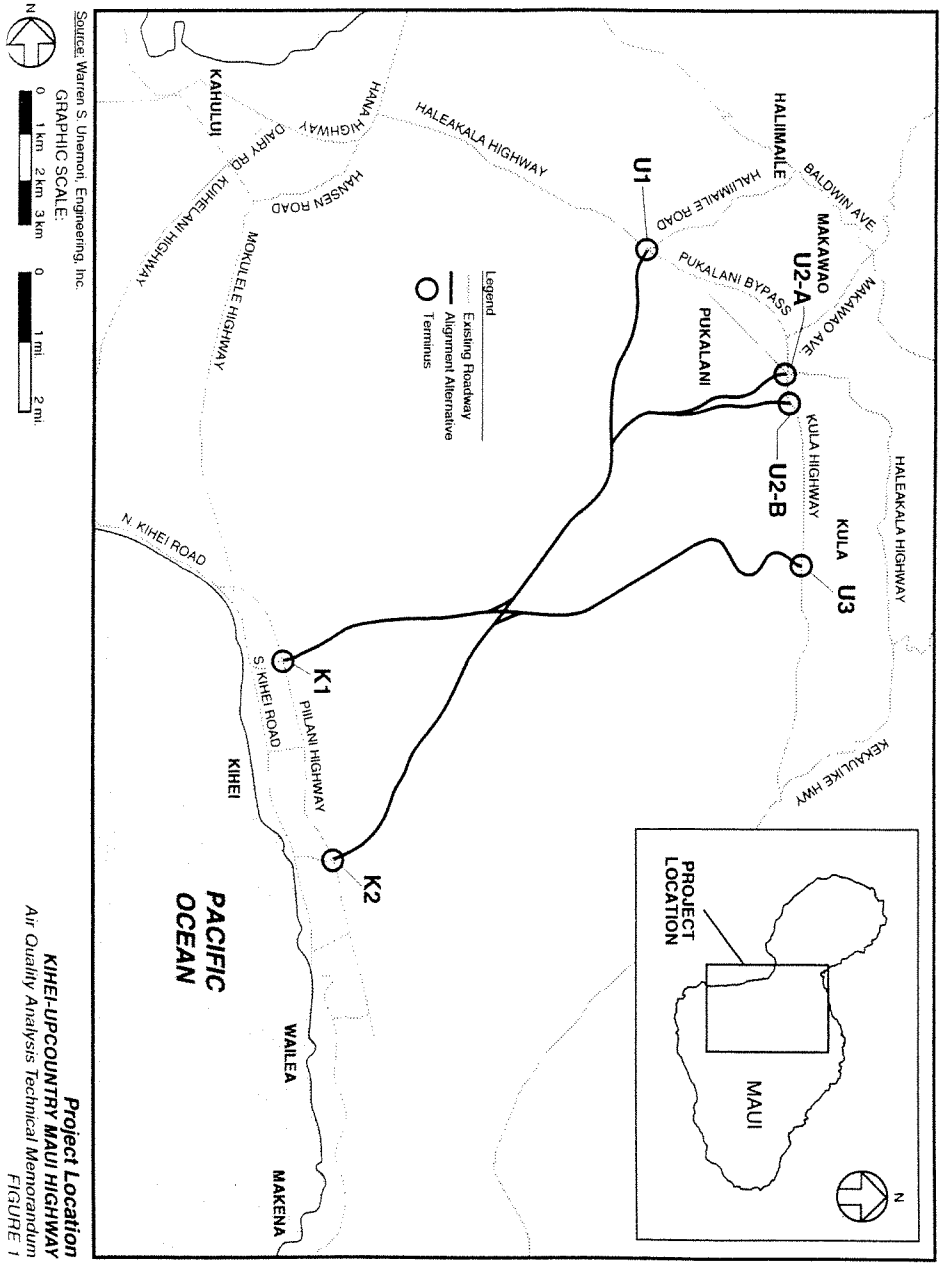
1. Alternative U1,K1. This alternative would start at the Haleakala Highway / Haliimaile Road intersection in Upcountry and follow a south to southwest alignment to the Kaonoulu Street / Piilani Highway intersection. The length of this alternative is approximately 15.8 km (9.8 miles).

2. Alternative U1,K2. This alternative is the same as Alternative U1,K1 from the Upcountry terminus to where the alternative alignments cross. However, this alternative would proceed southwest to the Ke Alii Alanui Street / Piilani Highway intersection. The length of Alternative U1,K2 is approximately 17.5 km (10.9 miles).

3. Alternative U2-A,K1. This alternative would extend from the existing Pukalani Bypass/Haleakala Highway/Kula Highway "Five Trees" intersection in Upcountry, to an alignment common with U1. The Kihei terminus would be at the Kaonoulu Street/Piilani Highway intersection.

4. Alternative U2-A,K2. This alternative would be from the "Five Trees" intersection to the Ke Alii Alanui Street/Piilani Highway intersection.

5. Alternative U2-B,K1. This alternative would extend from Kula Highway at approximately 700 m (2300 ft) south of the "Five Trees" intersection to the Piilani Highway/Kaonoulu Street intersection.



Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Air Quality Analysis Technical Memorandum
FIGURE 1

6. Alternative U2-B,K2. This alternative is shares the same Upcountry terminus and alignment as the Alternative U2-B,K1. This alternative's Kihei terminus is at the Piilani Highway/Ke Alii Alanui Street intersection.

7. Alternative U3,K1. This alternative would be from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway/Kaonoulu Street intersection in Kihei.

8. Alternative U3,K2. This alternative would extend from Kula Highway, south of Pulehu Gulch in Kula, to the Ke Alii Alanui Street/Piilani Highway intersection.

The proposed highway would be a limited access arterial roadway with one 3.6 m (12 ft) lane in each direction. The minimum width of the roadway right-of-way would be 49 m (160 ft) in rural areas and at least 37 m (120 ft) in urban areas. Additional right-of-way is being reserved to allow for future widening to a four-lane divided highway if appropriate in the future. Posted speed limits would vary from 70 km/h (45 mph) in urban areas to 90 km/h (55 mph) in rural areas.

2. RELEVANT POLLUTANTS

Potential air quality impacts are estimated by quantifying the change in estimated air quality levels anticipated under each Build alternative with the levels estimated under the No Build alternative. "Air Pollution" is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by reducing visibility, damaging property, reducing the productivity or vigor of crops or natural vegetation, or by reducing human or animal health.

Seven air pollutants have been identified by the U.S. Environmental Protection Agency (EPA) as being of concern nationwide. The pollutants are carbon monoxide, hydrocarbons, nitrogen oxides, ozone, particulate matter, sulfur oxides, and lead.

2.1 Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas, which is generated in the urban environment primarily by the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations of CO are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. CO chemically combines with the hemoglobin in the red blood cells to decrease the oxygen-carrying capacity of blood. Prolonged exposure can cause headaches, drowsiness, or loss of equilibrium.

2.2 Hydrocarbons

Hydrocarbons (HC) include a wide variety of organic compounds emitted principally from the storage, handling, and use of fossil fuels. Though HC can cause eye irritation and breathing difficulty, their principal health effects are related to their role in the formation of ozone.

2.3 Nitrogen Oxides

Nitrogen oxides (NOx) constitute a class of compounds that includes nitrogen dioxide (NO_2) and nitric oxide (NO); both of which are emitted by motor vehicles. Although NO_2 and NO can irritate the eyes and nose and impair the respiratory system, NOx is also of concern primarily because of its role in the formation of ozone.

2.4 Ozone

Ozone (O_3), or photochemical oxidants, is a major cause of lung and eye irritation in an urban environment. It is formed through a series of reactions involving HC and NOx, which take place in the atmosphere in the presence of sunlight. Relatively high concentrations of O_3 are normally found only in the summer.

2.5 Particulate Matter

Particulate matter includes both liquid and solid particles of a wide range of sizes and composition. Of particular health concern are those particles that are smaller than or equal to 10 microns (PM_{10}) in size. The principal health effects of airborne particulate matter are on the respiratory system. Relatively little particulate matter is emitted by gasoline-fueled motor vehicles. On July 16, 1997, EPA established a new standard for particulates with a diameter smaller than 2.5 microns ($PM_{2.5}$). Medical evidence indicated that these much smaller particles are also of serious concern to human health, since they lodge deeply in the lungs and can cause premature deaths and respiratory problems.

2.6 Sulfur Oxides

Sulfur oxides (SOx) constitute a class of compounds of which sulfur dioxide (SO_2) and sulfur trioxide (SO_3) are of great importance. The health effects of SOx include respiratory illness, damage to the respiratory tract, and bronchioconstriction. Relatively little SOx is emitted from motor vehicles.

2.7 Lead

Lead is a stable element that persists and accumulates both in the environment and in animals. Its principal effects in humans are on the blood-forming, nervous, and renal systems. Historically, motor vehicles constituted the major source of lead emissions to the atmosphere. Lead levels in the urban environment from motor vehicles have significantly decreased due to the federally mandated switch to lead-free gasoline and are, in general, no longer of concern.

On the island of Maui ambient concentrations of carbon monoxide and hydrocarbons (and thus ozone) are predominantly influenced by motor vehicle activity. Emissions of nitrogen oxides come from both mobile and stationary sources, and emissions of particulate matter, sulfur oxides and lead are associated mainly with various stationary sources of emissions.

Pollutants that can be traced principally to motor vehicles are of primary importance in evaluating the potential air quality impacts of the proposed project. Of these pollutants, carbon monoxide is evaluated on a localized or "microscale" basis and hydrocarbons, and nitrogen oxides, as precursors to ozone, are evaluated on a regional or "mesoscale" basis.

3. NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS

As required by the Clean Air Act, National Ambient Air Quality Standards ("NAAQS") have been established for seven major air pollutants: carbon monoxide, nitrogen oxides, ozone, particulate matter smaller than 10 microns (PM-10), particulate matter smaller than 2.5 microns (PM-2.5), sulfur oxides, and lead. The State of Hawaii has also established its own standards for these pollutants.

Both the National and State ambient air quality standards are summarized in Table 1. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare. The State of Hawaii issues it's ambient air quality standards in terms of a single standard that is designed "to protect public health and welfare and to prevent the significant deterioration of air quality".

4. AIR QUALITY REGULATIONS AND PLANNING

The Clean Air Act Amendments of 1990 (Amendments) direct the EPA to implement strong environmental policies and regulations that will ensure cleaner air quality. These Amendments will affect proposed transportation projects such as the proposed Kihei-Upcountry Maui Highway. According to Title I, Section 101, Paragraph F of the Amendments, "No federal agency may approve, accept or fund any transportation plan, program or project unless such plan, program, or project has been found to conform to any applicable state implementation plan (SIP) in effect under this act." Title I of the Amendments defines conformity as follows:

- Conformity to an implementations plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards; and
- That such activities will not:
  - (i) Cause or contribute to any new violation of any National Ambient Air Quality Standard (NAAQS) in any area:
  - (ii) Increase the frequency or severity of any existing violation of any NAAQS in any area; or
  - (iii) Delay timely attainment of any NAAQS or any required interim emissions reductions or other milestones in any area.

The determination of conformity is to be based on the most recent estimates of pollutant emissions, and such estimates are to be determined from the most recent population, employment, travel and congestion estimates as determined by the responsible metropolitan planning organizations or other agency authorized to make such estimates.

Table 1
National and State Ambient Air Quality Standards

Pollutant	Standard		
	Hawaii State	Federal Primary	Federal Secondary
Carbon Monoxide (CO)			
1 Hour	10 mg/m^3 (9 ppm)	40 mg/m^3 (35 ppm)	40 mg/m^3 (35 ppm)
8 Hour	5 mg/m^3 (4.5 ppm)	10 mg/m^3 (9 ppm)	10 mg/m^3 (9 ppm)
Nitrogen Dioxide (NO_2)			
Annual Arithmetic Mean	70 ug/m^3	100 ug/m^3 (0.053 ppm)	100 ug/m^3 (0.053 ppm)
Particulate Matter < 10 micrometers (PM_{10})			
24 Hour	150 ug/m^3	150 ug/m^3	150 ug/m^3
Annual Arithmetic Mean	50 ug/m^3	50 ug/m^3	50 ug/m^3
Particulate Matter < 2.5 micrometers ($PM_{2.5}$)			
24 Hour	--	65 ug/m^3	65 ug/m^3
Annual Arithmetic Mean	--	15 ug/m^3	15 ug/m^3
Ozone (O_3)			
1 Hour	100 ug/m^3	235 ug/m^3 (0.12 ppm)	235 ug/m^3 (0.12 ppm)
8 Hour	--	157 ug/m^3 (0.08 ppm)	157 ug/m^3 (0.08 ppm)
Sulfur Dioxide (SO_2)			
3 Hour	1300 ug/m^3	--	1300 ug/m^3 (0.5 ppm)
24 Hour	365 ug/m^3	365 ug/m^3 (0.14 ppm)	--
Annual Arithmetic Mean	80 ug/m^3	80 ug/m^3 (0.03 ppm)	--
Lead (Pb)			
Quarterly Average	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3

Source: State of Hawaii, Department of Health, Clean Air Branch.
EPA NAAQS, Updated July 1997.

5. AMBIENT AIR QUALITY IN THE STUDY AREA

5.1 Local Meteorology

The large Pacific semipermanent high pressure cell, which is usually centered north of the Hawaiian Islands, is one of the important climatic controls affecting the circulation of air in the islands. Over the central North Pacific, this cell produces a rather

persistent flow of air from the northeast known as the Northeast Trades. The trade-wind flow are almost constant during the spring and summer months, from May to October. In the fall and winter months, wind is more variable although, on average, the trades persist more than 50 percent of the time during these seasons.

Maui's climate varies according to altitude and leeward/windward location. Lowland areas tend to have a semi-tropical climate, while higher elevations are characterized by temperate climates. Maui is cooled by northeast trade winds approximately 70 percent of the year. Trade winds are affected by local topographic conditions. The northeast trade winds become northerly as they are funneled between the West Maui Mountains and Haleakala, often attaining speed of 65 to 72 km/h (40 to 45 mph) at Kahului Airport. Areas in the "wind shadows" are shielded.

The climate of Upcountry Maui is conducive to farming, being mild with warm days and cool evenings. Pukalani and Kula are relatively dry with rainfall ranging between 50 to 100 cm (20 to 40 inches) annually. The amount of rainfall increases northeastward towards Makawao and Haiku to approximately 125 to 250 cm (50 to 100 inches) annually. Temperatures range from around 15 (C) (60s (F)) during the winter to the high 20s (C) (mid 80s (F)) in the summer.

Kihei-Makena is on the south side of the island, in the rain shadow of Haleakala. The region is generally sunny, warm and dry the entire year. Temperatures range from a minimum of 17 degrees (C) (62 degrees (F)) in February to a maximum of 32 degrees (C) (90 degrees (F)) in July. Average annual precipitation is less than 38 cm (15 inches) per year. Most of this precipitation occurs during the winter months when storms are usually accompanied by south winds.

5.2 Attainment Status of Study Area

Section 107 of the 1977 Clean Air Act Amendment requires the EPA to publish a list of all geographic areas in compliance with the NAAQS, as well as those not attaining the NAAQS. Areas not in compliance with the NAAQS are termed nonattainment areas. Areas that have insufficient data to make a determination are unclassified, and are treated as being attainment areas until proven otherwise. The designation of an area is made on a pollutant-by-pollutant basis.

The State of Hawaii is designated as an attainment area for all of the applicable pollutants.

5.3 Monitored Air Quality

The State of Hawaii Department of Health (HDOH) monitors air pollutant levels in Hawaii are through a network of sampling stations. There are two stations on Maui at Kihei and Paia. The stations were established in mid 1996, and are strategically located downwind of several sugarcane fields as special PM-10 sampling stations for sugarcane burning activities. Currently there are no other pollutants monitored on Maui by HDOH other than PM-10.

Ambient background air quality data for other criteria pollutants on the island of Maui was obtained from the air quality study for the Proposed Kahului Airport Improvements, Kahului, Maui (B.D. Neal & Associates, December 1995). Monitored data cited in the above report was from the Prevention of Significant Deterioration Permit Application for Maalaea Combined Cycle Project, Maui Electric Company (MECO), August 1990.

The pollutant data monitored at the HDOH stations and by MECO are presented in Table 2, and are the best representation of the air quality conditions in the project area. All of the monitored levels are well below the applicable standards.

Table 2
Air Quality Summary for Study Area
HDOH and MECO Monitoring Stations

Pollutant	Location		
	Maalaea (MECO Site #233	Kihei (HDOH Site)	Paia (HDOH Site)
Carbon Monoxide (CO)			
1 Hour	14 ug/m^3 (.012 ppm)	NM	NM
8 Hour	6 ug/m^3 (.005 ppm)	NM	NM
Nitrogen Dioxide (NO_2)			
Annual Arithmetic Mean	6 ug/m^3 (.003 ppm)	NM	NM
Particulate Matter < 10 micrometers (PM_{10})			
24 Hour	56 ug/m^3	18 ug/m^3	60 ug/m^3
Annual Arithmetic Mean	14 ug/m^3	6 ug/m^3	19 ug/m^3
Particulate Matter < 2.5 micrometers ($PM_{2.5}$)			
24 Hour	--	NM	NM
Annual Arithmetic Mean	--	NM	NM
Ozone (O_3)			
1 Hour	86 ug/m^3(.044 ppm)	NM	NM
8 Hour	--	NM	NM
Sulfur Dioxide (SO_2)			
3 Hour	34 ug/m^3 (.013 ppm)	NM	NM
24 Hour	13 ug/m^3 (.005 ppm)	NM	NM
Annual Arithmetic Mean	3 ug/m^3 (.001 ppm)	NM	NM
Lead (Pb)			
Quarterly Average	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3

Note: NM – not monitored

Sources: Hawaii Air Quality Data 1996, HDOH, Clean Air Branch.
Air Quality Study for the Proposed Kahului Airport Improvements, B.D. Neal & Associates, December 1995

6. IMPACT ASSESSMENT

6.1 Pollutants for Analysis

Pollutants that can be traced principally, or in large measure, to motor vehicles are those that are of relevance in evaluating the impacts of the project. These pollutants include CO, HC, No_X and O_3. Transportation sources account for a very small percentage of regional emissions of SO_X and particulate matter (PM-10), and detailed analyses for these contaminants are not warranted.

Motor vehicles have historically constituted a major source of lead emissions to the atmosphere. As already noted, lead levels have decreased significantly and will continue to do so, due to the mandated decrease and elimination of lead in gasoline. Therefore, a detailed analysis of the impact of lead emissions is also not warranted.

CO impacts are localized. Even under the worst meteorological conditions and most congested traffic conditions, high concentrations are limited to within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Consequently, it is appropriate to predict concentrations of CO on a localized or "microscale" basis.

HC and NO_X emissions from automotive sources are of concern primarily because of their role as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Since the reactions are slow and occur as the pollutants are diffusing downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of HC and NO_X emissions are therefore generally examined on a regional or "mesoscale" basis.

6.2 Mesoscale Analysis

Changes in "pollutant burdens" (i.e. the tons of pollutants emitted in the study area each day or year) provide an indication of the general change in air quality in the region. This analysis is useful in assessing relative changes in the concentrations of CO, HC and NO_X between the Build and No Build alternatives. These pollutant burdens are computed based on the estimated vehicle miles traveled (VMT), vehicle hours traveled (VHT), average travel speed and vehicle types for all major roadways in the study area.

6.3 Microscale Analysis

The analysis of mobile sources, which must be undertaken for a localized (microscale) area, applies mathematical models that simulate physical conditions to predict carbon monoxide (CO) concentrations at specific receptor locations. Mobile source dispersion models are the basic analytical tools used to estimate carbon monoxide concentrations expected under given conditions of traffic, roadway geometry and meteorology. The mathematical expressions and formulations that comprise the various models attempt to describe an extremely complex physical phenomenon. However, because all models contain simplifications and approximations of actual conditions, most results obtained from these dispersion models tend to be conservative.

6.4 Methodology

The potential adverse impacts of the Kihei-Upcountry Maui Highway due to increased vehicular activity in the study area must be investigated. Localized areas of concern for CO, such as heavily utilized and/or congested intersections, referred to as potential "hot spots", were analyzed consistent with FHWA and EPA project impact review requirements.

As stated in the EPA Conformity Guidelines, the need for a hot spot analysis is determined as follows:

- A hot spot analysis may be necessary if the project worsens an intersection's traffic level of service (LOS) from C or D.
- A hot spot analysis may be necessary if the intersection LOS is D or worse and the project substantially increases vehicular delay.

After reviewing the traffic data developed for the Kihei-Upcountry Air Quality Analysis, and based on FHWA and EPA project impact review requirements, it was determined that a detailed microscale "hot spot" analysis would not be required to meet federal air quality requirements. However, Hawaii's 1- and 8-hour SAAQS for CO are 4.5 and 9 ppm, respectively, much more restrictive than the NAAQS of 9 and 35 ppm, respectively. Therefore, to insure conformity to both the SAAQS and NAAQS, study intersections were ranked according to build LOS and volumes, and only the following two sites received detailed CO analysis because they represent the termini with the worst predicted traffic conditions:

- Site #1: Haliimaile Road / Haleakala Highway / Kihei-Upcountry Maui Highway intersection - Alternatives U1,K1 and U1,K2; and
- Site #2: Kaonoulu Street / Piilani Highway / Kihei-Upcountry Maui Highway intersection - Alternative U1,K1

The two sites are worst-case representatives of predictions for all study area intersections under Build conditions, and for that reason an intersection by intersection comparison with estimated No Build levels was not necessary to determine conformity to both the SAAQS and NAAQS.

Microscale air quality modeling was performed using the most recent version of the EPA mobile source emission factor model (MOBILE 5A) and the CAL3QHC version 2 air quality dispersion model to estimate Build CO levels.

6.4.1 Vehicular Emissions

Vehicular Emissions were estimated using the EPA Mobile 5A vehicular emission factor model (User's Guide to MOBILE 5A, Mobile Source Emission Factor Model, Publication No. EPA-AA-TEB-92, Ann Arbor, Michigan, March 1993).

The type of vehicles using the facility affects total emissions. The percentages of each type of vehicle used for this analysis were based on the EPA's recommended national average fleet mix.

Emissions estimates account for three possible vehicle operating conditions: cold-vehicle operation, hot-start operation and hot stabilized operation. CO emissions are greatest when engines are cold (cold-vehicle operation) and when engines are restarted shortly after they were shut off (hot-start operation). EPA-recommended vehicular operating conditions were used in this analysis (20.6% cold, 27.3%, hot).

Emissions are also greatly affected by speed, ambient temperature, vehicle age and mileage distribution. Ambient temperature was recommended by EPA, as was the usage of national average vehicle age and mileage distribution. Emission estimates used for this analysis can be found in Appendix B.

6.4.2 Dispersion Model

Mobile source models are the basic analytical tools used to estimate CO concentrations expected under given traffic, roadway geometry, and meteorological conditions. The mathematical expressions and formulations that comprise the various models attempt to describe an extremely complex physical phenomenon as closely as possible. The dispersion modeling program used in this study for estimating pollutant concentrations near roadway intersections is the CAL3QHC dispersion model (Version 2.0) developed by the U.S. Environmental Protection Agency. Version 2, released in 1992, allows a more specific determination of the traffic characteristics occurring at a roadway intersection.

CAL3QHC is a Gaussian model recommended in the *EPA Guidelines for Modeling Carbon Monoxide from Roadway Intersections* (EPA-454/R-92-005). Gaussian models assume that the dispersion of pollutants downwind of a pollution source follow a normal distribution around the center of the pollution source.

Different emission rates occur when vehicles are stopped (idling), accelerating, decelerating and moving at different average speeds. CAL3QHC simplifies these different emission rates into the following tow components:

- Emissions when vehicles are stopped (idling) during the red phase of a signalized intersection.
- Emissions when vehicles are in motion during the green phase of a signalized intersection.

The CAL3QHC version 2 air quality dispersion model has undergone extensive testing by the EPA and has been found to provide reliable estimates of inert (non-reactive) pollutant concentrations resulting from emissions from motor vehicles. A complete description of the model can be found in the *User's Guide to CAL3QHC version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections*, EPA-454/R-92-006.

Appendix C contains all CAL3QHC version 2 data and output information.

6.4.3 Receptor Locations

CO levels resulting from motor vehicles using the proposed project and associated roadways were estimated near the two sites selected for detailed analysis based on the ranking of termini intersections as outlined above. The sites were modeled using the CAL3QHC version 2 model and receptors were placed in accordance with EPA's *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*, EPA-454/R-92-005.

6.4.4 Meteorological Conditions

The transport and concentration of pollutants emitted from motor vehicles are influenced by three principal meteorological factors: wind direction, wind speed, and the temperature profile of the atmosphere. The values for these parameters were chosen to maximize pollutant concentrations at each prediction site (i.e., to establish a conservative worst case situation).

- **Wind Direction**. Maximum CO concentrations are normally found when the wind is assumed to blow approximately parallel to a single roadway adjacent to the receptor location. At complex intersections, however, it is difficult to predict which wind angle will result in maximum concentrations. At each receptor location, therefore, the approximate wind angle that would result in maximum pollutant concentrations was used in the analysis. All wind angles from 0° to 360° (in 5° increments) were considered.

- **Wind Speed**. CO concentrations are greatest at low wind speeds. A conservative wind speed of 4 meters per second (8.8 miles per hour) was used to predict CO concentrations during peak traffic periods. This wind speed is the lowest average monthly wind speed recorded at the Kahului Airport in Local Climatological Data Annual Summary for 1980.

- **Temperature and Profile of the Atmosphere**. An ambient temperature of 76.1°F, a "mixing" height (the height in the atmosphere to which pollutants will rise) of 1000 meters, and "D" or neutral atmospheric stability conditions were used in estimating microscale CO concentrations. The selection of these meteorological parameters was based on recommendations from the Hawaii Department of Transportation and the EPA. This data was found to be the most representative of the conditions existing along the project area.

The estimated CO levels will be the maximum concentrations which could be expected to occur at each air quality receptor site analyzed because they result from assuming the simultaneous occurrence of all worst case parameters (peak hour traffic conditions, conservative vehicular operating conditions, low wind speeds, low atmospheric temperature, neutral atmospheric conditions, and the maximizing wind direction).

6.4.5 Persistence Factor

Peak 8-hour concentrations of CO were obtained by multiplying the highest peak hour CO estimates by 0.7. This factor, recommended by USEPA, takes account of the fact

that over eight hours (as distinct from a single hour) vehicle volumes will fluctuate downwards from the peak, vehicle speeds may vary, and meteorological conditions including wind speeds and wind direction will change to some degree as compared to the very conservative assumptions used for the single hour.

6.4.6 Analysis Years

Microscale carbon monoxide analyses have been performed using traffic for the project's design year of 2022.

6.4.7 Background Concentrations

Microscale modeling is used to predict CO concentrations resulting from emissions from motor vehicles using roadways immediately adjacent to the location at which predictions are being made. A CO "background" level must be added to this value to account for CO entering the area from other sources upwind of the location at which predictions are being made.

A background level of 0.012 ppm was used for both the one- and eight-hour study periods. This level was based on 1989 ambient CO background monitored data used in the PSD Permit Application for Maalaea Combined Cycle Project, Maui Electric Company (MECO), August 1990.

6.4.8 Traffic Information

Traffic data for the air quality analysis was derived from a traffic inventory provided by the State DOT and traffic developed for the air quality analysis. The microscale carbon monoxide analysis was performed based on data from this network for the AM and PM peak traffic periods. These are the periods when maximum traffic volumes are expected to occur, and when the greatest traffic and air quality impacts of the proposed project are expected.

Appendix D contains all traffic information used for the air quality analysis.

7. POTENTIAL IMPACTS

7.1 Mesoscale Impacts

Since the change in regional VMT levels is predicted to be smaller under the Build condition than under the No Build condition, no quantified regional air quality analysis was conducted. In addition, a mesoscale analysis is not required as the Kihei-Upcountry Maui Highway is included in the current State of Hawaii Statewide Transportation Improvement Program (STIP), 1997, for Fiscal Years 1998-2000, and the regional affects of this project are incorporated into and satisfied the requirements of the conforming SIP.

7.2 Microscale Impacts

Maximum 1-hour and 8-hour carbon monoxide levels were predicted at sensitive receptor sites within the proposed Kihei-Upcountry's study area. The results of this analysis are given in Tables 3 and 4.

The levels predicted in this analysis are expected to be the highest microscale impacts due to the project within the study area. The three study intersections are worst-case representatives of predictions for all study intersections under Build conditions. No violations of the Federal or State one or eight hour CO standards are predicted.

As the project is not predicted to cause or exacerbate a violation of the applicable air quality standards, it conforms to the goals set forth in the Clean Air Act Amendments.

Table 3
Predicted Worst-Case 1-Hour Carbon Monoxide Concentrations (ppm)*

Site	Description	Alter.	State Std.	Build (Year 2022)	
				AM	PM
1	Hali'imaile Road / Haleakala Highway intersection	U1,K1	9	0.81	0.71
1	Hali'imaile Road / Haleakala Highway intersection	U1,K2	9	0.91	0.61
2	Kaonoulu Street / Piilani Highway intersection	U1,K1	9	0.81	0.81

Note: * 1-hour CO Background = .012 ppm

Table 4
Predicted Worst-Case 8-Hour Carbon Monoxide Concentrations (ppm)*

Site	Description	Alternative	State Standard	Build (Year 2022)
1	Hali'imaile Road / Haleakala Highway intersection	U1,K1	4.5	0.07
1	Hali'imaile Road / Haleakala Highway intersection	U1,K2	4.5	0.08
2	Kaonoulu Street / Piilani Highway intersection	U1,K1	4.5	0.07

Note: * 8-hour CO Background = .012 ppm

8. CONFORMANCE WITH THE STATE IMPLEMENTATION PLAN (SIP) FOR AIR QUALITY

The State of Hawaii has been classified as an attainment area for ozone, PM_{10} and carbon monoxide. As an attainment area, the State must demonstrate that the National Ambient Air Quality Standards will continue to be observed. The microscale analysis for the Kihei-Upcountry Maui Highway demonstrates that no violations of the National Ambient Air Quality Standards are predicted. The goals set forth in the New Clean Air Act Amendments of 1990 are to insure that no violations of these standards are created or worsened. The project meets these goals and as such will not affect the State of Hawaii's current attainment status.

The Kihei-Upcountry Maui Highway project has been included in the current STIP, 1997, for Fiscal Years 1998-2000. As described earlier, the STIP is a multi-year, multi-modal transportation improvement program that has been developed using existing transportation plans and policies, and current highway, transit, and transportation programming processes as required under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

9. CONSTRUCTION IMPACTS

The air quality impacts of the proposed action would be limited to short-term increased fugitive dust and mobile source emissions during construction.

9.1 Fugitive Dust Emissions

Fugitive dust is airborne particulate matter, generally of a relatively large particulate size. Construction-related fugitive dust would be generated by haul trucks, concrete trucks, delivery trucks, and other earth moving vehicles operating around the construction sites. This would be due primarily to particulate matter resuspended ("kicked up") by vehicle movement over paved and unpaved roads and other surfaces, dirt tracked onto paved surfaces from unpaved areas at access points, and material blown from uncovered haul trucks.

Generally, the distance that particles drift from their source depends on their size, emission height, and wind speed. Small particles (30 to 100 micron range) can travel several hundred feet before settling to the ground, depending on wind speed. Most fugitive dust, however, is made up of relatively large particles (i.e., particles greater than 100 microns in diameter). These particles are responsible for the reduced visibility often associated with this type of construction. Given their relatively large size, these particles tend to settle within 20 to 30 feet of their source.

In order to minimize the amount of construction dust generated, the guidelines below should be followed. Since the project is in a PM_{10} non-attainment area, all the proposed particulate control measures related to construction activities should be

followed. The following preventative and mitigative measures should be taken to minimize the possible particulate pollution problem:

I. Site Preparation
   A. Minimize land disturbance;
   B. Use watering trucks to minimize dust;
   C. Cover trucks when hauling dirt;
   D. Stabilize the surface of dirt piles if not removed immediately;
   E. Use windbreaks to prevent any accidental dust pollution;
   F. Limit vehicular paths and stabilize these temporary roads; and
   G. Pave all unpaved construction roads and parking areas to road grade for a length no less than 50 feet where such roads and parking areas exit the construction site to prevent dirt from washing onto paved roadways.

II. Construction
   A. Cover trucks when transferring materials;
   B. Use dust suppressants on traveled paths which are not paved;
   C. Minimize unnecessary vehicular and machinery activities; and
   D. Minimize dirt track-out by washing or cleaning trucks before leaving the construction site (alternative to this strategy is to pave a few hundred feet of the exit road, just before entering the public road).

III. Post Construction
   A. Revegetate any disturbed land not used;
   B. Remove unused material;
   C. Remove dirt piles; and
   D. Revegetate all vehicular paths created during construction to avoid future off-road vehicular activities.

9.2 Mobile Source Emissions

As discussed previously, carbon monoxide (CO) is the principal pollutant of concern when considering localized air quality impacts of motor vehicles. Since emissions of CO from motor vehicles increase with decreasing vehicle speed, disruption of traffic during construction could result in short-term elevated concentrations of CO, the temporary reduction of roadway capacity, and the increased queue lengths. In order to minimize the amount of emissions generated, every effort should be made during the construction phase to limit disruption to traffic, especially during peak travel periods.

10. REFERENCES

User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections; EPA-454-R-92, United States Environmental Protection Agency, Office of Air Quality, Planning and Standards, Research Triangle Park, NC; November 1992.

User's Guide to MOBILE 5A: EPA-AA-TEB-92, United States Environmental Protection Agency, Office of Air and Radiation, Office of Mobile Sources, Emission Control Technology Division, Test and Evaluation Branch, Ann Arbor, MI; March 1993.

Guideline for Modeling Carbon Monoxide from Roadway Intersections: EPA-454/R-92-005, United States Environmental Protection Agency, Office of Air Quality, Planning and Standards, Research Triangle Park, NC: November 1992.

U.S. Congress, Clean Air Act Amendments of 1990 (P.L. 101-549)

State and National Ambient Air Quality Standards and Monitoring Data; State of Hawaii, Department of Health, Environmental Management Division, Clean Air Branch; January 1995.

Local Climatological Data for Kahului, Hawaii - 1980: U.S. Department of Commerce, National Oceanic and Atmospheric Administration.

Table 4-14 **Island of Kauai: Monthly Summary of 24-hour Average PM-10 ($\mu g/m^3$)**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Ave
Lihue	24	24	17	22	16	17	16	19	23	22	19	17	20

Table 4-15 **Island of Maui: Monthly Summary of 24-hour Average PM-10 ($\mu g/m^3$)**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Ave
Kihei [a]						3	3	3	3	9	8	10	6
Paia [b]								16	16	24	20	19	19

[a] Kihei station started operation in June 1996
[b] Paia station started operation in August 1996

Appendix A
Ambient Air Quality
Monitoring Data

AIR QUALITY STUDY

FOR THE PROPOSED

KAHULUI AIRPORT IMPROVEMENTS

KAHULUI, MAUI

Prepared for:

Edward K. Noda and Associates, Inc.

December 1995

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Table 7

AMBIENT BACKGROUND AIR QUALITY DATA FOR
MAALAEA, MAUI - JUNE 1989 THROUGH DECEMBER 1989

Pollutant	Averaging Period	Concentration (ppb)	Concentration ($\mu g/m^3$)	Percentage of Standard	
				State	National
Sulfur Dioxide	3-hour	13	34	3	3
	24-hour	5	13	4	4
	Annual	1	3	4	4
Nitrogen Dioxide	Annual	3	6	9	6
Ozone	1-hour	44	86	86	37
	Annual	16	31	-	-
Carbon Monoxide	1-hour	12	14	<1	<1
	8-hour	5	6	<1	<1
Particulate Matter	24-hour	-	56	37	37
	Annual	-	14	28	28

Notes:

1. The data given in the table were obtained by Maui Electric Company at Site No. 233 located approximately 1 mile north of Maalaea Power Plant. Concentrations shown in the table for averaging times shorter than annual are the highest concentrations recorded during the period June 10, 1989 through December 31, 1989. Annual average concentrations for all pollutants are based on the 7-month period.

2. Concentrations shown in the table for averaging times shorter than annual do not include periods when the on-shore flow (southerly flow between 130 and 230 degrees) persists, as this would include the Maalaea Generating Station emissions.

Source: Prevention of Significant Deterioration Permit Application for Maalaea Combined Cycle Project, Maui Electric Co., Revised, August 1990.

Appendix B
Mobile5A Emissions

(Not included. Can be reviewed at the highways planning branch of the State of Hawaii Department of Transportation.)

Kihei-Upcountry Maui Highway Air Quality Analysis Technical Memorandum

Appendix C
CAL3QHCV2 Data and Outputs

(Not included. Can be reviewed at the highways planning branch of the State of Hawaii Department of Transportation.)

Appendix D
Traffic

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4e 08-03-1998
Parsons Brinckerhoff Quade & Douglas

Streets: (E-W) Haliimaile/Bypass (N-S) Haleakala Highway
Analyst: Miyamoto File Name: U1K1AM.HC9
Area Type: Other 8-3-98 Morning
Comment: Year 2022, U1K1

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0	> 1	1	1	2	1	1	2	1
Volumes	1	49	136	176	101	80	281	1982	63	1	752	1
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane W (ft)	12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Grade		0			0			0			0	
% Heavy Veh	1	1	1	1	1	1	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	N		(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type	3	3	3		3	3	3	3	3	3	3	3
RTOR Vols			136			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*	*		
Thru	*				Thru		*	*	
Right	*				Right		*	*	
Peds					Peds				
WB Left	*				SB Left	*			
Thru	*				Thru			*	
Right	*				Right			*	
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	18.0A				Green	7.0A	7.0A	38.0A	
Yellow/AR	5.0				Yellow/AR	5.0	5.0	5.0	

Cycle Length: 90 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	84	376	0.012	0.222	17.6	C	18.1	C
	T	418	1881	0.124	0.222	18.1	C		
	R	418	1881	0.000	0.222	0.0	A		
WB	LT	342	1540	0.851	0.222	34.2	D	30.7	D
	R	355	1599	0.236	0.222	18.6	C		
NB	L	413	1770	0.717	0.233	24.6	C	29.8	D
	T	2153	3725	1.017	0.578	31.3	D		
	R	915	1583	0.072	0.578	5.4	B		
SB	L	177	1770	0.006	0.100	23.6	C	11.8	B
	T	1656	3725	0.502	0.444	11.8	B		
	R	704	1583	0.001	0.444	9.0	B		

Intersection Delay = 25.8 sec/veh Intersection LOS = D
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.864

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4e 08-03-1998
Parsons Brinckerhoff Quade & Douglas

Streets: (E-W) Haliimaile/Bypass (N-S) Haleakala Highway
Analyst: Miyamoto File Name: U1K1PM.HC9
Area Type: Other 8-3-98 Evening
Comment: Year 2022, U1K1

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0 > 1		1	1	2	1	1	2	1
Volumes	1	124	357	170	75	1	130	659	152	1	1728	1
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane W (ft)	12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Grade		0			0			0			0	
% Heavy Veh	1	1	1	1	1	1	1	1	1	1	1	1
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	N		(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type	3	3	3		3	3	3	3	3	3	3	3
RTOR Vols			130			0			152			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	*				NB Left	*		
Thru	*				Thru		*	
Right	*				Right		*	
Peds					Peds			
WB Left	*				SB Left	*		
Thru	*				Thru		*	
Right	*				Right		*	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	22.0A				Green	8.0A	45.0A	
Yellow/AR	5.0				Yellow/AR	5.0	5.0	

Cycle Length: 90 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	149	560	0.007	0.267	15.7	C	18.7	C
	T	502	1881	0.261	0.267	16.9	C		
	R	426	1599	0.561	0.267	19.6	C		
WB	LT	293	1098	0.881	0.267	38.0	D	37.9	D
	R	426	1599	0.002	0.267	15.6	C		
NB	L	199	1787	0.690	0.111	31.4	D	11.9	B
	T	1965	3762	0.371	0.522	8.3	B		
	R	982	1881	0.000	0.522	0.0	A		
SB	L	199	1787	0.005	0.111	23.0	C	24.2	C
	T	1965	3762	0.972	0.522	24.2	C		
	R	835	1599	0.001	0.522	6.6	B		

Intersection Delay = 21.5 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.910

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4e 08-03-1998
Parsons Brinckerhoff Quade & Douglas

Streets: (E-W) Haliimaile/Bypass (N-S) Haleakala Highway
Analyst: Miyamoto File Name: U1K2AM.HC9
Area Type: Other 8-3-98 Morning
Comment: Year 2022, U1K2

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0 > 1		1	1	2	1	1	2	1
Volumes	1	39	100	176	72	80	191	1984	63	1	801	1
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane W (ft)	12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Grade		0			0			0			0	
% Heavy Veh	1	1	1	1	1	1	2	2	2	2	2	2
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	N		(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type	3	3	3		3	3	3	3	3	3	3	3
RTOR Vols			100			0			63			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	*				NB Left	*	*	
Thru	*				Thru		*	*
Right	*				Right		*	*
Peds					Peds			
WB Left	*				SB Left	*		
Thru	*				Thru			*
Right	*				Right			*
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	16.0A				Green	7.0A	7.0A	40.0A
Yellow/AR	5.0				Yellow/AR	5.0	5.0	5.0

Cycle Length: 90 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	84	418	0.012	0.200	18.6	C	19.0	C
	T	376	1881	0.109	0.200	19.0	C		
	R	376	1881	0.000	0.200	0.0	A		
WB	LT	313	1564	0.834	0.200	34.3	D	30.7	D
	R	320	1599	0.263	0.200	19.7	C		
NB	L	413	1770	0.487	0.233	20.0	C	22.2	C
	T	2235	3725	0.981	0.600	22.4	C		
	R	1118	1863	0.000	0.600	0.0	A		
SB	L	177	1770	0.006	0.100	23.6	C	11.1	B
	T	1739	3725	0.509	0.467	11.1	B		
	R	739	1583	0.001	0.467	8.3	B		

Intersection Delay = 20.3 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.840

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4e 08-03-1998
Parsons Brinckerhoff Quade & Douglas

Streets: (E-W) Haliimaile/Bypass (N-S) Haleakala Highway
Analyst: Miyamoto File Name: U1K2PM.HC9
Area Type: Other 8-3-98 Evening
Comment: Year 2022, U1K2

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0	> 1	1	1	2	1	1	2	1
Volumes	1	66	263	170	60	1	97	704	152	1	1822	1
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane W (ft)	12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Grade		0			0			0			0	
% Heavy Veh	1	1	1	1	1	1	1	1	1	1	1	1
Parking	N	N		N	N		N	N		N	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	N		(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type	3	3	3		3	3	3	3	3	3	3	3
RTOR Vols			97			0			152			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	*				NB Left	*		
Thru	*				Thru		*	
Right	*				Right		*	
Peds					Peds			
WB Left	*				SB Left	*		
Thru	*				Thru		*	
Right	*				Right		*	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	16.0A				Green	8.0A	51.0A	
Yellow/AR	5.0				Yellow/AR	5.0	5.0	

Cycle Length: 90 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	97	485	0.010	0.200	18.6	C	21.5	C
	T	376	1881	0.183	0.200	19.3	C		
	R	320	1599	0.547	0.200	22.4	C		
WB	LT	283	1414	0.856	0.200	37.5	D	37.4	D
	R	320	1599	0.003	0.200	18.6	C		
NB	L	199	1787	0.514	0.111	26.2	D	8.6	B
	T	2216	3762	0.351	0.589	6.2	B		
	R	1108	1881	0.000	0.589	0.0	A		
SB	L	199	1787	0.005	0.111	23.0	C	15.0	B
	T	2216	3762	0.909	0.589	15.0	B		
	R	942	1599	0.001	0.589	4.9	A		

Intersection Delay = 15.4 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.848

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4e 08-03-1998
Parsons Brinckerhoff Quade & Douglas

Streets: (E-W) Kaonoulu/Bypass (N-S) Piilani Highway
Analyst: Miyamoto File Name: K1U1AM.HC9
Area Type: Other 7-30-98 Morning
Comment: Year 2022, U1K1

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	1	1	2	0
Volumes				353		137		1766	187	58	1140	
PHF or PK15				0.95		0.95		0.95	0.95	0.95	0.95	
Lane W (ft)				12.0		12.0		12.0	12.0	12.0	12.0	
Grade					0			0			0	
% Heavy Veh				1		1		3	3	3	3	
Parking				N	N		N	N		N	N	
Bus Stops						0			0			0
Con. Peds			0			0			0			0
Ped Button				(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type				3		3		3	3	3	3	
RTOR Vols						58			187			0
Lost Time				3.00		3.00		3.00	3.00	3.00	3.00	
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	*		
Right					Right	*		
Peds					Peds			
WB Left	*				SB Left	*		
Thru					Thru	*	*	
Right	*				Right			
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	21.0A				Green	7.0A	47.0A	
Yellow/AR	5.0				Yellow/AR	5.0	5.0	

Cycle Length: 90 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
WB	L	457	1787	0.815	0.256	27.9	D	25.9	D
	R	409	1599	0.203	0.256	17.0	C		
NB	T	2009	3689	0.972	0.544	23.3	C	23.3	C
	R	1004	1845	0.000	0.544	0.0	A		
SB	L	175	1752	0.348	0.100	24.9	C	5.7	B
	T	2501	3689	0.504	0.678	4.7	A		

Intersection Delay = 17.4 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.858

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4e 07-31-1998
Parsons Brinckerhoff Quade & Douglas

Streets: (E-W) Kaonoulu/Bypass (N-S) Piilani Highway
Analyst: Miyamoto File Name: K1U1PM.HC9
Area Type: Other 7-30-98 Evening
Comment: Year 2022, U1K1

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	2	1	1	2	0
Volumes				202		45		1476	449	176	1536	
PHF or PK15				0.95		0.95		0.95	0.95	0.95	0.95	
Lane W (ft)				12.0		12.0		12.0	12.0	12.0	12.0	
Grade					0			0			0	
% Heavy Veh				1		1		2	2	2	2	
Parking				N		N	N			N		
Bus Stops						0			0			0
Con. Peds			0			0			0			0
Ped Button				(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type				3		3		3	3	3	3	
RTOR Vols						45			202			0
Lost Time				3.00		3.00		3.00	3.00	3.00	3.00	
Prop. Share												
Prop. Prot.												

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left								
Thru								
Right								
Peds								
WB Left	*							
Thru								
Right	*							
Peds								
NB Right								
SB Right								
Green	14.0A							
Yellow/AR	5.0							

NB Left								
Thru					*			
Right					*			
Peds								
SB Left					*			
Thru					*	*		
Right								
Peds								
EB Right								
WB Right								
Green					12.0A	49.0A		
Yellow/AR					5.0	5.0		

Cycle Length: 90 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
WB	L	318	1787	0.670	0.178	26.0	D	26.0	D
	R	334	1881	0.000	0.178	0.0	A		
NB	T	2111	3725	0.773	0.567	11.0	B	10.4	B
	R	897	1583	0.290	0.567	6.6	B		
SB	L	275	1770	0.672	0.156	27.4	D	5.8	B
	T	2815	3725	0.603	0.756	3.5	A		

Intersection Delay = 9.1 sec/veh Intersection LOS = B
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.735

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APPENDIX G

Noise Analysis Technical Memorandum

Kihei-Upcountry Maui Highway Project

Project Number: HDPS-9203(1)

Noise Analysis Technical Memorandum

Prepared for:

State of Hawaii
Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.

October 1998

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1. INTRODUCTION

This report documents an analysis of potential traffic noise impacts of the proposed Kihei-Upcountry Maui Highway project on the island of Maui, Hawaii. This study was prepared in accordance with Federal Highway Administration (FHWA) rules and procedures and the State of Hawaii Department of Transportation (SDOT) Noise Analysis and Abatement Policy (October 1996, approved by FHWA on June 26, 1997) (hereinafter referred to as Noise Policy). Its elements include:

1. Measurements of existing noise levels at representative noise sensitive receptors;
2. Prediction of future traffic noise levels;
3. Comparison of existing and predicted future traffic noise levels with the FHWA Noise Abatement Criteria (NAC);
4. Recommendations to reduce noise impacts;
5. Evaluation of possible noise barriers; and
6. The effects of construction noise and proposed mitigation measures.

2. PROJECT DESCRIPTION

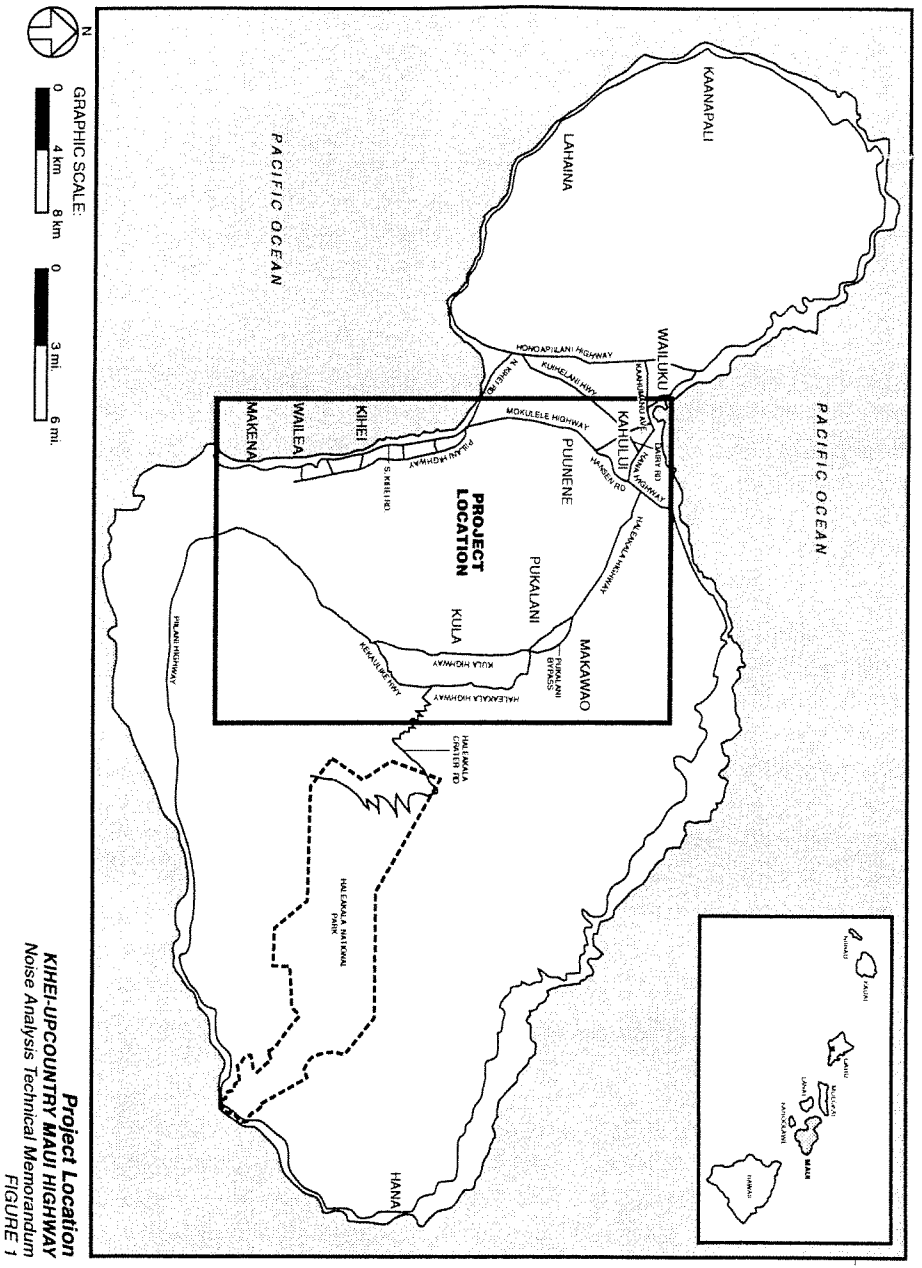
The Highways Division of the State of Hawaii Department of Transportation (SDOT) and the Federal Highway Administration (FHWA) are proposing the Kihei-Upcountry Maui Highway project on the island of Maui, Hawaii. Figure 1 shows the general project location. The proposed highway would connect Piilani Highway with either Haleakala Highway or Kula Highway, directly linking the Kihei-Makena region with the Upcountry Maui region.

The alternatives under consideration are eight possible combinations of two Kihei terminus options and four Upcountry terminus options. Figure 2 shows the candidate Upcountry and Kihei termini and the alignment segments or "footprints" that would be used to link the termini. As shown on this figure, the Kihei termini and segments are named K1 and K2, and the Upcountry termini and segments are named U1, U2-A, U2-B and U3.

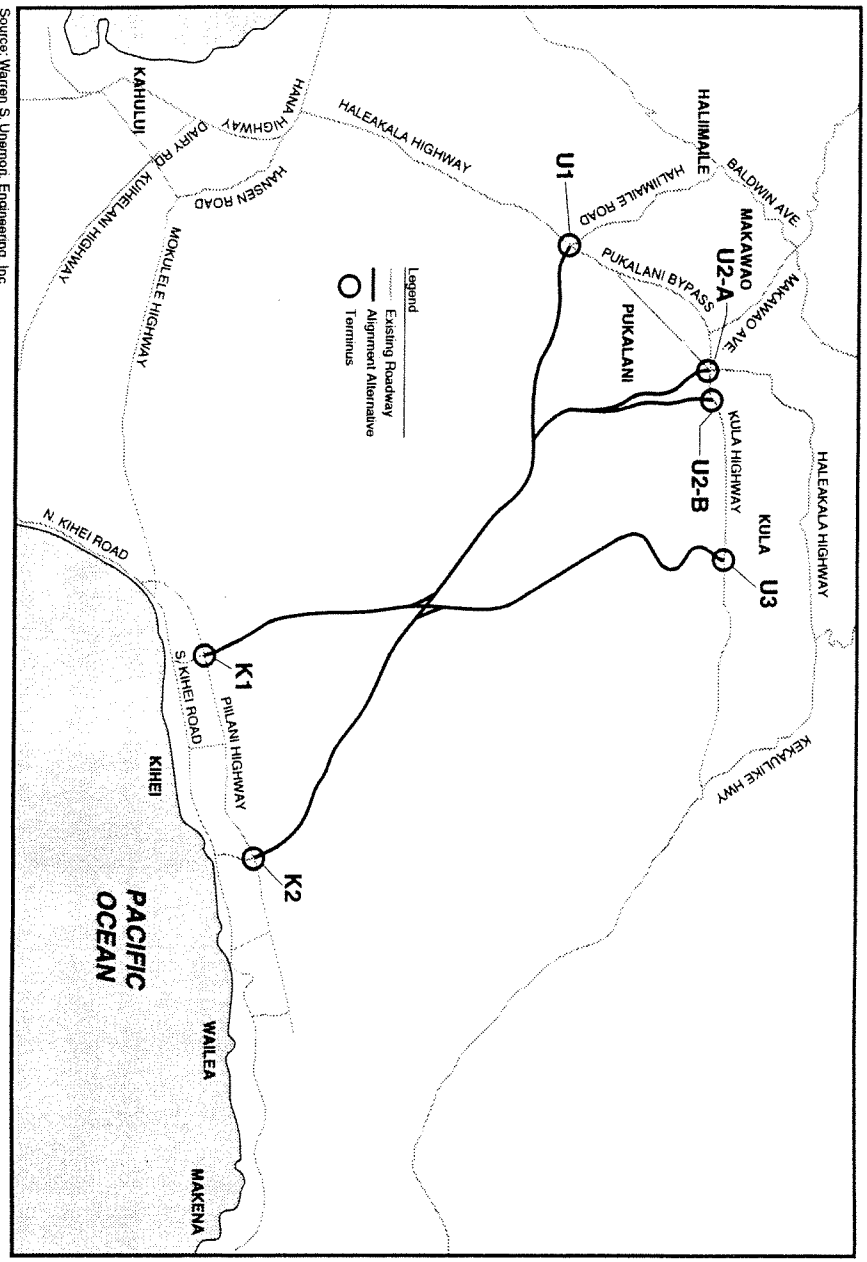
Descriptions of the alternatives are as follows:

1. Alternative U1,K1. This alternative would extend from the Haleakala Highway/Haliimaile Road intersection in Upcountry, following a south to southwest alignment for approximately 10 km (6.25 miles), and then a western alignment to the Kaonoulu Street/Piilani Highway intersection.

2. Alternative U1,K2. This alternative is the same as Alternative U1,K1 from the Upcountry terminus. However, instead of terminating at the Kaonoulu



Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Noise Analysis Technical Memorandum
FIGURE 1



Alternatives
KIHEI-UPCOUNTRY MAUI HIGHWAY
Noise Analysis Technical Memorandum
FIGURE 2

Street/Piilani Highway intersection, this alternative would proceed in a southwest direction to the Ke Alii Alanui Street/Piilani Highway intersection.

3. Alternative U2-A,K1. This alternative would extend west from the existing Pukalani Bypass/Haleakala Highway/Kula Highway "Five Trees" intersection in Upcountry, to an alignment common with U1. The Kihei terminus would be at the Kaonoulu Street/Piilani Highway intersection.

4. Alternative U2-A,K2. This alternative would be from the "Five Trees" intersection to the Ke Alii Alanui Street/Piilani Highway intersection.

5. Alternative U2-B,K1. This alternative would extend west from Kula Highway at approximately 700 m (2300 ft) south of the "Five Trees" intersection. The alignment runs parallel with Segment U2-A for about 3000 m (10,000 ft), and then shares the same U2-A alignment and U1/U2 alignment. The U2-B,K1 alternative's Kihei terminus is at the Piilani Highway/Kaonoulu Street intersection.

6. Alternative U2-B,K2. This alternative is shares the same Upcountry terminus and alignment as the Alternative U2-B,K-1. This alternative's Kihei terminus is at the Piilani Highway/Ke Alii Alanui Street intersection.

7. Alternative U3,K1. This alternative would extend west from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway/Kaonoulu Street intersection in Kihei.

8. Alternative U3,K2. This alternative would extend west from Kula Highway, south of Pulehu Gulch in Kula, to the Ke Alii Alanui Street/Piilani Highway intersection.

The roadway right-of-way would a be minimum 49 m (160 ft) in rural areas and a minimum 37 m (120 ft) in urban areas. The roadway would include one 3.7 m (12 ft) lane in each direction, and paved shoulders. The minimum 49 m (160 ft) right-of-way is being reserved because the highway may be expanded to four lanes (two lanes in each direction) in the future.

3. EXISTING CONDITIONS

3.1 Background

Noise is defined as any sound that is undesirable or interferes with normal human activities. The decibel (dB) scale is used to quantify sound intensity and represents the ratio between a given sound and the faintest sound detectable by human hearing. Because sound pressure levels vary widely within the range of human hearing, the dB scale is logarithmic. The human ear is not equally sensitive to all frequencies within the entire sound spectrum. Accordingly, noise measurements are made using an A-weighting (dBA) scale to correspond to human perceptions of noise. A-scale sound levels are currently in use in many community and city noise ordinances and in state and city highway or traffic noise codes.

Time variation in noise exposure is typically accounted for as a constant energy level equivalent (L_{eq}) for a given time period. The L_{eq} is the constant noise level over some specified period of time that is equivalent in energy to a fluctuating (or brief) noise "averaged" over that period of time. L_{eq} is also a function of time and is expressed as L_{eq} (time period). For example, $L_{eq}(h)$, expressed in A-weighted decibels (dBA), is the calculated constant noise over one hour which is equivalent in total energy to the varying noise levels actually measured during that one hour.

3.2 Noise Standards

The SDOT Noise Policy implements FHWA regulations on noise abatement (23 CFR 772) for the State of Hawaii. The regulations and policy require that a noise analysis be performed whenever potentially affected receptors exist, either as developed lands or lands that are planned, designed or programmed for future use.

The FHWA has established Noise Abatement Criteria (NAC), shown on Table 1, for different exterior and interior land use activities. The NAC do not constitute legally enforceable noise standards, but represent a yardstick for evaluating the effect of project noise on the surrounding community. The NAC have been adopted by the State of Hawaii as its standard.

Under SDOT policy, a noise impact occurs when the predicted traffic noise levels approach or exceed the NAC, or when the predicted traffic noise levels substantially exceed the existing noise levels. "Approach" means at least 1 dBA less than the NAC, and "substantially exceed the existing noise levels" means an increase of at least 15 dBA. If the NAC are approached or exceeded, or if there is a substantial increase above the existing noise level, noise abatement measures must be considered.

Changes in traffic noise are assessed using human perceptions of sound level changes. Generally, changes in noise levels of less than 3 dBA are barely perceptible to most listeners, but a 10 dBA change is perceived as a doubling (or halving) of noise levels. These guidelines permit estimation of an individual's probable perception of changes in noise levels.

3.3 Noise Sensitive Sites and Existing Noise Levels

Existing and future planned noise sensitive land uses, and activities adjacent to the project alternatives were identified from site inspections and existing mapping. These land use activities include residences, recreation and park areas, and institutions such as schools. A total of thirteen sites were selected as representative of existing and future noise sensitive land uses, and their locations area shown on Figure 3. Only Site 4 does not represent a noise sensitive land use. The area surrounding Site 4 is presently used for sugarcane cultivation, and there are no official plans to convert this area to an urban land use. Therefore, this site is considered Activity Category D (see Table 1) and has no NAC. This site was selected because this is the location of the U1 terminus. The other 12 sites are considered Activity Category B (see Table 1), and have a NAC of $L_{eq}(h)$ 67 dBA.

Table 1
Noise Abatement Criteria (NAC)

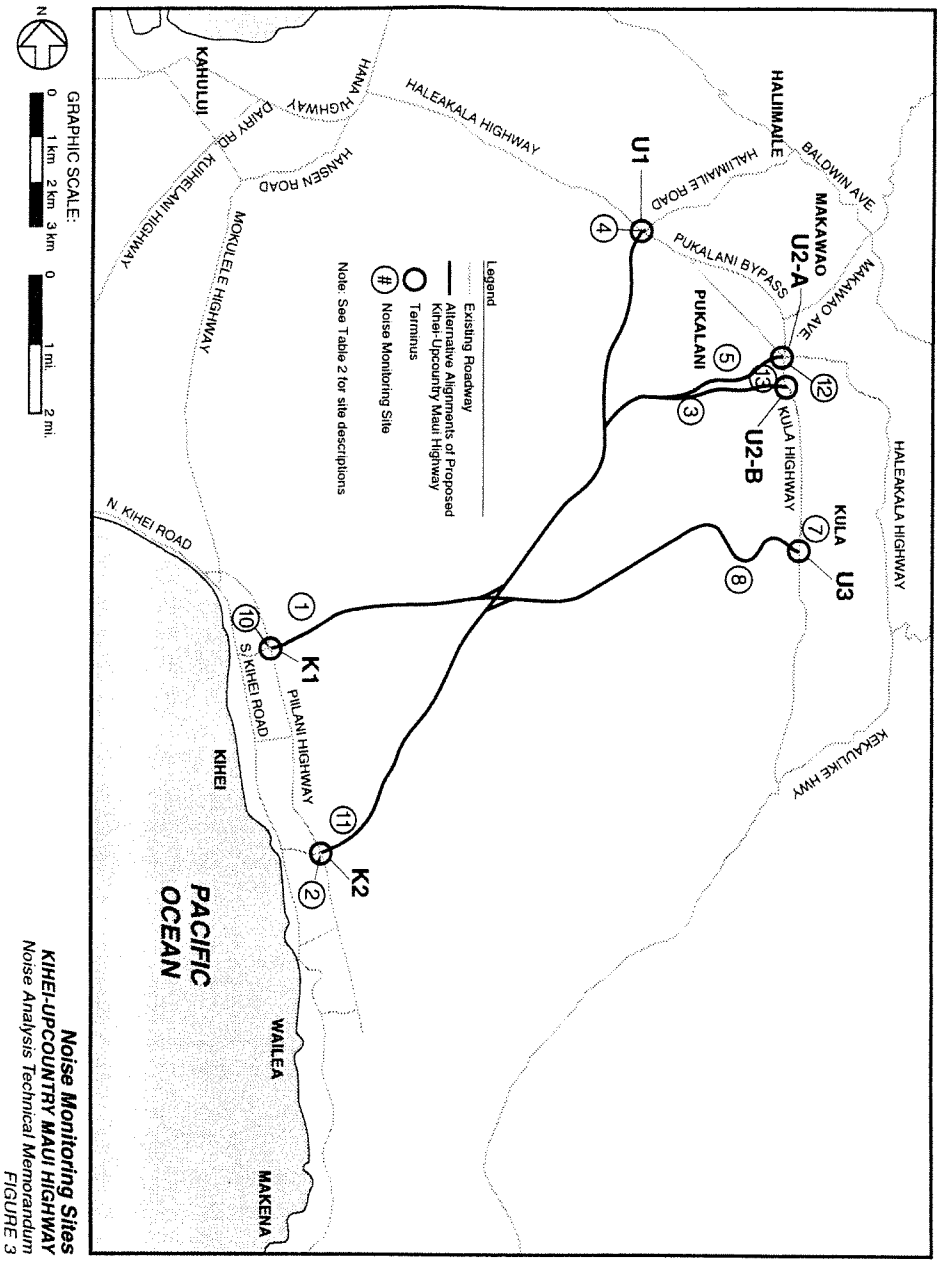
Activity Category	$L_{eq}(h)$ for Noisiest Traffic Hour - dBA	Description of Activity
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B.
D	----	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Notes: $L_{eq}(h)$ is the one-hour energy equivalent sound level.

Interior noise level standards apply to:
1. Indoor activities for those parcels where no exterior noise sensitive land use or activities have been identified; and
2. Situations where the exterior activities are either remote from the highway or shielded, so that while the exterior activities remain undisturbed, noise nevertheless affects interior activities.

Source: Federal Highway Administration

Noise measurements at the noise receptor sites were taken in June, 1997, from between the hours of 9:00 a.m. to 5:00 p.m. Only Site 1, which is located in a residential community east (mauka) of Piilani Highway near the K1 alignment, was not measured between these hours. This site is approximately 600 m (2000 ft) from the K1 alignment, and under normal circumstances would probably not have been selected as noise receptor site because of this far distance. It was selected because of comments, from people living in that community, that noise impacts would occur from early morning transports (buses, vans, cars) to the Haleakala Summit. Many tourists staying in West Maui and Kihei-Makena travel to the summit daily to watch its



Noise Monitoring Sites
KIHEI-UPCOUNTRY MAUI HIGHWAY
Noise Analysis Technical Memorandum
FIGURE 3

spectacular sunrise. Noise measurements at this site were taken 5:00 a.m. All noise measurements were sampled for 20-minute periods, and the results are presented in Table 2.

Existing noise levels at the 13 noise receptor sites range from 39 dBA to 68 dBA. The only site that approaches the NAC of $L_{eq}(h)$ 67 dBA is Site 7. The high noise level at this site, and the noise levels at many of the other sites, are primarily caused by traffic movements on nearby roadways.

Table 2
Existing Noise Levels

Site No.	Location	Land Use Activity	Noise Level (L_{eq} (dBA))
1	Ohukai community (Ohukai St.)	Residential	39
2	Kamalu Elementary School	School	58
3	Omaopio Homesteads	Residential	53
4	Haleakala Hwy. / Haliimaile Rd. Intersection	Agriculture	68
5	Pukalani community (Alani St.)	Residential	57
6	Kula 200 community	Residential	51
7	Kula residence along Kula Hwy.	Residential	66
8	Pulehu community (Holopuni Rd.)	Residential	47
9	Future Kamehameha School	School	53
10	Piilani Hwy. / Kaonoulu St. Intersection	Residential	60
11	Future Kihei Regional Park	Park	45
12	King Kekaulike High School	School	49
13	Unnamed Road off of Kula Hwy. near Five Trees Intersection	Residential	49

Source: Parsons Brinckerhoff, June 1997

4. FUTURE TRAFFIC NOISE IMPACTS

4.1 Prediction Methodology

The future year Build traffic noise levels were modeled at thirteen noise sensitive sites along the proposed project alternative alignments using the STAMINA 2.0 Highway Traffic Noise Modeling Program (FHWA, 1982). Impacts were calculated for the Year 2020.

Input variables to noise modeling and analysis include traffic volumes, speeds and vehicle fleet mix (auto, medium truck, and heavy truck percentages). The noise analysis considers the following traffic scenarios:

- Two-lane facility - sunrise hours (5:00 a.m. to 6:00 a.m.);
- Two-lane facility - peak hour;
- Two-lane facility - roadway operating at level of service (LOS) C; and
- Four-lane facility - roadway operating at LOS C.

LOS C is a qualitative traffic condition, on a scale from A to F, where traffic volume is at the capacity of the roadway and vehicles operate at the allowable speed limit. This is considered to be the noisiest of the six level of service conditions. The analysis assumes that existing and future traffic conditions have the same vehicle mix and vehicle speeds. The traffic modeling assumptions are presented in Appendix A.

4.2 Noise Impact Analysis

In terms of the one-hour $L_{eq}(h)$ noise descriptor, noise impact could potentially require mitigation if either of the following conditions is predicted to occur:

- future year traffic noise approaches or exceeds the FHWA NAC; or
- future year traffic noise substantially exceeds (15 dBA or more) the existing ambient noise level.

Table 3 summarizes the results of the noise modeling at the thirteen receptor sites.

4.2.1 No-Build Alternative

Under the No-Build alternative, predicted future traffic noise levels are expected to be no more than a 1 dBA over the existing noise levels. The NAC of $L_{eq}(h)$ 67 dBA is predicted to be approached at Site 7 (see Table 3). All other sites are predicted to remain below the NAC.

4.2.2 Build Alternatives

This section describes the noise impacts of Kihei-Upcountry Maui Highway under the four traffic scenarios described in Section 4.1. The predicted Build noise levels presented in Table 3 were modeled under certain alignments (e.g., U1, U2-A, K2, etc.). The "Segment" column in Table 3 specifies the alignment. The discussion in this section describes the noise impacts from a particular alignment, which in effect, applies to two or four alternatives. For example, if a statement is made, "a U1 alternative is predicted to cause a X dBA increase at Site Y," then the impact would come from Alternatives U1,K1 and U1,K2.

Two-Lane Facility - Sunrise Hours
The predicted sunrise noise levels, presented in Table 3, represent the effects of traffic using the proposed highway and other roadways during the early morning hours. As described in Section 3.3, much of the early morning travel demand is caused by

Table 3
Predicted Year 2020 Noise Levels

Site	Location	Segment	Noise Levels ($L_{eq}(h)$ (dBA))					
			Existing	No-Build	Build Condition			
					Sunrise	Peak Hour	LOS C 2 Lanes	LOS C 4 Lanes
1	Ohukai community (Ohukai St.)	K1	39	40	42	46	48	55
2	Kamalu Elementary School	K2	58	59	46	60	61	63
3	Omaopio Homesteads	U2-A	53	54	52	59	63	66
		U2-B	53	54	52	59	63	66
4	Haleakala Hwy. / Hallimailie Rd. Intersection	U1	68	69	49	69*	69*	69*
5	Pukalani community (Alani St.)	U2-A	57	58	48	56	59	62
		U2-B	57	58	45	58	60	62
6	Kula 200 community	U2-B	51	52	48	55	59	61
7	Kula residence along Kula Hwy.	U3	66	67	33	67*	67*	67*
8	Pulehu community (Holopuni Rd.)	U3	47	48	50	56	57	60
9	Future Kamehameha School	U2-B	53	54	42	54	56	58
10	Piilani Hwy. / Kaonoulu St. Intersection	K1	60	61	52	62	63	70
11	Future Kihei Regional Park	K2	45	46	55	63	70	70
12	King Kekaulike High School	U2-A	49	50	40	51	53	55
		U2-B	49	50	38	50	52	53
13	Unnamed Road off of Haleakala Hwy. near Five Trees Intersection	U2-A	49	50	46	56	60	63
		U2-B	49	50	44	52	58	58

Notes: (XX)- Values that are underlined approach or exceed the Noise Abatement Criteria.
* The predicted future traffic at Sites 4 and 7 results in noise levels that are lower than the predicted future No-Build noise levels. Therefore, future noise levels at these sites are assumed to be the same as the future No-Build levels.

Source: Parsons Brinckerhoff, 1997

tourists traveling to the Haleakala summit to watch its spectacular sunrise. However, these predicted noise levels do not include the cumulative effects of ambient early morning noise from other activities. Only Site 1 includes the effects of ambient early morning noise because measurements at this site were taken at 5:00 a.m. (see Section 3.3). The results in Table 3 indicate that the effects of early morning traffic would not cause future noise levels at the receptor sites to approach or exceed the NAC, including the effects of the K1 alternatives' traffic noise on Site 1. Site 1's sunrise noise levels are predicted to increase by 3 dBA over the existing ambient levels, which is considerably lower than the "substantial increase" definition of the SDOT Noise Policy. A 3 dBA increase is barely perceptible to the human ear.

Two-Lane Facility - Peak Hour

Under a two-lane Kihei-Upcountry Maui Highway, peak hour traffic noise levels at 12 of the 13 receptor sites are predicted to increase in the range of 1 dBA to 9 dBA over their existing ambient noise levels (see Table 3). If a K2 alternative is implemented, Site 11 peak hour noise levels are predicted to increase by 18 dBA over its existing ambient level. This is considered "substantial" according to the SDOT Noise Policy. If a U3 alternative is implemented, Site 7 is predicted to have peak hour noise levels (L_{eq}(h) 67 dBA) that approach the NAC. However, this predicted L_{eq}(h) is slightly lower, but assumed to be the same, as the predicted L_{eq}(h) under the No-Build alternative. Therefore, there is no noise impact at this site. No other site is predicted to approach or exceed the NAC, including Site 4, which is predicted to have a peak hour L_{eq}(h) of 69, because this site is considered an Activity Category D (see Section 3.3).

Two-Lane Facility - LOS C

Under a two-lane Kihei-Upcountry Maui Highway, LOS C noise levels at 12 of the 13 receptor sites are predicted to increase in the range of 1 dBA to 11 dBA over their existing ambient noise levels (see Table 3). Similar to the noise impacts under peak hour conditions (see above), Site 11 is predicted to have a "substantial increase" of 25 dBA, 7 dBA higher than under the peak hour condition, if a K2 alternative is implemented. The predicted L_{eq}(h) of 70 dBA exceeds the NAC. Site 7 is also predicted to approach the NAC, with an L_{eq}(h) of 67 dBA, if a U3 alternative is implemented. However, similar to the assessment above, there would be no noise impact because the No-Build L_{eq}(h) is slightly higher than the LOS C L_{eq}(h). No other site is predicted to approach or exceed the NAC.

Four-Lane Facility - LOS C

Under a four-lane Kihei-Upcountry Maui Highway, LOS C noise levels at 11 of the 13 receptor sites are predicted to increase in the range of 1 dBA to 14 dBA over their existing ambient noise levels (see Table 3). Similar to the two-lane facility (peak hour and LOS C) conditions, Site 11 is predicted to have a "substantial increase" of 25 dBA and will exceed the NAC. Under this traffic scenario, Site 3 is predicted to have an L_{eq}(h) of 66 dBA, Site 7 is predicted to have an L_{eq}(h) of 67 dBA, and Site 10 is predicted to have an L_{eq}(h) of 70 dBA, if a U2 (A or B), U3 or K1 alternative is implemented, respectively. These noise levels either approach or exceed the NAC. However, only Sites 3 and 10 are considered to have noise impacts under the four-lane facility - LOS C traffic scenario. Site 7 would not have a noise impact (see above).

5. CONSTRUCTION NOISE IMPACTS

Construction noise represents a short term impact on the noise environment. The duration and level of construction noise depend on the phase of activity, such as:

- ground clearing, demolition and removal of existing structures, trees, rocks and soil;
- excavation;
- placement of foundations and roadbeds;
- erection of structures including retaining walls; and
- finishing, including filling, grading, paving, landscaping and cleanup operations.

The first two phases, ground clearing and excavation, typically generate the highest noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach levels from 67 dBA to 98 dBA at 15 m (50 ft). Construction equipment noise emissions are regulated by the Environmental Protection Agency's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). Presently, air compressors are the only equipment under regulation, and no new regulations are currently under consideration. The State of Hawaii, Department of Health also regulates noise from construction activities (Hawaii Administrative Rule, Chapter 11-46, Community Noise Control).

Noise levels for equipment which might be used during the excavation and construction of the proposed project are presented in Table 6. The noise levels presented are at a reference distance of 15 m (50 ft). Since construction equipment noise levels decrease at a rate of approximately 6 dBA per doubling of distance, at 30 m (100 ft) the noise levels would be about 6 dBA less than the levels shown at 15 m (50 ft). Similarly, at 60 m (200 ft) the noise levels would be 12 dBA less than shown. Intervening structures or topography can act as a noise barrier to further reduce noise levels.

Table 4
Construction Equipment Noise Levels

Source	L_{max} at 15 m (50 feet)	Model Tested
Backhoe	85 dBA	John Deere 609A
Front Loader	84 dBA	Caterpillar 980
Dozer	84 dBA	Caterpillar D7e
Grader	91 dBA	Caterpillar 16
Scraper	92 dBA	Caterpillar 660
Compressor	80-89 dBA	Various Tested
Pile Driver	95-100 dBA	Various Tested

Source: Federal Highway Administration, Highway Construction Noise: Measurement, Prediction, and Mitigation, 1976

6. MITIGATION MEASURES

6.1 Future Traffic Noise

Noise abatement measures must be considered as part of the project if traffic noise impacts are identified. An impact occurs when traffic noise levels approach or exceed the NAC or if traffic noise levels substantially exceed (15 dBA or more) the existing ambient levels. The SDOT Noise Policy is used to determine whether noise abatement measures can be implemented, depending on whether these measures are reasonable and feasible based on the following criteria:

- Provides a minimum noise reduction of 5 dBA.
- Cost of noise abatement is not to exceed $35,000 per residence benefited. The number of residences protected will include all dwelling units - owner occupied houses, rental units, mobile homes, etc. All units benefited by a 5 dBA or more noise reduction will be counted regardless of whether or not they were identified as impacted.
- Views from impacted residences are a major consideration in the reasonableness of noise abatement measures.
- Greater considerations to residential areas where absolute traffic noise levels are expected to occur, e.g., greater than 70 dBA, or where large increases over existing noise levels are anticipated.
- Greater consideration to residential areas along highways in a new location, residential areas constructed before an existing highway, residential areas in place along an existing highway for an extended period of time.
- Consideration of adverse environmental effects and beneficial reduction of construction noise.

Noise abatement would only be considered at existing residential or planned development sites where building permit approvals have been obtained. The abatement would only apply to outdoor ground level areas.

According to Section 4.2.2, noise impacts are predicted to occur at Site 11 under three of the four traffic scenarios (two-lane facility - peak hour, two-lane facility - LOS C, and four-lane facility - LOS C), and at Sites 3 and 10 under the four-lane facility - LOS C traffic scenario.

At Site 11, a noise barrier does not appear to be a reasonable abatement measure because this site represents a future regional park and the barrier would have adverse visual affects and would not be appropriate in a park setting. An abatement measure that appears to be reasonable and feasible is buffer zones between the roadway right-of-way and areas of the park where human activities would occur.

Noise impacts at Sites 3 and 10 could be mitigated with a 3 to 3.8 meter (10 to 12 foot) noise barrier walls or earthen berms at the roadway right-of-way. For Site 3, the wall or berm would be located along Kihei-Upcountry Maui Highway (U2-A or U2-B alternatives). For Site 10, the wall or berm would be located along Piilani Highway. If a noise barrier wall or berm is considered, the height, length and location of the barrier would be determined during preliminary engineering design.

6.2 Construction Phase

Noise control measures during construction would be required to minimize impacts on existing noise sensitive land uses. The measures recommended in this section should be re-evaluated in greater detail during preliminary design because impacts to residences cannot be accurately determined without detailed construction plans and schedules. General mitigation measures presented below are recommended as guidelines in developing construction plans that consider the adverse impacts of construction noise.

1. Design Considerations - During the early stages of construction plan development, natural and artificial barriers, such as ground elevation changes and existing buildings, can be considered for use as shielding against construction noise. Strategic placement of stationary equipment, such as compressors and generators, could reduce impacts at the sensitive receptors.

2. Construction of Noise Barriers During Initial Stages - Noise barriers planned to ultimately be constructed along the right-of-way for traffic noise abatement could be constructed during the initial stages to reduce the impacts of construction. Initial construction of noise barriers would significantly reduce construction noise impacts at the sensitive receptors.

3. Alternate Construction Methods - Certain phases of highway construction work such as pile driving may produce noise levels in excess of acceptable limits, even when feasible noise reduction methods are used. These impacts may be reduced by using alternate methods of construction. In the case of pile driving, vibration or hydraulic insertion could be used. Drilled holes for cast-in-place

piles are another alternative that would produce significantly lower levels of noise.

4. Source Control - The contractor shall comply with SDOT Standard Specifications and all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without a muffler.

5. Time and Activity Constraints - The noisier activity involving large machinery could be limited to daytime hours when most people normally impacted are either not present or engaged in less noise sensitive activities. Nighttime construction would require a variance. Compliance with local Noise Ordinances will mitigate impacts associated with construction noise. To comply with the ordinance, all construction activities adjacent to residential uses will be limited to daytime hours (7:00 a.m. to 7:00 p.m.) on Monday through Saturdays.

6. Community Relations - Community meetings can be held to explain the construction work, time involved, and the control measures to be taken to reduce the impact of the construction noise.

The measures above can be incorporated into site specific construction plans to minimize noise impacts to sensitive receptors along the project corridor. Noise emission limits could be developed. Construction hours could be set, and noise level criteria could be decided upon and adhered to during construction.

7. REFERENCES

Federal Highway Administration (FHWA); Highway Construction Noise: Measurement, Prediction, and Mitigation, 1976

Federal Highway Administration (FHWA); Procedures for Abatement of Highway Traffic and Construction Noise, Code of Federal Regulations 23 CFR 772

Federal Highway Administration (FHWA); Stamina 2.0/Optima Users Manual, Report No. FHWA DP-58-1, April 1982

State of Hawaii, Department of Transportation, Highways Divisions; Noise Analysis and Abatement Policy, October, 1996

APPENDIX H

Community Impact Assessment

Kihei-Upcountry Maui Highway Project

Project Number: HDPS-9203(1)

Community Impact Assessment

Prepared for:

State of Hawaii
Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.

October 1998

SUMMARY

The Highways Division of the State of Hawaii Department of Transportation (SDOT) the Federal Highway Administration (FHWA) are proposing the Kihei-Upcountry Maui Highway project, on the island of Maui, Hawaii. The proposed highway would link the Kihei-Makena and Upcountry Maui regions. Eight alternative alignments are under consideration, representing all possible combinations of two candidate Kihei terminals and four candidate Upcountry terminals (the two alternatives with the U2-B terminus has since been eliminated).

This community impact assessment was prepared in response to comments expressed during public meetings and correspondence received from government agencies and community organizations. The comments intended to be addressed by this report expressed concern about the impacts of the road on the existing character of the communities at the termini, especially the existing rural character of the Upcountry area. To address these concerns, the scope of study was designed to assess potential neighborhood, agricultural, land use, social and economic impacts of the proposed project. Mitigation measures are also suggested.

The project area includes the coastal communities of Kihei, Wailea and Makena, and communities on the Haleakala Crater slope known as Upcountry Maui. Kihei-Makena is a dichotomous community characterized by the urban mixed-use, working class environment of Kihei and the well-planned "upscale" hotel resort districts of Wailea and Makena. Mostly developed during the 1970s and 1980s, this community is the second largest visitor accommodation area on Maui. Upcountry Maui consists of the suburban/rural communities of Pukalani, Makawao and Haliimaile, and the more rural communities of Kula. Kula is famous for its small farms which produce some of the best vegetables and flowers in the State, but it is also sought after for residences due to its cool climate, spectacular vistas and rural environment. The project area is also used for large-scale sugarcane and pineapple cultivation, and ranching.

In evaluating the alternatives' effect on land use patterns and consistency with existing community plans, it was found that there are other major factors controlling future land use patterns apart from restrictions imposed by roadway infrastructure. There is ample room for urban growth in the Kihei-Makena area between Piilani Highway and South Kihei Road. However, development in this region would be more influenced by the health of Maui's visitor industry rather than the completion of the highway because of Kihei-Makena's heavy reliance on this industry. For Upcountry, the major constraint that has historically limited urban growth is water availability. Reliance on surface water resources would constrain development growth in the future. The Maui Board of Water Supply is planning water supply system improvements in response to County objectives to direct residential growth in the Pukalani-Makawao area. It was therefore determined that the alternatives aligned on the lower side of Pukalani may facilitate residential growth toward the new highway. The alternatives aligned on the upper side of Pukalani would not be as influential to development growth because this area is already being planned for residential, commercial and institutional development unrelated to the proposed project, and the market attractiveness of this development is based on Upcountry's desirability as a residential area. The Kula terminus alternatives

are not likely to cause secondary land development in Kula, an area in which urban land uses are discouraged and constrained by a limited water supply system.

The highway would change existing travel patterns. The obvious intended change would be the diversion of some travel demand from Haleakala Highway, Hana Highway, Dairy Road, Mokulele Highway and perhaps even Kuihelani Highway, onto Kihei-Upcountry Maui Highway. However, the upper or lower Pukalani alternatives would encourage some motorists traveling between Kula and Kihei to use the narrow and winding Omaopio and Pulehu Roads as a "short-cut." Similarly, the Kula terminus alternatives would encourage some motorists traveling to the summit of Haleakala to use local residential roads running between Kula and Haleakala Highways. Increasing vehicular use of these roads would adversely affect farmers and residents along these roads by interfering with farm vehicle movements, jeopardizing roadway safety and increasing highway-related noise.

No alternative would cut through or isolate portions of existing neighborhoods. Some of the alternatives would, however, cut through sugarcane and/or pineapple fields adversely affecting the current operating practices of large-scale agricultural enterprises which have been experiencing suburban encroachment for several decades. The alternatives would increase accessibility to certain pasture land, however. No small privately-owned Kula farm would be directly affected. However, the U3 alternatives would cross a County agricultural park. Mitigation measures would have to be implemented to offset adverse impacts to agricultural production, and to prevent cattle from entering the highway right-of-way.

The economic impacts of the project are mostly beneficial. The project would infuse up to $66 million of federal funds into the local economy, increasing short-term employment and the purchase of local goods and services. Longer-term employment opportunities would depend on how well the alternatives facilitate urban development and employment-producing land uses in areas approved by the County. Impacts to existing highway-dependent businesses and business districts are expected to be minimal or non-existent.

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1. INTRODUCTION

The Highways Division of the State of Hawaii Department of Transportation (SDOT) and the Federal Highway Administration (FHWA) are proposing the Kihei-Upcountry Maui Highway project on the island of Maui, Hawaii. Figure 1-1 shows the general project location. The proposed federal-aid two-lane limited access highway would link the Kihei-Makena and Upcountry Maui regions.

1.1 Description of the Proposed Action

The alternatives under consideration are all eight possible combinations of two Kihei terminus options and four Upcountry terminus options. Figure 1-2 shows the candidate Upcountry and Kihei termini and the alignment segments or "footprints" that would be used to link the termini. As shown on this figure, the Kihei termini and segments are named K1 and K2, and the Upcountry termini and segments are named U1, U2-A, U2-B and U3. (The U2-B alternatives has since been eliminated from consideration.)

Descriptions of the alternatives are as follows:

1. Alternative U1,K1. This alternative would start at the Haleakala Highway / Haliimaile Road intersection in Upcountry and follow a south to southwest alignment to the Kaonoulu Street / Piilani Highway intersection. The length of this alternative is approximately 15.8 km (9.8 miles).

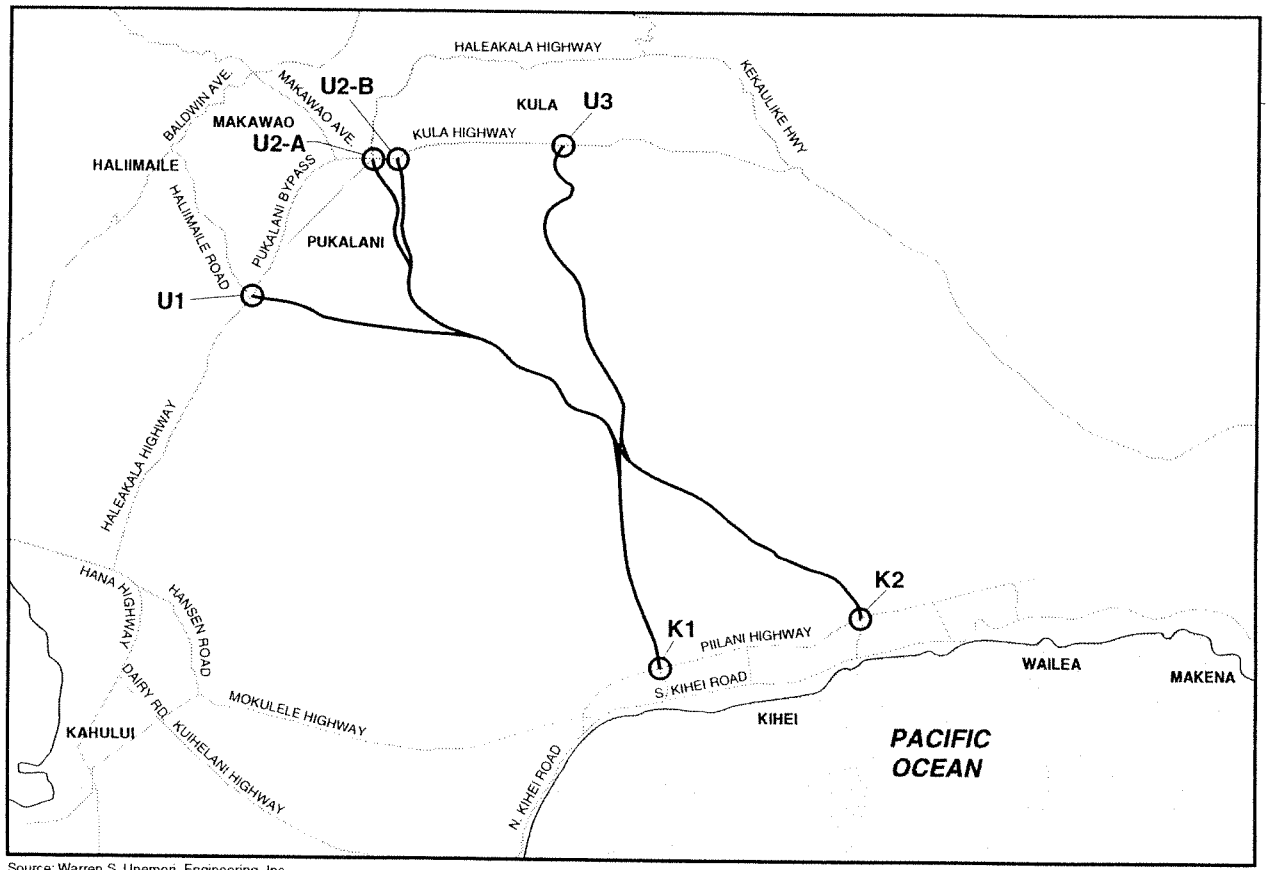
2. Alternative U1,K2. This alternative is the same as Alternative U1,K1 from the Upcountry terminus to where the alternative alignments cross. However, this alternative would proceed southwest to the Ke Alii Alanui Street / Piilani Highway intersection. The length of Alternative U1,K2 is approximately 17.5 km (10.9 miles).

3. Alternative U2-A,K1. This alternative would extend from the existing Pukalani Bypass/Haleakala Highway/Kula Highway "Five Trees" intersection in Upcountry, to an alignment common with U1. The Kihei terminus would be at the Kaonoulu Street/Piilani Highway intersection.

4. Alternative U2-A,K2. This alternative would be from the "Five Trees" intersection to the Ke Alii Alanui Street/Piilani Highway intersection.

5. Alternative U2-B,K1. This alternative would extend from Kula Highway at approximately 700 m (2300 ft) south of the "Five Trees" intersection to the Piilani Highway/Kaonoulu Street intersection.

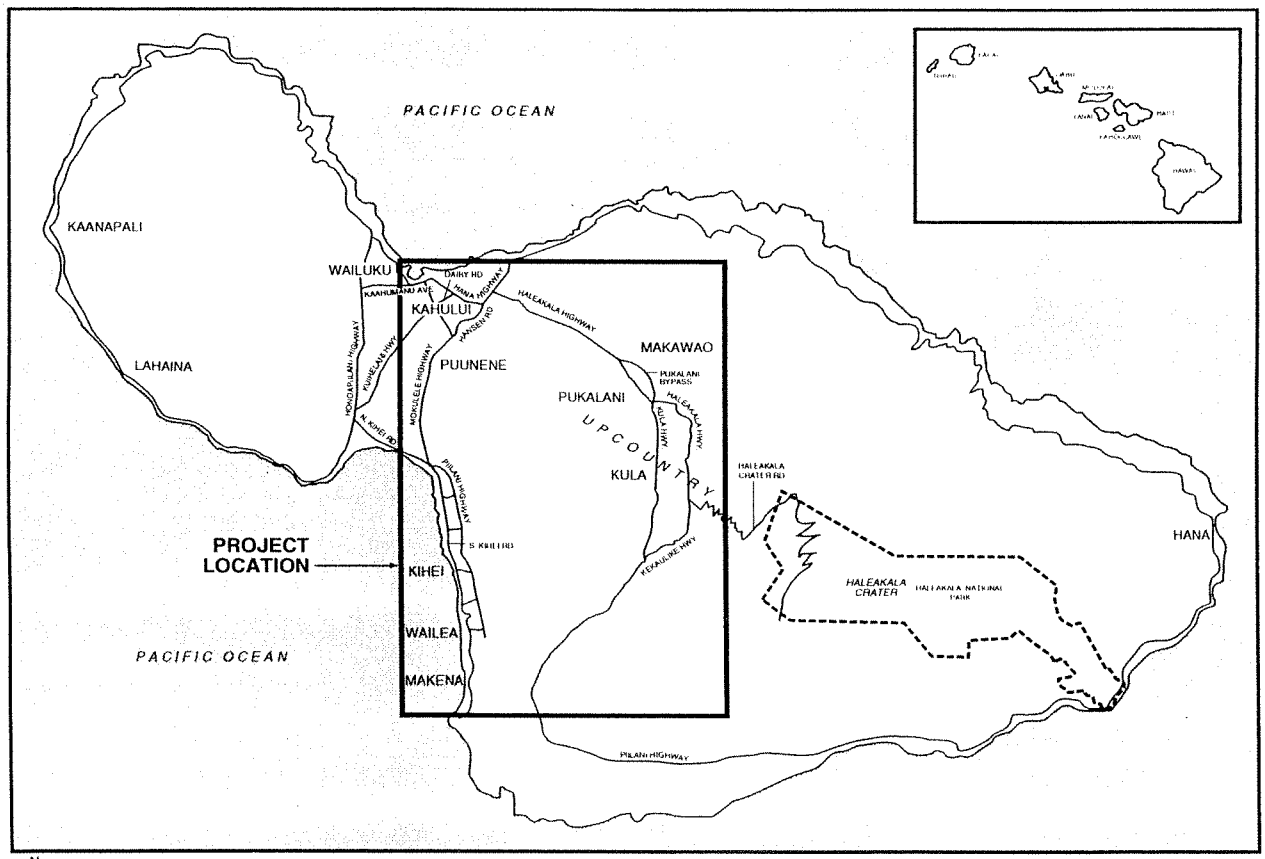
6. Alternative U2-B,K2. This alternative is shares the same Upcountry terminus and alignment as the Alternative U2-B,K1. This alternative's Kihei terminus is at the Piilani Highway/Ke Alii Alanui Street intersection.



Source: Warren S. Unemori, Engineering, Inc.

GRAPHIC SCALE:
0 1 km 2 km 3 km
0 1 mi. 2 mi.

Alternatives
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 1-2



GRAPHIC SCALE:
0 4 km 8 km
0 2 mi. 4 mi. 6 mi.

Project Location
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 1-1

7. Alternative U3,K1. This alternative would be from Kula Highway, south of Pulehu Gulch in Kula, to the Piilani Highway/Kaonoulu Street intersection in Kihei.

8. Alternative U3,K2. This alternative would extend from Kula Highway, south of Pulehu Gulch in Kula, to the Ke Alii Alanui Street/Piilani Highway intersection.

The proposed highway would be a limited access arterial roadway with one 3.6 m (12 ft) lane in each direction. The minimum width of the roadway right-of-way would be 49 m (160 ft) in rural areas and at least 37 m (120 ft) in urban areas. Additional right-of-way is being reserved to allow for future widening to a four-lane divided highway if appropriate in the future. Posted speed limits would vary from 70 km/h (45 mph) in urban areas to 90 km/h (55 mph) in rural areas.

1.2 Purpose of this Report

This community impact assessment report was prepared in response to comments expressed during public meetings and correspondence from government agencies and community organizations. During the public meetings, participants expressed concern that the proposed roadway would:

- increase crime in the Upcountry area;
- introduce an urban environment into the rural environment of Upcountry; and
- adversely affect agricultural activities in Upcountry by:
  - increasing the housing supply and water demand which would accelerate the loss of agricultural land;
  - bringing more tourists to the Upcountry area causing a nuisance to farmers;
  - adversely affecting access to Kahului Harbor for trucks carrying agricultural products from Upcountry via Omaopio and Pulehu Roads; and
  - creating hazardous conditions at the intersection of Omaopio and Pulehu Roads and the proposed highway.

Comments received from the County of Maui and community organizations regarding potential socio-economic impacts of the proposed project included:

- concern about the loss of small farms and exposing rural communities, such as Omaopio, Keokea, and Waiakoa, to development and transient traffic flows;
- a perceived adverse effect on efforts to preserve the unique Upcountry lifestyle and ambiance; and
- an opinion that the roadway should provide relatively inexpensive access to future Department of Hawaiian Home Lands (DHHL) homesteads that would extend from Keokea to Kihei, and that the selected route should benefit both present and future residents.

To address these and similar comments, detailed analyses of the alternatives' potential impacts on existing and future neighborhoods, land use development trends, and social, agricultural and economic activities were needed.

1.3 Scope of this Report

This community impact assessment examines potential impacts to social and economic conditions of the affected neighborhoods and the region, existing and future land uses, mobility and access, safety, and the provision of public services. The FHWA's Guidance for Preparing and Processing Environmental and Section 4(f) Documents (1987), the draft report, Community Impact Assessment: A Quick Reference for Transportation (March 1996) prepared by Apogee Research, Inc. for the FHWA, and the California Department of Transportation report, Conducting Socioeconomic Analysis: Guidance for Consultants (May 1988) were used as technical guides in preparing this report. Other sources of information included U.S. Census data, the Maui County Data Book (December 1994), the Kihei-Makena Community Plan (July 1985), the Makawao-Pukalani-Kula Community Plan (July 1996), and interviews of "key informants" from the community.

The report is organized in the following manner:

- Description of study area and affected communities:
  - brief history of study area;
  - physical characteristics;
  - demographic, housing and income characteristics;
  - general economic characteristics;
  - issues, concerns and views of the community; and
  - development trends.
- Analysis of impacts on:
  - neighborhood cohesion;
  - agriculture;
  - land use patterns and development trends;
  - displacement;
  - mobility and access;
  - provision of public services;
  - crime and safety; and
  - economic impacts on:
    - * tax revenues,
    - * public expenditures,
    - * employment opportunities, and
    - * businesses.
- Suggested avoidance, minimization and mitigation measures.

2. STUDY AREA AND COMMUNITY PROFILE

This chapter presents a summary of the history, present land use and socio-economic conditions of the study area. This chapter also presents a summary of major concerns and issues expressed by residents within the context of the County of Maui's community planning process, the Kihei-Upcountry Maui Highway Task Force process, and interviews conducted for this report.

2.1 Definition of the Study Area

The project is located in the area between the coastal community of Kihei and areas on the Haleakala Crater slope known as Upcountry Maui (see Figure 1-1). This study area is within the County of Maui's Kihei-Makena and Makawao-Pukalani-Kula Community Planning Areas. Defined neighborhoods or communities in the vicinity of the proposed project include Makena, Wailea, Kihei, Pukalani, Haliimaile, Makawao, and the Kula communities of Omaopio, Pulehu, Waiakoa, and Keokea. The locations of these neighborhoods or communities are shown on Figure 2-1. For some of the sections in this chapter, the study area is divided into two regions, for descriptive purposes, Kihei-Makena and Upcountry Maui.

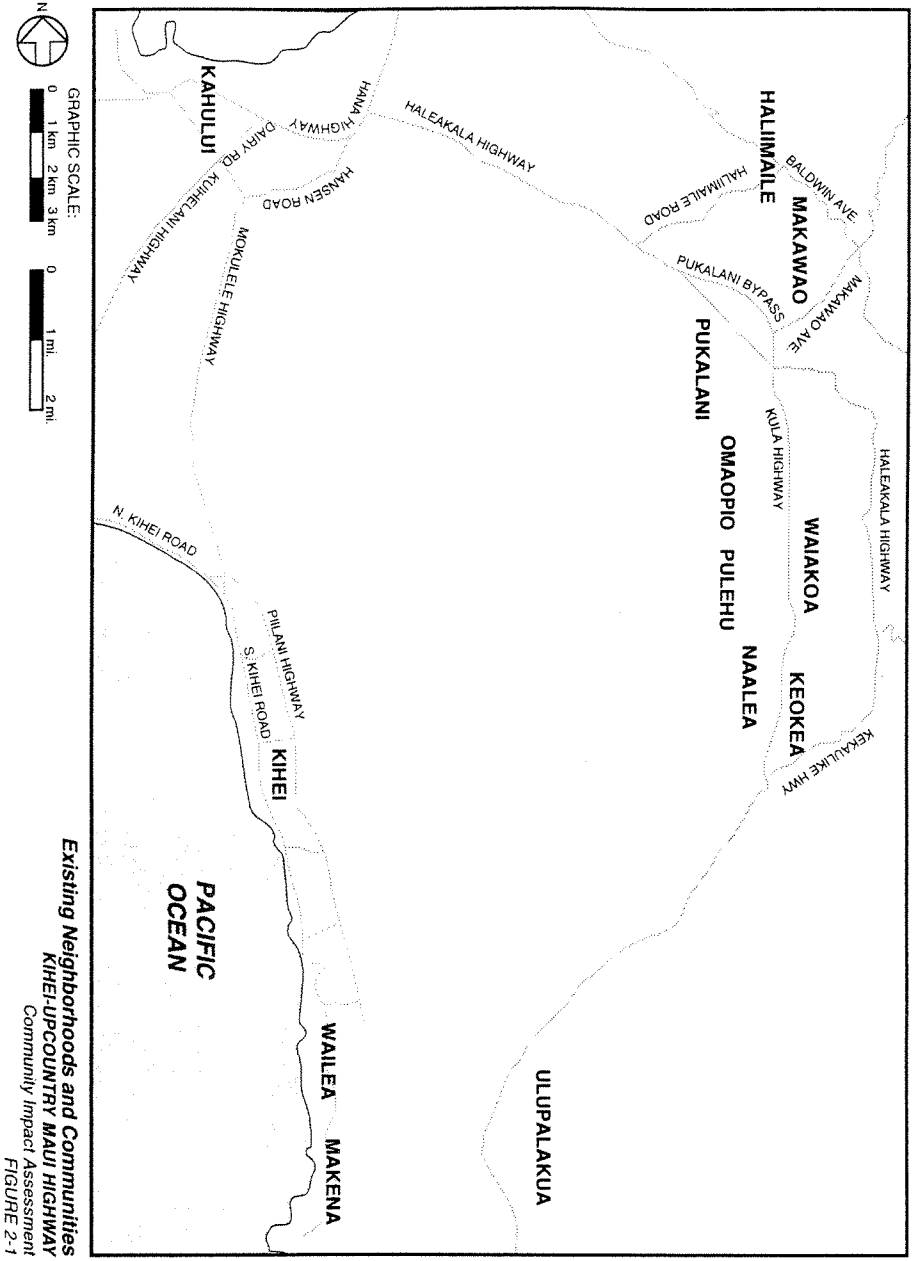
2.2 History and Physical Character of the Study Area

This section briefly describes the Kihei-Makena and Upcountry regions' history and physical makeup. Histories of the regions are taken from the Kihei-Makena and Makawao-Pukalani-Kula Community Plans.

2.2.1 Kihei-Makena Region

The Kihei-Makena region was well populated prior to western contact. Between 1840 and 1860, large expanses of land were acquired by foreigners and native Hawaiians were displaced. By 1841, sugar being produced in Ulupalakua for Kamehameha III was being shipped out from a government landing at Makena. A second private landing established at Makena Bay became one of the three busiest leeward ports on Maui in the nineteenth century. It was phased out after a government landing was built at Keawekapu in the early 20th century.

Development of the Kihei-Makena region has occurred primarily because of the phenomenal growth of Maui's visitor industry since the 1960s. Today, the Kihei-Makena region is comprised of the urban mixed-use environment of Kihei and the resort land uses of Wailea and Makena. This region is the second largest visitor accommodation area on Maui (behind the Kapalua-Kaanapali-Lahaina region on the western side of the island). Kihei, the largest and most populous of these coastal communities, consists of a wide mix of housing types from single-family to multi-family low to medium density units, small to medium-sized commercial malls, and small to medium sized hotels along South Kihei Road. The Wailea-Makena area is a resort community, similar in size and scale to other resort communities on Maui such as



Existing Neighborhoods and Communities
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 2-1

Kapalua and Kaanapali, and in terms of urban design and socio-economic conditions, it is vastly more "upscale" than Kihei which is basically a working class community. Wailea-Makena contains some of Maui's most luxurious condominiums and resort hotels, such as the Grand Wailea Resort & Spa, the Maui Inter-Continental Resort, the Four Seasons Resort, and the Maui Prince Hotel.

2.2.2 Upcountry Maui Region

Hawaiian settlement in Upcountry Maui prior to western contact is evident from the large numbers of archaeological sites within the region. There are numerous recorded and unrecorded *heiau*, stone walls, building platforms and petroglyphs which evidence intensive habitation and land use.

Large scale sugarcane production was established from the 1850s to the 1870s. A partnership between S.T. Alexander and H.P. Baldwin in 1870 began the large sugarcane plantation which is now Hawaiian Commercial and Sugar Company, Inc. (HC&S). In 1876, the construction of Hamakua Ditch brought water to the dry central Valley of Maui and northwestern slopes of Haleakala, making sugarcane production possible where only scrub land had existed.

In terms of total acreage, cattle ranching ranks second to sugarcane in the Upcountry area. Haleakala, Kaonoulu, Erewhon and Ulupalakua Ranches were the largest, and still raise cattle. Pineapple, first grown in Makawao in the 1920s, is now grown at generally higher elevations than sugarcane.

The availability of homesteads in Kula began the tradition of family farms in this area. The cool and relatively dry climate, good soil, and elevation makes the Kula area exceptional for a number of crops, such as the famous Maui onions, cabbages and cut flowers.

Culturally, Upcountry Maui became home to immigrants from Portugal, Japan, Russia, Germany, Philippines, Puerto Rico and China. Most were recruited as contract workers for the sugarcane plantations. When their contracts were fulfilled, many immigrants settled in the Upcountry area.

In general, the Portuguese gravitated towards ranching and related vocations such as blacksmithing and operating feed stores. The region's ranching "paniolo" heritage and activities were centered in Makawao. The Chinese settled largely in Keokea and Makawao, working as farmers and merchants. The Japanese arrived somewhat later, but contributed significantly to the formation of the area's character and development.

Since the early seventies, Upcountry Maui has experienced significant residential growth because the region's cool climate, rural setting and spectacular views make this area a desirable place to live. In particular, the Kula area has attracted luxury residences. This has sometimes conflicted with farming activities through the loss of agricultural lands and the inherent incompatibilities between the two uses.

Today, the Upcountry Maui communities of Makawao, Pukalani and Haliimaile are characterized as a mixture of suburban and rural, with Pukalani being the most

suburban of the three. Pukalani and Makawao contain most of Upcountry's commercial land uses. Pukalani's businesses are mostly located along Haleakala Highway and are typical of a suburban community (neighborhood shopping center, convenience stores, small offices, etc.). Businesses in Makawao, centered around the intersection of Makawao and Baldwin Avenues, are generally smaller and more pedestrian-oriented than the businesses in Pukalani. Makawao's businesses consist of restaurants, gift stores, and art galleries. Recently created urban design guidelines for Makawao maintains storefronts, prevent frontage parking, and preserve the town's historic architecture.

The Kula region contains a mixture of rural and agricultural uses with human settlement most concentrated at Waiakoa. Single-family residences, on lots up to 0.4 ha (1 acre), are generally found between Haleakala Highway/Kekaulike Avenue and Kula Highway. This area and the area west (makai) of Kula Highway is also used for small truck farms and agricultural lots. The small two to four hectare (five to ten acre) farms produce vegetables, such as the famous Maui onions, and flowers. Large-scale sugarcane and pineapple activities extend from the west slopes of Haleakala, generally west (makai) of the small truck farms, to central Maui. Cattle ranching occurs in the area east (mauka) of Haleakala Highway/Kekaulike Avenue, and on the lower west and south slopes of Haleakala. On the summit is Haleakala National Park. The few commercial activities in Kula are located primarily along the route to Haleakala National Park and in central Kula around Waiakoa.

2.3 Demographic, Housing and Income Characteristics

As shown on Figure 2-2, U.S. census tracts (CTs) 303.01, 303.02, 304.01, 304.02, and 307 generally encompass the study area. CT 303.01 covers the Kula neighborhoods of Pulehu, Waiakoa, Waiohuli and Keokea; CT 303.02 includes Wailea and Makena; CT 304.01 includes Makawao and Haliimaile; CT 304.02 includes Pukalani and parts of Kula; and CT 307 includes Kihei.

2.3.1 Demographic Characteristics

Table 2-1 exhibits selected demographic characteristics of the Kihei-Upcountry Maui study area. In 1990, the population of the study area as delineated by the above CTs was 34,171, or 34 percent of the County of Maui's total population. Population growth in the study area was rapid during the 1980s, growing by an annual average of 5.6 percent. In comparison, County of Maui and State of Hawaii annual average population growths in the same period were 3.5 percent and 1.4 percent, respectively. The Kihei area (CT 307) experienced the greatest population increase both in absolute terms (6,863) and by percentage--an average of 7.9 percent per year. The Pukalani-Kula area (CT 304.02 -- partial) had the smallest average annual growth rate within the study area of 3.5 percent per year. Kula (CT 303.01), Wailea-Makena (CT 303.02) and Makawao-Haliimaile (CT 304.01) had annual growth rates of 3.8 percent, 7.3 percent, and 5.1 percent, respectively.

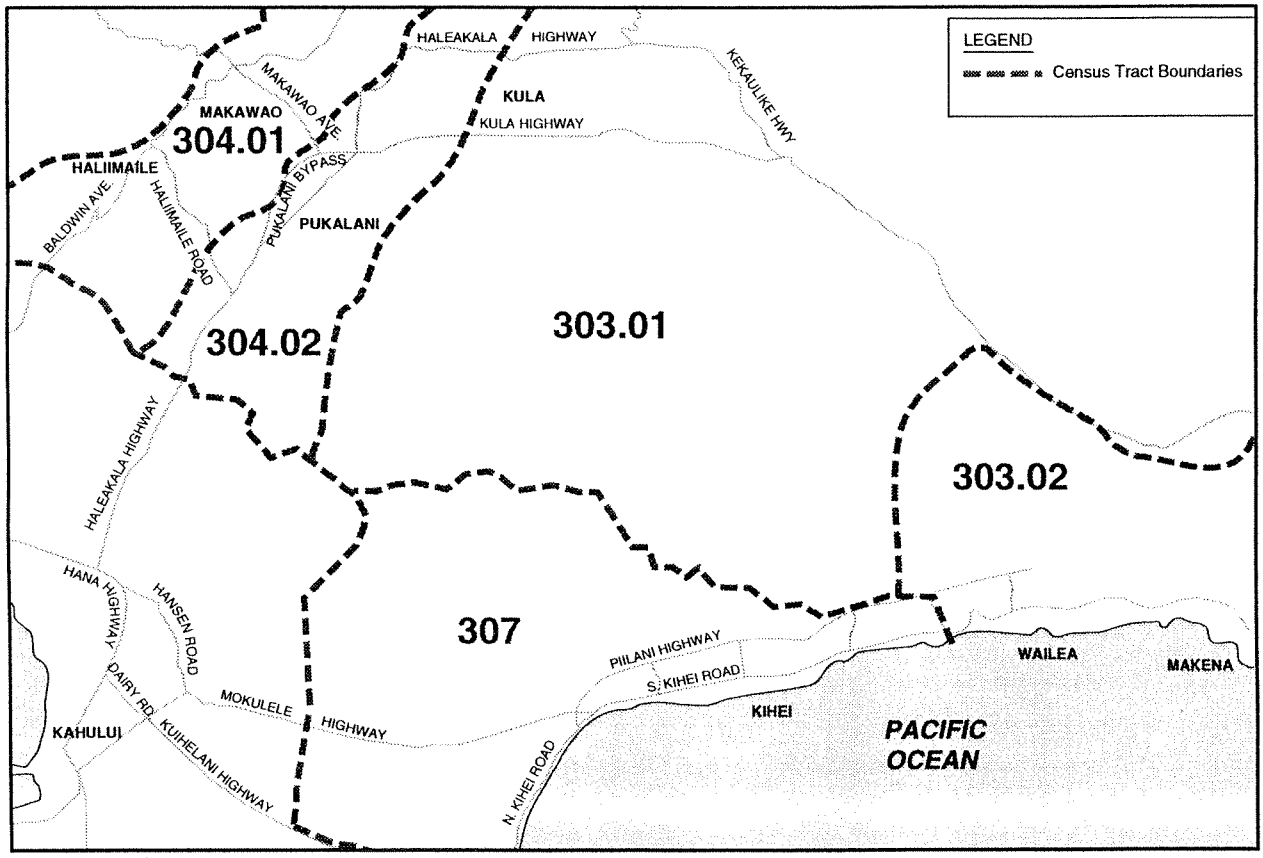
Table 2-1 also displays the number of households, families, ethnicity and age distributions for the study area in 1990. Overall whites made up 60 percent of the total

Table 2-1
Demographic Characteristcis in Selected Kihei-Upcountry Areas, 1990

	Kula	Wailea-Makena	Haliimaile-Makawao	Pukalani-Kula (Partial)	Kihei	Total	Maui County
	CT 303.01	CT 303.02	CT 304.01	CT 304.02	CT 307		
Population	5,567	2,483	7,174	6,064	12,883	34,171	100,374
Sex							
Males	50%	51%	52%	51%	52%	52%	51%
Females	50%	49%	48%	49%	48%	48%	49%
Households	1,940	1,043	2,283	1,919	4,902	12,087	33,148
Families	1,439	661	1,793	1,576	3,112	8,581	23,672
Ethncity							
White	64%	80%	54%	43%	65%	60%	40%
Chinese	3%	1%	2%	2%	2%	2%	2%
Filipino	3%	4%	11%	13%	14%	11%	21%
Japanese	18%	5%	11%	25%	5%	12%	17%
Other Asian	1%	2%	1%	1%	1%	1%	1%
Hawaiian	8%	3%	14%	14%	9%	10%	15%
Pacific Islander	0%	1%	2%	0%	1%	1%	1%
Black	0%	0%	0%	0%	1%	0%	0%
Other Race	2%	2%	3%	2%	2%	2%	2%
Age							
Less than 5 Years	10%	7%	11%	10%	9%	9%	9%
5 to 17 Years	17%	12%	20%	21%	14%	17%	17%
18 to 34 Years	20%	22%	28%	23%	31%	26%	26%
35 to 64 Years	41%	48%	34%	38%	39%	39%	36%
65 or More Years	12%	12%	7%	8%	8%	9%	11%

Note: CT = Census Tract

Source: U.S. Census Bureau, 1990 Census of Population and Housing, Hawaii



Source: U.S. Census Bureau

GRAPHIC SCALE:
0 1 km 2 km 3 km
0 1 mi. 2 mi.

Census Tracts
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 2-2

population of the study area. Japanese, Filipinos and Hawaiians were the second, third and fourth next most common racial groups, respectively. Within the study area, the proportion of whites as compared to the total ranged from a high of 80 percent in the Wailea-Makena area to a low of 43 percent in the Pukalani-Kula (partial) area. The age distribution of residents in the study area does not appear to be substantially different than the age distribution for the entire county.

2.3.2 Housing Characteristics

Table 2-2 exhibits certain housing characteristics of selected Kihei-Upcountry areas in 1990. Overall, 54 percent of the housing units were one-unit structures. However, this ratio varied by community within the study area. In the Upcountry areas, such as Kula (CT 303.01), Makawao-Pukalani (CT 304.01), and Pukalani-Kula (partial) (CT 304.02), one-unit housing types made up more than 90 percent of all housing units, consistent with Upcountry's suburban and rural characteristics. The coastal areas of Wailea-Makena (CT 303.02) and Kihei (CT 307) have a mix of housing types consistent with these areas' more urban characteristics.

The age ratios of structures (see Table 2-2) is a good indicator of the ages of the neighborhoods within the CTs. From the information presented in Table 2-2, Wailea-Makena (CT 303.02) and Kihei (CT 307) are relatively young communities in comparison to all communities combined on the island. Very few of the houses in these areas are older than 20 years. In terms of age of their communities, Kula (CT 303.01) and Pukalani-Kula (partial) (CT 304.02) are very similar to the island overall. The age ratios of Haliimaile-Makawao indicate that they are older communities that have recently experienced surges in residential growth.

Overall the owner versus renter occupancy ratio for the study area was 58:42 in 1990, roughly the same as the owner-renter occupancy ratio for the county. Within communities of the study area, this ratio varied from 65:35 in Makawao-Pukalani to 51:49 in Kihei. According to the Maui County Data Book (December 1994), approximately 32 percent of the housing units in the Kihei to Makena area were used for seasonal or recreational purposes in 1990. In the Upcountry areas, only two to three percent of the housing units were used for such purposes.

2.3.3 Income Characteristics

Table 2-3 exhibits certain income characteristics for selected Kihei-Upcountry areas in 1990. Median household incomes in the study area were higher than the median for the County of Maui, which was $38,771 in 1989. Incomes varied from a low of $40,483 in Kula (CT 303.01) to a high of $45,694 in Wailea-Makena (CT 303.02). The poverty rates of residents in Kihei-Upcountry areas were slightly higher than the rate for the County. The percentage of households with incomes below the poverty level ranged from a low of six percent in Pukalani-Kula (partial) (CT 304.02) to a high of 12 percent in Wailea-Makena (CT 303.02). From 1980 to 1993, the unemployment rate for Maui island ranged from 2.2 percent in 1989 to 7.6 percent in 1992. The average in this period was 4.9 percent. The Kihei to Makena region is one of the island's major employment centers.

Table 2-2
Housing Characteristics in Selected Kihei-Upcountry Areas, 1990

	Kula	Wailea-Makena	Haliimaile-Makawao	Pukalani-Kula (Partial)	Kihei	Maui County
	CT 303.01	CT 303.02	CT 304.01	CT 304.02	CT 307	
Housing Units	2,189	2,207	2,345	1,995	7,902	42,060
Units in Structure						
1 Unit	96%	50%	96%	98%	41%	68%
2 to 4 Units	2%	12%	2%	1%	3%	4%
5 or More Units	0%	38%	0%	0%	55%	27%
Mobile or Other	2%	1%	1%	1%	1%	1%
Age of Structure						
1 Year	4%	11%	7%	5%	9%	5%
2 to 10 Years	32%	41%	37%	35%	32%	27%
11 to 20 Years	31%	43%	26%	34%	51%	37%
21 Years or More	33%	5%	30%	27%	8%	30%
Tenure						
Owner-Occupied	63%	53%	64%	66%	51%	58%
Renter-Occupied	37%	47%	36%	34%	49%	42%

Note: CT = Census Tract

Source: U.S. Census Bureau, 1990 Census of Population and Housing, Hawaii

2.4 Economic Characteristics

Maui's most important industry is tourism. From 1989 to 1993, an average of over 2.3 million visitors arrived on Maui per year. The peak for this period was 1989 when there was over 2.5 million visitors. Most of Maui's hotels, resorts, and visitor-related businesses are located in West Maui from Lahaina to Kapalua, and in South Maui from Kihei to Makena. In the latter area, there were 84 visitor-accommodation facilities in 1993 providing a total of 7,318 visitor rental units, approximately 40 percent of all visitor-related units on Maui. In contrast, the Upcountry areas had only 63 visitor-related units. The Kihei-Makena region held about 14.6 percent of the employment on Maui, ranking third behind West Maui and Wailuku-Kahului in the number of jobs on the island.

Unlike Kihei-Makena, agriculture is Upcountry Maui's prime economic activity. Major crops or agricultural activities in Upcountry Maui include large-scale sugarcane and pineapple cultivation, and ranching. Sugarcane and pineapple activities are located on the west slopes of Haleakala Crater to central Maui. Cattle ranching generally occurs in the area east (mauka) of Haleakala Highway/Kekaulike Avenue and on the lower west and south slopes of Haleakala Crater. In Kula, major agricultural crops include vegetables, such as head cabbage, lettuce, round onions, and flowers, such as carnations and protea. Unlike sugarcane and pineapple cultivation, agricultural activities in Kula are on much smaller farm lots of about two to four hectares (five to ten acres). Upcountry Maui also has some small to medium size commercial activities mostly within Pukalani and Makawao. The medium size commercial land uses are exclusively within Pukalani. Makawao's business district contains pedestrian-oriented small retail stores and restaurants. Kula has very few commercial activities.

Scientific research is becoming an increasingly important industry on Maui. This industry is located primarily at Science City on the summit of Haleakala and at the Maui Research and Technology (R&T) Park in Kihei. Science City, a federal facility, is used for space- and defense-related research and development. The Maui R&T Park currently houses the Maui High Performance Computing Center, Boeing-Rocketdyne, Sunsource, the U.S. Air Force, the Pacific Disaster Center, Lockheed Martin, the University of Hawaii, the University of New Mexico, and a number of small companies.

2.5 Community Facilities, Parks and Services

The Kihei-Makena region contains three major beach parks, Kalama, Kamaole I, II and III and Mai Poina Oe Lau, as well as other smaller beach parks along the Kihei to Makena coastline. This community also supports a county recreation center, Silversword Golf Course, and two private golf courses in Wailea. A Kihei District Regional Park is being planned for the area east (mauka) of Piilani Highway near its intersection with Ke Alii Alanui Street. Parks and recreation facilities in Upcountry Maui include the Makawao Park/Mayor Eddie Tam Memorial Center, the Upcountry Youth Center, Pukalani Park and Community Center, Kula Botanical Garden, Harold F. Rice Park, Keokea Park, and the Pukalani Country Club Golf Course.

Table 2-3
Income Characteristics in Selected Kihei-Upcountry Areas, 1990

	Kula	Wailea-Makena	Hallimaile-Makawao	Pukalani-Kula (Partial)	Kihei	Maui County
	CT 303.01	CT 303.02	CT 304.01	CT 304.02	CT 307	
Median Household Income	$40,483	$45,694	$41,949	$43,032	$40,558	$38,771
Selected Sources of Income						
Social Security Income	24%	24%	19%	21%	19%	26%
Retirement Income	14%	15%	16%	18%	12%	18%
Public Assistance Income	3%	3%	6%	2%	4%	6%
Households Below Poverty Level	11%	12%	10%	6%	8%	8%

Note: CT = Census Tract

Source: U.S. Census Bureau, 1990 Census of Population and Housing, Hawaii

There are three schools in the Kihei-Makena region: Kihei Elementary School, Lokelani Intermediate School, and the new Kamalii Elementary School. Schools in Upcountry Maui include Makawao Elementary, Haiku Elementary, Pukalani Elementary, Kula Elementary, Paia Elementary, Kalama Intermediate, Seabury Hall (private), and the new King Kekaulike High School which opened in 1995.

Police patrols for Kihei-Makena and Upcountry Maui operate out of the main police headquarters in Wailuku. The Makawao Community Police Officer maintains an office in the town. There are plans to construct a police sub-station in Kihei. Fire stations are located on South Kihei Road near Kalama Park, in Makawao, and in Kula near Waiakoa.

Maui Memorial Hospital in Wailuku is the principal hospital on Maui. Smaller hospitals are in Hana and Kula. The general hospital in Kula provides care for tubercular, mental and long-term patients. An ambulance stationed in Makawao provides emergency service between the Upcountry area and Maui Memorial Hospital. There is no 24-hour ambulance service in Kula. Emergency medical service in Kihei is provided by Maui Memorial Hospital.

2.6 Community Issues and Concerns

This section describes community issues and concerns expressed through the update processes of the Kihei-Makena and Makawao-Pukalani-Kula Community Plans and the State/County Joint Task Force on the Upcountry/Kihei Highway.

2.6.1 Community Plans

In the Proposed Kihei-Makena Community Plan (October 1993), the Kihei-Makena Community Plan Citizens Advisory Committee (CAC) expressed the following problems, issues and concerns regarding their community:

- Transportation. Inadequate traffic circulation and lack of public transportation.
- Community Facilities. Lack of youth programs, community facilities and playing fields in relation to its size as the third largest residential community on Maui. Recreation facilities such as a community swimming pool and sports fields, and a community center to house forums and events are particularly needed.
- School Environment. Problems expressed included an overall shortage of educational facilities, an overuse of portable structures, and the school's proximity to Piilani Highway. These circumstances result in overcrowded, uncomfortable and generally poor classroom learning environments.
- Public Services. The lack of emergency medical facilities is a concern because of Maui Memorial Hospital's distance from Kihei. Greater police presence is needed to control crime. A ladder truck at Kihei Fire Station is needed to fight high-rise fires. A new Kihei community library would enhance learning for students. A general lack of social services, including child day care, was noted.

- Upcountry Transportation Connection. A transportation connection to the Upcountry area would save valuable commuter time between residential areas of Upcountry and job centers in the Kihei region. In choosing the alignment for this connection, the major concern should be improving transportation services for the maximum number of residents.

The Makawao-Pukalani-Kula Community Plan (July 1996) CAC expressed the following problems, opportunities and interregional issues regarding their community:

Problems

- Water. Limited development of water resources and distribution systems to meet the needs of the region. Water resources should be allocated in the following order of priority: (1) preservation of agriculture and development of Department of Hawaiian Home Lands parcels; (2) ensure the long-term viability of the region's residences and economic base.
- Loss of Rural Character. The loss of Upcountry's rural ambiance is a significant concern. Preservation of the rural setting and open space of Upcountry is an important goal for the region.
- Transportation. Issues of concern include the inadequate transportation network, the need to address interregional access, and the need to provide alternative modes of transportation.
- Public/Quasi-Public Services and Facilities. Inadequate public and quasi-public facilities are cited as a major community issue. These facilities should be upgraded, expanded, or constructed to meet the growing needs of the region's residents.

Opportunities

- Rural Community Character. The region's rural qualities, characterized by its low crime rate, clean environment, abundant outdoor recreation opportunities, and vast open space and natural resources provide an opportunity to preserve Upcountry Maui's unique identity.
- Land Use. The land use patterns of the region should provide an opportunity to preserve the region's rural and agricultural setting. Planning of existing and future communities should retain their rural character, and agricultural lands and related activities must be recognized as key land use elements. To retain the integrity of the region's land use character, agricultural lands and related activities must be recognized as key land use elements which make Upcountry a special place.

Interregional Issues

- Kihei-Upcountry Highway. The selection of an alignment must consider the growth-inducing impacts on the region's agriculture, rural character and open

spaces. The need to maintain the unique Upcountry ambiance should be an essential criterion in analyzing alternatives.

- Economic Well-Being. The Upcountry region should continue to contribute to the overall economic health and stability of the county by maintaining sugarcane and pineapple cultivation, the region's rural character, and scenic and recreational resources.

- Water. A comprehensive water management strategy must be developed to balance various interests and accommodate environmental, agricultural and residential needs.

2.6.2 Joint Task Force on the Kihei-Upcountry Highway

A task force made up of citizens, businesses, and State and county officials was created in 1993 to explore and recommend alternatives for the Kihei-Upcountry Maui Highway. The goal of the task force was to facilitate early community participation in the project's planning process to provide the SDOT with useful information and enhance the acceptance of the project.

As part of the Task Force effort, opinion surveys were conducted to obtain input on termini preferences. These surveys consisted of a questionnaire appearing in the July 19, 1993 addition of the Maui News, and surveys of hotel and HC&S employees. Table 2-4 displays the results.

Two Task Force meetings were held to discuss project alternatives. The first meeting on May 14, 1992 introduced the project and task force process to participants. The second meeting, held on April 8, 1993, surfaced more substantive comments, such as the highway's potential impacts on agricultural activities in Upcountry Maui. These concerns included taking agricultural land for the highway's right-of-way, dividing farms which would reduce their efficiency or make them non-viable, and adversely impacting agriculturally-related traffic movements on Omaopio Road and other roadways. A sampling of these concerns follows:

- "Major consideration should be given to the conservation of productive agricultural lands and the economic impact of withdrawal of such land for the highway. There is the potential that the most productive of these agricultural lands will be impacted by the highway."
- "I don't know how practical it is to have a road running right through some of the best farm land on Maui."
- "If we had any road coming down through here connected to Kihei, Pulehu and Omaopio Roads will become the main link connecting with the upper Kula Highway. Right now Omaopio and Pulehu are loaded with fast movers. Half of the guys are speeders."
- "If there is going to be any road coming down through here, it is going to be murder trying to cross that (Kihei-Upcountry Maui Highway) road from (Omaopio Road). Try getting to Hansen Road from Puunene in rush hour. Can't do it. Only way you can do it is because there are nice guys on the road (that) give you a chance. But not on the highway, nobody is going to stop for you."

Table 2-4
Termini Preference Survey Results

	Survey		
	Maui News	Hotel Employees	HC&S
Upcountry Termini			
Ulupalakua	13.5%	15.9%	2.0%
Upper Kula	11.6%	11.0%	95.1%
Lower Kula	22.0%	25.6%	0.4%
Above Pukalani	33.3%	23.6%	0.0%
Below Pukalani	16.5%	23.8%	0.4%
Other	3.1%	0.1%	2.0%
Kihei Termini			
Near Suda Store	12.8%	15.9%	0.0%
Lipoa / R&T Park	56.1%	16.5%	95.1%
Kanani / Keonekai	10.1%	17.6%	0.4%
Wailea / Makena	18.2%	49.1%	2.4%
Other	2.7%	0.9%	2.0%

Source: State/County Joint Task Force Upcountry/Kihei Highway, Final Report, October 1, 1993.

- "Nothing would be worse to a small farmer than to have the highway cut his ten acre farm in half. (If you) subdivide even HC&S into a hundred little plots, (it is) no longer a farm."
- "About 150,000 acres of prime agricultural land from Kaupo to Waipiho is going to have nothing but guava trees and pakalolo. There is not going to be any legal farming there because there is no legal prosperous crop including cattle or anything else that we can make any money on. Consequently it's no longer prime ag(riculture) land; it's waste."
- "If we are going to really preserve agriculture, a lot of the issues brought up here are extremely important. If you subdivide and don't provide agriculture with easy access and easy transportation, you create a real problem."
- "I have a major problem on Mokulele. In fact, the first day we tried to cross, we had haulers piled up for four hours without being able to cross the highway. (On) the first day, we had six accidents."
- "I know the (Omaopio) land around there. There are a lot of gullies, a lot of hard rock. But there is not a lot of good soil where farmers can grow onions and grow cabbage. I don't think that should be disrupted with a bunch of tourists in automobiles and everything coming through there."
- "Any one of these alternatives will encourage more Upcountry development. If people working in Kihei, wouldn't it make sense to have more development in Kihei than encourage people to move to Upcountry and put more strain on existing resources?"

There were also disagreements on which type of agricultural land (small farmers or large-scale agriculture) should bear the brunt of impacts. Comments related to this issue are stated below:

- "When you mention the plantation and sugar, I think people, the agricultural lots are more important than the sugar because it's lifestyle of the people."
- "There's a lot of operating farms there. And if I had to trade off obviously small operating farms in the Omaopio homesteads versus cane or pineapple land, I think the trade should be in favor of the (smaller) land owners versus the larger land owners."
- "I can understand wanting to preserve HC&S land, but the bread basket of our agricultural industry are independent farms in the Omaopio, Pulehu, Naalae areas--this is the area that should be protected."
- "Good farm land is only good if you can make a profit on it. If you can't make a profit on it, it doesn't matter what else it has. It has to have economic viability. So if you take away economic viability from 1,500 farmers (working for HC&S), you destroy their 36,000 acres of what was prime agricultural land and turn it in to 36,000 acres of unusable farm land."

2.7 Interviewee Information

Often key individuals who are well informed about community issues, expectations and concerns can often provide good insight into the existing social condition of the affected neighborhoods. The three types of "key informants" were used for this study: community leaders, business owners and government agency personnel. Many of the key informants are present or past leaders of neighborhood or community organizations, and were interviewed for their knowledge of social groups, networks and activities. The business owners interviewed represented both large and small business enterprises. They provided insight into the project's potential impacts to their businesses. Government agency personnel were interviewed for their particular knowledge of certain key information or issues.

This section summarizes some of the information obtained from "key informants" in the community. Specifically:

- how "key informants" feel about their communities;
- how their communities have changed; and
- recent issues or problems their communities have faced.

2.7.1 Kihei-Makena Region

"Key informants" from Kihei generally thought of their communities as being working class and tourist-oriented. They noted that the de facto population (inclusive of visitors) is almost twice the residential population. However, they identified certain neighborhoods in Kihei as sharing some of the qualities characterizing Upcountry communities, such as rural setting. The Wailea-Makena communities are very different from Kihei in that the majority of their population, at any one time, is visitors or hotel employees. There are over two thousand condominium units in Wailea-Makena. However, most of these units are owned by absentee owners. Only a small fraction of the owners are full-time residents.

"Key informants" described Kihei's sandy beaches as being "great" with good public access. Although parking is a problem, they consider these beaches to be one of Kihei's most valuable assets.

The "key informants" stated that Kihei has not changed very much in the last few years, mainly because the visitor industry has flattened since the early 1990s which caused the construction industry to wane. During the 1980s, Kihei to Makena experienced phenomenal residential and hotel/resort growth in response to growing visitor counts. The resident population doubled and the de facto population quadrupled during this period. The peak of this development growth spurt occurred from 1988 to 1992.

When asked about present or recent community problems and issues, "key informants" identified traffic congestion, especially in the vicinity of North Kihei, and crime as being the major complaints of the community. They believed that little can be done about the crime problem because of Kihei's heavy reliance on the visitor industry. Efforts in recent years that have helped alleviate crime include rental car companies unlabeling their cars and a citizens' patrol along South Kihei Road. Unfortunately, these efforts forced criminals into other types of property crime and caused criminal activities to increase in inner neighborhoods.

2.7.2 Upcountry Maui Region

"Key informants" from Kula, regardless of where they live, almost unanimously identified their communities as being rural or country. They also identified the importance of agriculture, the quietness of the area, and similar lifestyles and values among neighbors. "Key informants" from Makawao and Pukalani gave slightly different responses, defining their neighborhoods as being more suburban. However, they also identified certain rural qualities, such as the pedestrian orientation of Makawao and open space.

All the "key informants" mentioned substantial increases in population and housing, especially from ten to 20 years ago. This has caused overcrowding of schools and increased traffic. Some of the "key informants" mentioned that 20 years ago, there were a lot more horseback riders.

"Key informants" noted that a substantial number of newcomers came from the mainland. Their impact on the social and cultural environment of Upcountry elicited mixed reactions. For example, some felt that most newcomers fit in well to the community, and were credited with reviving Makawao's business district. Negative comments about newcomers, regardless of whether they came from the mainland or within the State, included an assessment that they brought increased crime and drug use into the community, and that they do not share the same lifestyles and interests of long-time residents.

Recent or current community issues identified by interviewees included water availability; increasing traffic which raises safety concerns; the controversial location of the new King Kekaulike High School; a divisive issue that occurred a few years ago involving a proposal for hotel zoning near the Pukalani Golf Course which led to the disbanding of the Pukalani Community Association; teenagers loitering in Makawao

supposedly adversely affecting businesses; and the lack of 24-hour ambulance and other medical services in Kula.

Water availability for Kula farmers is a critical issue that can affect their business. For residents, it is more of an inconvenience. A Kula resident stated the problem succinctly: it has been "a blessing and a hardship." The blessing is that the lack of water has prevented development and maintained open space. The hardship is that residences frequently have to endure restrictions on water use.

3. DEVELOPMENT TRENDS

This chapter describes current land use and development trends from the perspective of the County of Maui's Community Plans for the affected regions, and the wishes and desires of the "key informants."

3.1 Community Plans

The County prepares nine Community Plans to help guide its decisions regarding development. Two of these plans are of relevance to the proposed project--the Kihei-Makena Community Plan (July 1985) and the Makawao-Pukalani-Kula Community Plan (July 1996). Their planning areas are displayed on Figure 3-1.

3.1.1 Kihei-Makena Community Plan

The Kihei-Makena Community Plan (July 1985) is currently being updated, and a Proposed Plan (October 1993) is under review by the County Council. As shown on Figure 3-1, the planning region stretches from the southern shoreline to Wailuku and Lahaina. However, most of the population and development in this region is centered around the Kihei to Makena area.

The Proposed Plan raised issues regarding Kihei-Makena's physical and social infrastructure, emphasizing that community facilities are not keeping up with growth. Therefore, objectives were established to limit hotel and residential development until adequate public facilities and services, such as schools, are established to meet existing needs. The exception to this recommendation is that the Proposed Plan encouraged development of appropriate commercial and light industrial activities to diversify the region's economic base.

Based on the Proposed Plan, the following land use trends can be expected:

- Vacant land between Piilani Highway and South Kihei Road to Kilohana Road would be developed as an urban mix, such as single-family and multi-family residences and commercial land uses (shopping centers, hotels, etc.). The pace of this development would depend on market conditions and the availability of long-term employment.
- Limited commercial/light industrial expansion in areas mauka of Piilani Highway would be developed, such as the Kaonoulu parcel and the build-out of the Maui R&T Park.
- Resorts and resort-related activities (some residences, retail commercial, etc.) would continue to be developed in the existing resort area of Wailea and Makena.

3.1.2 Makawao-Pukalani-Kula Community Plan

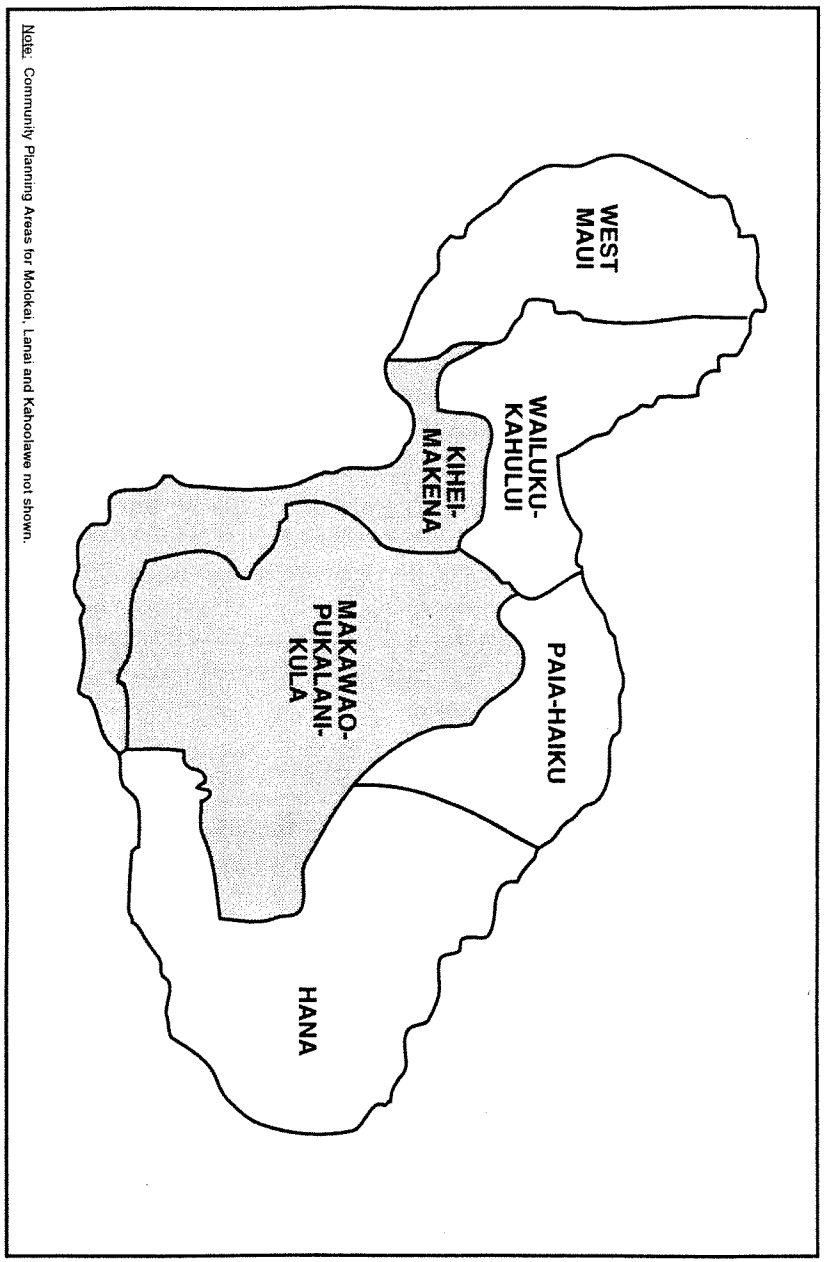
The Makawao-Pukalani-Kula Community Plan (July 1996) seeks to protect and enhance the unique qualities of this region through policies and recommendations to expand the

region's agricultural base and enhance the rural and agricultural qualities associated with Upcountry Maui. The Plan seeks to accomplish this by directing growth into and adjacent to already established urbanization centers. For example, Pukalani would be the region's "hub" for business, commercial and housing land uses. Makawao's and Waiakoa's unique town ambiance and Kula's rural and agricultural atmosphere are intended to be maintained. According to the Community Plan, the following land use trends can be expected:

- Agriculture and open space would be maintained.
- Residential growth would be directed into and adjacent to the established urbanized communities of Pukalani, Makawao and Haliimaile. These areas would accommodate most of the residential growth (about 5,000 to the year 2010).
  - In Makawao:
    - businesses would develop around the established central core; and
    - the country town ambiance would be maintained.
  - In Pukalani:
    - residential growth would be located within (in-fill) and to the north (makai) and south (mauka) of the community;
    - multi-family residences (for senior housing in the Kulamalu development) would be consistent with community's size and character; and
    - would be developed as Upcountry's geographic, public service and commercial hub.
  - In Haliimaile:
    - some small-scale commercial uses would serve existing and proposed residences; and
    - limited single-family residential growth would be contiguous with existing residences.
- Small-scale agriculture in Kula, particularly on the west (makai) side of Kula Highway, would be preserved.
- Waiakoa developed as Kula's town center:
  - some low density residential uses;
  - some small scale commercial; and
  - no urban sprawl.
- Some residences in Kula would generally be allowed in the area between Kula Highway and Haleakala Highway. The lot sizes would be no larger than 0.2 ha (1/2 acre).
- The Keokea area would be developed for homesteads by the Department of Hawaiian Home Lands (DHHL).
- No large-scale retail or heavy industrial land uses.
- Existing communities would remain separated with no in-fill development between communities.

3.2 General Economic Trends

Maui's visitor industry is expected to continue to be its most important in the future. Economic forecasts (land use constrained) conducted for the County of Maui indicate that the number of visitor accommodation units and visitors for the county would



Community Planning Areas
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 3-1

increase by 55 percent and 78 percent from 1990 to 2010, respectively. (Unconstrained forecasts would have had these indicators double from 1990 to 2010) Recently completed 2020 socio-economic projections prepared by the State of Hawaii Department of Business, Economic Development and Tourism (DBEDT) indicates that these two indicators would increase by 44 percent and 52 percent, respectively. The two existing visitor-accommodation regions, Lahaina-Kaanapali-Kapalua and Kihei-Makena, would continue to be the primary resort areas.

HC&S, ML&P, the ranches, and the Kula small farms are expected to continue to be viable businesses into the 21st century, and constitute a fair portion of the county's economy. However, their growth would likely be moderate at best. These businesses may continue to face many of the same obstacles that have adversely affected them in the past, such as urban encroachment and world competition.

Maui's high technology industry is growing. Although the Maui R&T Park has currently a little more than 300 employees, it is only eight percent built-out. By the year 2020, Park officials estimate the entire 168 ha (415 acres) complex would be completed. Per County ordinance, fifty percent of the R&T Park must be dedicated to research and development, forty percent to support facilities and only ten percent to light manufacturing and general industrial. Park officials expect new major industries to locate in the park, such as bio- and medical-technology; arts and entertainment; environmental, earth and ocean sciences; information processing and exchange; defense missions; and education and international training and technology conferencing.

3.3 Interviewee Views

3.3.1 Kihei-Makena Region

"Key informants" from Kihei stated that they do not anticipate a lot of changes in Kihei because there is little incentive for developers to construct new hotels and housing. They noted that most of the prime resort locations are already developed, and the only areas to develop are in south Makena. With very little anticipated hotel development, the "key informants" believed that job growth would be modest. Therefore, they believe residential development would be slow, even though the area between Piilani Highway and South Kihei Road is only about one-third developed.

"Key informants" expressed the desire to prevent or limit shoreline development and maintain coastal access. They also stated that Kihei, as a tourist town, should have a network of greenways running along the coastline and parallel to and between Piilani Highway and South Kihei Road, with several east-west (mauka-makai) collectors (looking like a ladder). These greenways would be used for cycling and other recreational activities, and would support the tourist industry.

3.3.2 Upcountry Maui Region

Upcountry "key informants" almost unanimously stated that they want to maintain Upcountry's rural, country setting; its agricultural base; its open space; and its quiet

atmosphere. Some spoke about the need for residents to maintain their "local" values and culture. Those who spoke about this "local" culture defined it as having "Aloha," caring about the land and their communities, having similar goals for their communities, and having tolerance of other people's beliefs and lifestyles. "Key informants" generally wanted the Upcountry's "urban" area to remain in Pukalani and Makawao. They believed these towns to be appropriate areas for Upcountry's businesses and community and public services. "Key informants" from Pukalani and Makawao spoke about responsible zoning, and residential and commercial land uses that are consistent with the size and scale of the existing towns. For example, commercial uses in Makawao should be consistent with the country town atmosphere of its main street, and as a "bedroom community," Pukalani should not have inappropriate land uses such as bars and lounges.

According to the "key informants", threats to this desired future, include uncontrolled or inappropriate development; newcomers (from the mainland and in-State) not having "local" Upcountry values; increased tourism activities; and the water supply problem. One commenter specifically identified the proposed Kihei-Upcountry Highway as a threat to his desired future, stating that the highway would "single-handedly wipe out the community."

No "key informant" desired zero growth. Some said that without growth, the community would die. One person said that they need to provide land for their children so they too can live in the country. Another said that opportunities were needed for other Maui residents to move to Upcountry. The concern among all "key informants" was that too much or inappropriate development would destroy many of the things people value about Upcountry. For example, if the number of residences near the Kula farms increase, these farms may not survive. One person thought that if development cannot be controlled, Upcountry would not be a desirable place to live.

"Key informants" were willing to accepted the changes to Upcountry from the DHHL development.

Those who spoke about tourism see it as a threat or obstacle to their ideal future if a "Disney-type" tourist attraction is allowed. "Key informants" do not object to tourists traveling to the Haleakala summit now or in the future. They did, however, object to tourists driving through Upcountry's rural neighborhoods.

The water availability problem was seen as a threat primarily to Kula farmers who depend on a steady supply of water.

4. POTENTIAL SOCIAL IMPACTS

This chapter analyzes potential social impacts of the six alternative alignments for the Kihei-Upcountry Highway.

The impact analyses of this chapter are based on the guidance documents identified in Section 1.3. Impacts identified if any of the following project-related effects occur:

- For neighborhood impacts:
  - Changes in neighborhoods or community cohesion. These changes may include splitting neighborhoods or isolating portions of neighborhoods or ethnic groups.
  - Impacts on specific social groups, such as the elderly, handicapped, non-drivers, transit-dependent and minority and ethnic groups.

- For impacts on agriculture:
  - Would there be a loss of farmland? If so, which farmland would be affected?
  - How would current agricultural practices be affected?

- Effect on current land use patterns and development trends. Questions to be answered for this type of impact include:
  - What is the growth inducement potential of each alternative and where would its generated growth be located?
  - Would the project be in compliance with local land use plans and zoning?
  - Are there other factors to be considered in determining land use patterns and development trends?

- If there are displacement or relocation impacts, the following questions would determine the level of impacts:
  - How many residences would be displaced?
  - How many businesses and farms would be displaced?
  - Are there available sites to accommodate those displaced?

- Changes in mobility and travel patterns and their effects on existing socio-economic activities.

- Impacts on school districts, recreation areas, churches, businesses, police and fire protection, etc., including any changes in accessibility.

- Impacts of alternatives on highway and traffic safety as well as on overall public safety, including crime.

4.1 Neighborhood Impacts

Figure 2-1 identifies the neighborhoods or communities in the study area. Portions of the study area midway between Upcountry and Kihei are owned by a few large land

owners, such as Alexander & Baldwin and Haleakala Ranch, and are used for large scale sugarcane and pineapple cultivation and pasture. The following describes the alignments' physical relationships with existing neighborhoods:

- Segment U1 is located approximately 1200 to 1400 m (4000 - 4500 ft) west to northwest (makai) of Pukalani.

- At its closest point, Segment U2-A is located approximately 150 m (500 ft) south of Pukalani and approximately 300 m (1000 ft) north of a few Omaopio homesteads.

- Segment U2-B is located approximately 275 m (900 ft) south of Pukalani and approximately 240 m (800 ft) of the Omaopio homesteads. The lower part of a residential subdivision, Kula 200, is directly east (mauka) of the U2-B/Kula Highway intersection. However, this subdivision is upslope from the terminus.

- Segment U3 is located approximately 240 to 700 m (800 to 2300 ft) north of residences along Pulehu Road. U3's intersection with Kula Highway is approximately 500 m (1600 ft) southwest of the Kula Kai Subdivision which is located east (mauka) of Lower Kula Road.

- Segment K1 is located approximately 500 m (1600 ft) at its closest point from a residential subdivision located mauka of Piilani Highway. West (makai) of K1's intersection with Piilani Highway, Kaonoulu Estate, is the nearest residential subdivision.

- At the K2/Piilani Highway intersection, the nearest residential area is approximately 500 m (1600 ft) north of this location, located west (makai) of Piilani Highway.

Based on the information above, none of the alternatives would split any existing neighborhood, nor isolate parts of neighborhoods from the greater community. Therefore, the alternatives would not in themselves adversely affect community cohesion. However,

Although none of the alternatives would change land use patterns in Upcountry in a way different from the future development described in the Community Plan (see Section 4.3), implementation of the Community Plan may affect the rural country lifestyle of Upcountry by increasing the population and density, increasing traffic and associated roadway noise, and encroaching onto agricultural land.

Some of the alternatives have the potential to change existing travel patterns in a way that could adversely affect certain existing neighborhoods. These potential impacts are discussed in Section 4.5.

4.2 Agricultural Impacts

Hawaiian Commercial and Sugar Company (HC&S) cultivates approximately 14 000 ha (35,000 acres) of sugarcane on land on the west slopes of Haleakala and in Central

Maui (see Figure 4-1). HC&S operates two sugar mills, located in Puunene and Paia, which also export electricity to the Maui electrical grid. Other highways, such as Haleakala and Hana Highways, already cross HC&S fields (see Figure 4-1), and these highways adversely affect productivity for several reasons. For example, only some public road-haul road crossings are signalized, and these crossings delay the transport of sugarcane to the mills. In addition, suburban encroachment interferes with operations, such as cane burning and aerial spraying.

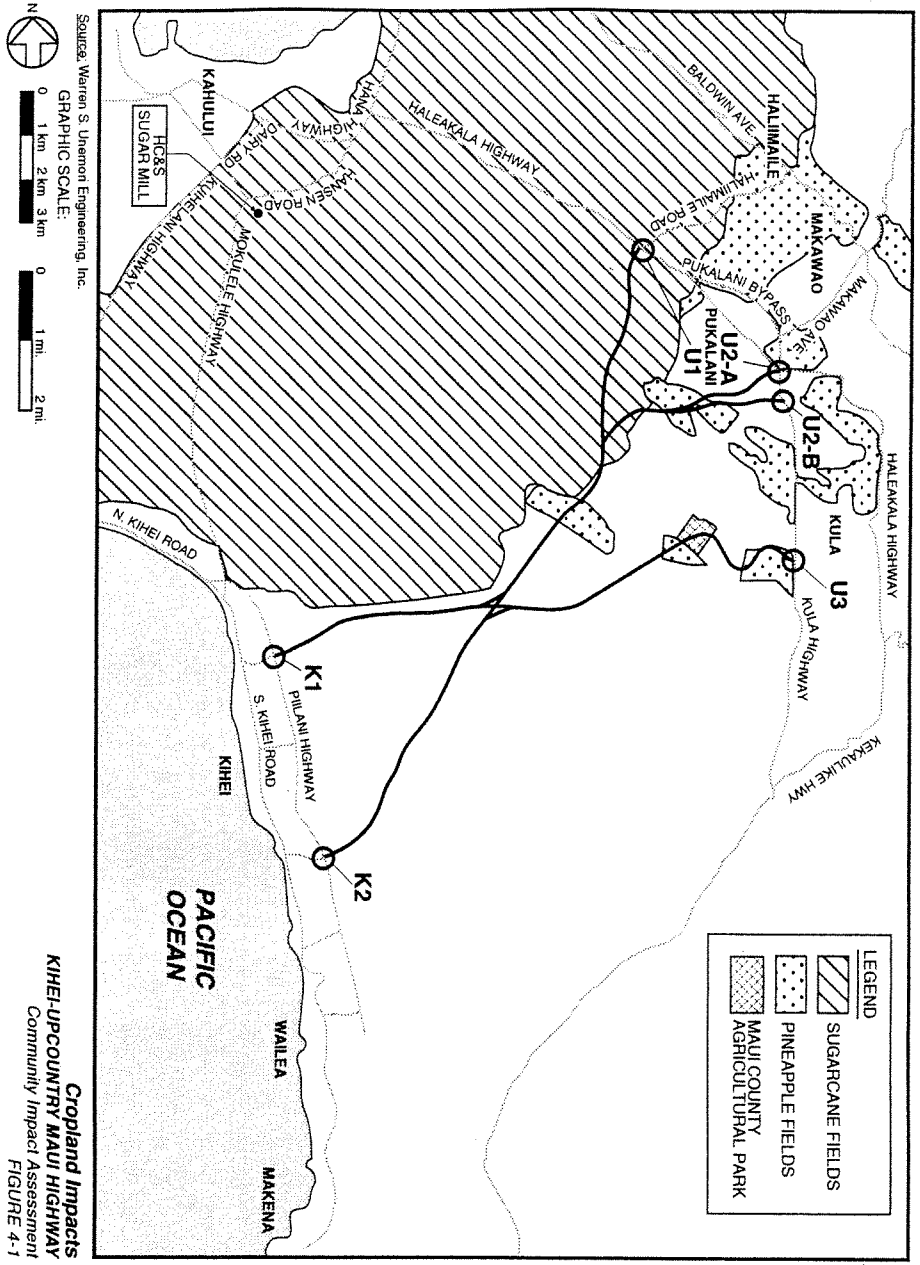
Proximity to urban areas adversely affects the efficiency of HC&S sugarcane operations because cane burning has to be regulated (i.e., no cane burning during Kona (south wind) weather), dust control measures have to be used (the 136 000 kg (300,000 lb.) cane hauling vehicles traveling on unpaved cane roads produce tremendous amount of dust), and trespassers are more frequent, leaving derelict vehicles and other waste in the fields. As one of the few remaining sugar producing companies in Hawaii, HC&S believes that to remain competitive in the world market they must be as efficient as possible, and continue to produce high yields at least cost. HC&S feels that any project that brings more urbanization near their fields detracts from efficiency.

The other large-scale crop production business in the study area is Maui Land & Pineapple Company (ML&P), the last pineapple processor in the State. ML&P's pineapple fields are located around Haliimaile, Makawao and Pukalani, and in lower Kula (see Figure 4-1). In addition to their own land holdings, ML&P leases land to cultivate pineapple because market demand exceeds supply. ML&P selected these areas to cultivate pineapple because they have good soil conditions and access to water. Similar to HC&S, urban encroachment has adversely affected ML&P productivity. The other major constraint for ML&P is obtaining land with access to water.

Cattle ranching generally occurs east (mauka) of Haleakala Highway/Kekaulike Avenue and on the lower west and south slopes of Haleakala. Ranching enterprises in the study area are the Haleakala and Kaonoulu Ranches. Similar to HC&S and ML&P, urban encroachment has adversely affected the ranches because of complaints about noise and cattle crossing public roadways.

Small farms are located in Kula around Omaopio, Pulehu Naalae, Waiakoa, and Keokea. As described in Sections 2.2 and 2.4, these two to four hectare (five to ten acre) farms cultivate vegetables and flowers. Kula farmers face problems similar to those expressed by HC&S and ML&P: urban encroachment and periodic water use restrictions during drought conditions. Urban encroachment affects Kula farmers through speculation (increasing land values), neighbor complaints of chemical use by farmers, and increased traffic(see Section 4.5).

The alternatives would cross agricultural land, and convert it to a transportation use (see Figure 4-1). Most of the agricultural impacts would occur on existing sugarcane and pineapple fields (see below). The degree of impact would depend on the alignment selected. No privately-owned Kula small-scale farm would be directly affected by any of the alternatives, although leased fields located in the Kula Agricultural Park owned by Maui County could be affected depending on the alignment



Cropland Impacts
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 4-1

selected (see below). Also, some of the alternatives could modify travel patterns in a way that may adversely affect certain Kula farms. This is discussed in Section 4.5, "Traffic Patterns and Highway Safety."

When an alternative encroaches on land used for cultivation, it would adversely affect agricultural operations, such as planting, aerial spraying, irrigation, drainage and harvesting, for several reasons. For example, the roadway could interfere with agricultural infrastructure, such as existing service roads and irrigation and drainage systems. In addition, the roadway could isolate portions of fields, making them inaccessible and unworkable for cultivation. However, this project would not create unworkable remnant parcels in most cases because mitigation measures to maintain the productivity and workability of the affected fields would be implemented.

The impacts of alternative alignments are described below:

- Segment U1 would cross sugarcane fields owned by Hawaiian Commercial and Sugar Company (HC&S) west (makai) of Pukalani (see Figure 4-2). The alignment would separate approximately 400 ha (1000 acres) of sugarcane land from larger fields, and cross existing cane haul roads and irrigation and drainage systems. The isolated parcel would remain productive because mitigation measures, as described in Section 6.1, would be implemented if a U1 alternative is constructed.

- Segment U1/U2-A/U2-B would cross a Maui Land and Pineapple Company (ML&P) pineapple field located along Pulehu Road, affecting internal roadways, water conveyance infrastructure and drainage patterns (see Figure 4-1). The two newly created parcels would remain productive because mitigation measures, as described in Section 6.1, would be implemented if either a U1 or U2-A alternative is constructed.

- Segment U2-A or U2-B would separate approximately 25 ha (60 acres) of HC&S sugarcane land from a larger field (see Figure 4-1). It would also cross two major water ditches, the Hamakua Ditch and the Reservoir 40 ditch. The U2-A or U2-B alignment would also cross a ML&P pineapple field located south (mauka) of Pukalani, separating two parcels from a larger field. These affected fields would remain productive because mitigation measures, as described in Section 6.1, would be implemented if a U2-A or U2-B alternative is constructed.

- Segment U3 would cross two ML&P fields located along Pulehu Road (see Figure 4-1). At the western (makai) field, two fields would be created. However, both fields would remain productive because mitigation measures, as described in Section 6.1, would be implemented if a U3 alternative is constructed. At the eastern (mauka) field, unworkable remnant parcels may be created because of the small size of the isolated field. The U3 alignment would also cross the Kula Agricultural Park owned by Maui County (see Figure 4-1). The Ag Park leases low-rent parcels to small-scale farmers. Some of the parcels would be converted to the roadway. The remaining parcels and parcels modified because of the roadway alignment would remain productive because

mitigation measures, as described in Section 6.1, would be implemented if a U3 alternative is constructed.

Segments K1 and K2 do not affect existing cropland.

The alternatives would also cross land used for cattle ranching and grazing. Segments U1/U2-A/U2-B, U3, K1 and K2 would traverse cattle ranching/pasture land located toward the southern portion of the study area, south of the sugarcane fields and west (makai) of the small Kula farms. The proposed highway would increase accessibility to pasture land.

The U3 alignment would be located approximately 90 m (300 ft) from a working corral and water system (tank and troughs). The owner of the corral, Haleakala Ranch, has indicated a preference that the highway not be within visual distance of the corral to prevent highway users from interfering with cattle operations. The U3 alignment would therefore interfere with corral operations.

Haleakala Ranch also stated that they would have to herd cattle across the K1 alignment several times a year. Herds may reach 1,500 cows, and it would take about 10 to 15 minutes for the animals to cross the highway. However, impacts are not anticipated because mitigation measures would be provided as described in Section 6.1.

4.3 Land Use Impacts

To evaluate the potential urban development impacts of a highway project, one compares the proposed transportation project to the extent of planned growth within the project area. Highway projects often remove impediments to urban growth by enhancing access to vacant land or increasing transportation capacity. Therefore, assessment of the potential urban growth impacts of the proposed roadway is based on the question of whether the transportation infrastructure would facilitate planned growth, or induce unplanned growth. In this case, the planned growth would be according to the Proposed Kihei-Makena Community Plan (October 1993) and the Makawao-Pukalani-Kula Community Plan (July 1996) (see Section 3.1.4.2d).

The alternatives would support planned growth because all of them would improve transportation between Kihei and Upcountry by reducing travel time (see Section 1.2.1). The issue of whether Kihei-Upcountry Maui Highway would induce unplanned growth is addressed below.

Kihei-Makena

Growth facilitation would be beneficial in Kihei-Makena where there is ample room between Piilani Highway and South Kihei Road. Additional development would conform to Kihei's visitor-based urban environment. However, other factors, such as future hotel and resort development and the pace of development of Maui's "high-technology" industry, are expected to determine the speed and extent of growth in Kihei more than the Kihei-Upcountry Maui Highway. As indicated in the Kihei-Makena

Community Plan, only limited commercial and business development would be allowed mauka of Piilani Highway, primarily the build out of the Maui R&T Park. State and county zoning east (mauka) of Piilani Highway would remain in agriculture. Therefore, neither K1 or K2 segments would facilitate development in areas east (mauka) of Piilani Highway. If the alternatives facilitate in-fill development between Piilani Highway and South Kihei Road, this would be considered a positive impact because it would be consistent with the Kihei-Makena Community Plan.

Upcountry

The Makawao-Pukalani-Kula Community Plan indicated maintenance of low densities, open space and agricultural activities in Upcountry's rural communities. In addition, in interviews with "key informants," many stated a broad concern about the proposed highway facilitating urban development and increasing traffic volumes in Upcountry, elements that are inconsistent with the articulated vision for the area. However, it is appropriate to look beyond these concerns to other factors that could affect land use trends in Upcountry, and to the relative differences among the alignment alternatives.

The project could facilitate planned residential and commercial developments in Upcountry because it would provide a transportation link between the Kihei-Makena employment center and the popular Upcountry Maui residential area. However, regardless of whether areas are available to be developed (i.e., have appropriate zoning or are identified for growth in official County land use plans), the greatest obstacle to further development in parts of Upcountry is water availability, which has historically constrained urban growth. According to the Maui Board of Water Supply (BWS), there is currently barely enough capacity to serve current customers in Upcountry. Under drought conditions, customers are required to cut back water use, and the reservoirs quickly run dry.

Maui is served by five major water supply systems: Central Maui, Makawao, Kula, Hana, and Lahaina; and 15 individual sub-systems. The Iao Aquifer in the West Maui Mountains is the water source for Kihei-Makena and other areas. Unlike Kihei-Makena, Upcountry's water supply is from surface sources along the north and east side of the island that feed into the Makawao and Kula systems. Makawao and Pukalani receive their water from the Makawao system. Surface water is treated at the Kamole Weir Water Treatment Plant located near Haliimaile, and pumped up to the two communities. This system has no reservoir. The Kula system operates as two separate systems (Upper and Lower), with each having its own separate surface water intakes, treatment facility, and distribution system (lines running along the upper portion of Haleakala Highway for the Upper system and lines running along Kula Highway for the Lower system). However, water can be pumped up (lower to upper) or gravity fed (upper to lower) between the two systems if required. Also, during droughts, water is sometimes pumped to the Kula systems from the Makawao system, and customers are required to reduce water use. The Maui BWS has recently constructed two 190 000 m^3 (50 million gallon) reservoirs in the Upper Kula System, but there are no other immediate plans for a new reservoir in this system.

The Maui BWS uses the Community Plans in planning new water systems and/or increasing the capacity of existing systems. The Maui BWS is planning improvements

to the Makawao system in response to the Makawao-Pukalani-Kula Community Plan (July 1996), and has approved private development plans to drill a well in Haiku to free water in the Makawao system for the Kulamalu development located south of Pukalani. Recent and planned projects for the Upper and Lower Kula systems are intended to improve service to current customers so that during drought conditions the Maui BWS does not have to implement water use restrictions as they have done many times in the past (telephone conversation with Maui BWS, May 5, 1998).

Providing more water to the Kula systems to support unplanned development in Upcountry, particularly Kula, is unlikely mainly because the system relies on surface water. Surface water resources are vulnerable to drought conditions, whereas groundwater resources provide a sustainable yield even during a year or two of limited rainfall. According to the Maui BWS, the high cost and substantial risk of developing alternative sources of water (i.e., wells) has stopped many development proposals in Upcountry. The Kulamalu developer is able to assume the high cost and risk of drilling a well in Haiku because of the size and scale of the development (telephone conversation with Maui BWS, May 5, 1998). Therefore, water supply limitation is likely to remain the constraint to development in Upcountry in the future, despite the efforts of the Maui BWS to improve its Upcountry systems and despite the construction of the Kihei-Upcountry Maui Highway.

Since the Maui BWS is planning to accommodate development in Pukalani (Makawao system), the U1 alternatives could facilitate Pukalani's growth westward (makai) toward the highway. This growth inducement would be partially consistent with the Makawao-Pukalani-Kula Community Plan because there are parcels on the west (makai) side of Pukalani designated for residential growth (see Figure 4-2). The U1 alternatives could facilitate development beyond Pukalani's urban growth boundary if the landowner, Alexander and Baldwin (A&B), chooses to develop its land west (makai) of Pukalani. Similarly, the U1 alternatives may induce development in Haliimaile beyond what is designated in the Makawao-Pukalani-Kula Community Plan (see Figure 4-2).

The U2-A and U2-B alignments may have very little influence in the area south (mauka) of Pukalani. The area south (mauka) of Pukalani is planned to be used for Kulamalu, and its developer will be making substantial improvements to the water supply infrastructure. Since parcels for this project already have State urban classification, the County has approved zoning and Community Plan amendments supporting the project (Maui News, December 2, 1997). With water availability not being a constraint, Kulamalu would be developed with or without Kihei-Upcountry Maui Highway. However, the U2-A and U2-B alternatives, unlike the U1 or U3 alternatives, would support this development by providing additional transportation infrastructure to the site (i.e., Kulamalu residents would not have to use Haleakala or Kula Highways to travel to Kihei). In particular, the U2-B alignment was suggested by the Kulamalu developer, and therefore would be more supportive of the development than the U2-A alignment. The U2-A and U2-B alignment may facilitate in-fill growth along Pukalani's southern (makai) side. According to the Community Plan, some of Pukalani's growth is directed toward this area (see Figure 4-2).

Segment U3 is located approximately 5 km (3 miles) south (mauka) of Upcountry's "urban" areas of Pukalani and Makawao, in an area where the Community Plan

designates very little additional growth. The developments that are planned include small scale commercial land uses in Waiakoa and rural residences. These uses, particularly the residences, are not dependent on the highway because of Kula's attractiveness as a residential area. However, these developments will have to receive other governmental approvals (e.g., zoning, subdivision, etc.) and obtain water meters. The latter could be difficult (see above). In summary, U3 would facilitate planned growth but not induce unplanned growth.

4.4 Displacements and Relocations

Depending on the alternative, Kihei-Upcountry Maui Highway would require right-of-way from the land owners identified below (the properties' existing uses are provided in parentheses):

- Alexander & Baldwin (Hawaiian Commercial and Sugar Company (HC&S)): sugarcane cultivation (U1, U2-A and U2-B alternatives);
- County of Maui (Kula Agricultural Park): leased diversified agriculture (U3 alternatives);
- Dowling Company: vacant, but future Kulamalu development (U2-A and U2-B alternatives);
- Haleakala Ranch: pasture land and pineapple cultivation (all alternatives);
- Kaonoulu Ranch: pasture land (K1 and K2 alternatives)
- Malama Mohala Corp.: vacant, but future urban uses (U2-A and U2-B alternatives)
- Maui Land & Pineapple Company: pineapple cultivation (U2-A, U2-B and U3 alternatives)
- Von Tempsky Trust: pasture land (U3 alternative);
- Others (see Table 2-1 for a list of land owners): vacant, future urban uses (U2-A alternatives).

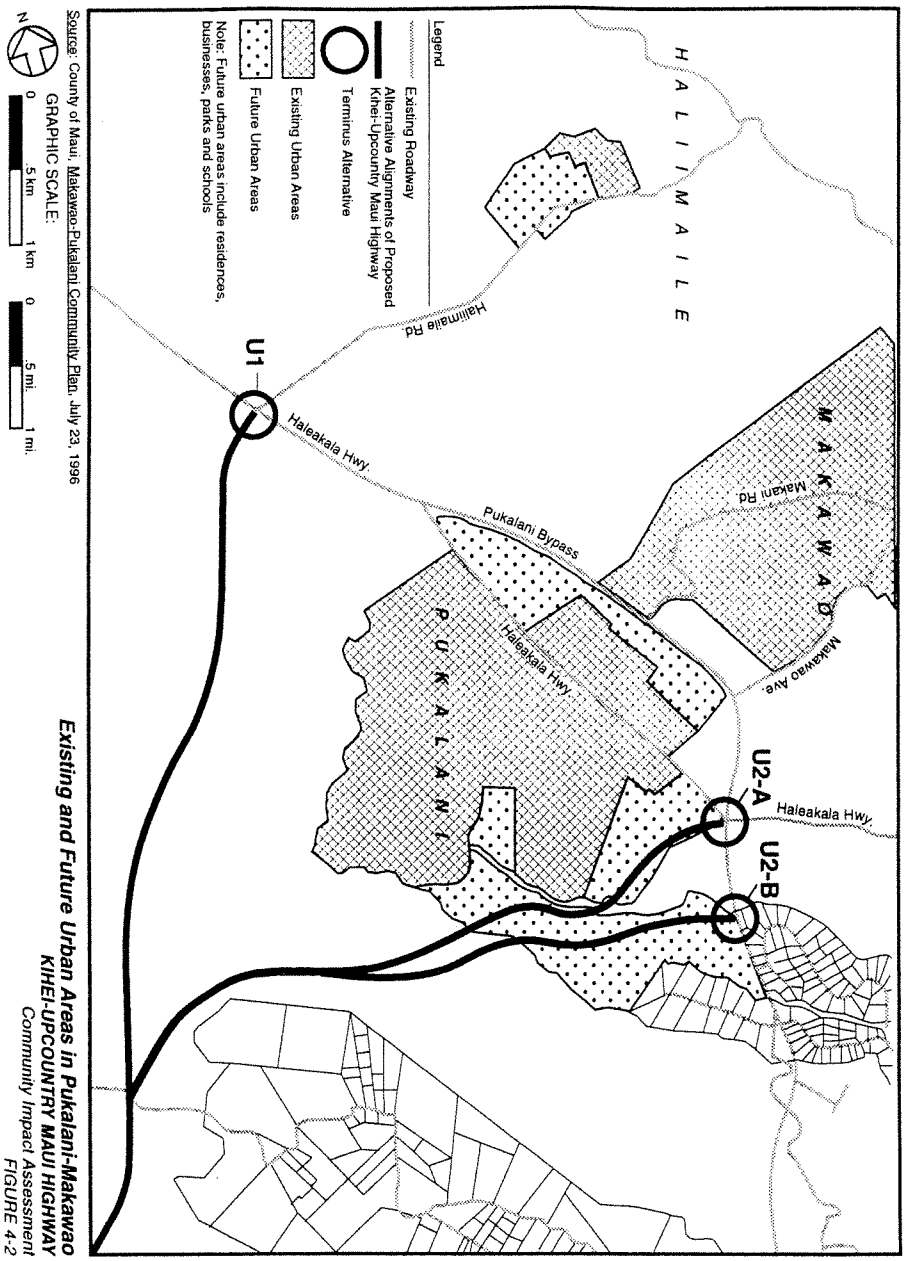
While mitigation measures to lessen the adverse impact on agricultural and ranching activities would be provided (see Section 6.1), none of these land owners or operators would be relocated due to right-of-way requirements. All of the enterprises listed above could continue operations at their present locations after acquisition of roadway right-of-way.

No alternative would require the displacement of any residence.

4.5 Travel Patterns and Highway Safety

Traffic Diversion

All alternatives would cause major changes to existing traffic patterns in the project area. All would divert most, if not all, trips between Kihei-Makena and Upcountry onto the new highway and off of Haleakala Highway, Hana Highway, Dairy Road, and Mokulele Highway, the existing Kihei to Upcountry route. If a K1 alternative is selected, some of the travel demand between Upcountry and West Maui would also be diverted



Source: County of Maui, Makawao-Pukalani Community Plan, July 23, 1996

Existing and Future Urban Areas in Pukalani-Makawao
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 4-2

onto the new highway. Kihei-Upcountry trip lengths could be cut by half, depending on the alternative, and the origin and destination. However, the K1 alternatives would increase traffic volumes on Piilani Highway, north of the K1 terminus, and North Kihei Road, as traffic is diverted off the above roadways and Kuihelani Highway (part of the existing Upcountry-West Maui route). The traffic diversion impacts on Piilani Highway and North Kihei Road would not be substantial under the K2 alternatives.

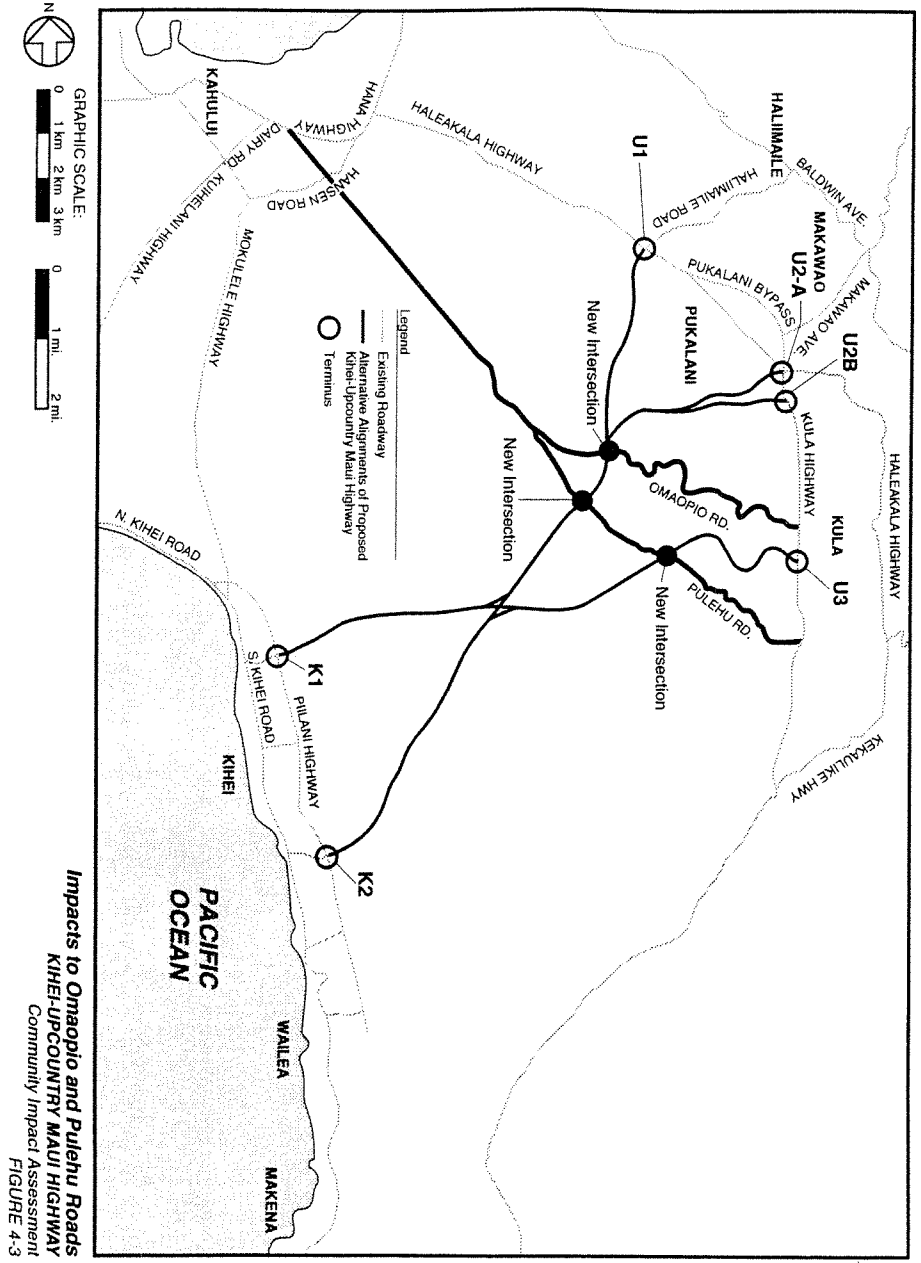
Agricultural Movements

Omaopio and Pulehu Roads (see Figure 4-3) are County facilities used by Kula farmers to cultivate their fields (e.g., moving equipment from field to field) and transport agricultural products to Kahului Harbor. Although these roads are narrow and winding, they are used by some motorists as an alternative to Haleakala Highway to travel to Kahului or other parts of Maui. It has been reported that motorists often speed on these roadways. One "key informant" stated that some motorists use the even more narrow Piliwali Road, a local access road approximately 1.4 km (0.85 miles) long that is parallel to and off of Omaopio Road, because it is straighter, allowing motorists to speed even faster. The use of these roads as a through route has adversely affected nearby and adjacent farmers and residents by interfering with farm equipment movements, increasing traffic noise and compromising traffic safety through excessive speeds on inappropriate roadways. Motor vehicle accident data from the Maui Police Department shows a high number of vehicle accidents on these roads. For example, in 1996, there were 34 vehicle accidents on Omaopio Road. As a comparison, Haleakala Highway from the "Five Trees" intersection to Hana Highway, a roadway that has many times the traffic volumes as Omaopio Road, had only nine vehicle accidents in the same year.

The U1, U2-A and U2-B alternatives would intersect both Omaopio and Pulehu Roads (see Figure 4-3), and would cause an increase in the use of these agricultural roads as "short-cuts." The traffic on these roads would be higher under the U1 alternatives because the U1 terminus is farther from Kula than the U2-A or U2-B terminus. By increasing the use of Omaopio and Pulehu Roads as through routes, greater impacts than at present from the inappropriate use of these roads would be expected. These impacts include interference with farm equipment movements, increased traffic noise and lower traffic safety through excessive speeds on inappropriate roadways. However, the County is planning to improve Omaopio and Pulehu Roads.

In addition, the U1 or U2-A/U2-B crossings would have a slight adverse effect on farm product transportation from Kula to Kahului because delivery trucks would cross the new highway. However, the highway would enhance product transportation to Kihei-Makena.

The U3 alternatives would only intersect Pulehu Road (see Figure 4-3). Since the U3 terminus is a short distance away from the Pulehu Road/Kula Highway intersection, the traffic diversion onto Pulehu Road would be minimal.



Impacts to Omaopio and Pulehu Roads
KIHEI-UPCOUNTRY MAUI HIGHWAY
Community Impact Assessment
FIGURE 4-3

Residential Areas

U3 alternatives may encourage travelers to and from the Haleakala summit to use local residential roads between Kula Highway and Haleakala Highway. The preferred route for this trip is for motorists to stay on Kula and Haleakala Highways. Some visitors who are unfamiliar with the Upcountry roads may choose to use the local east-west (mauka-makai) roads between Kula and Haleakala Highways because they may appear to be "short-cuts" to the summit. Increasing traffic volumes on local residential roads would adversely affect the adjacent neighborhoods through increased traffic noise (including travel to the summit early in the morning to watch the sunrise), and the increased potential for accidents on roadways not designed for heavy volumes.

King Kekaulike High School

"Key informants" have reported that students of the new King Kekaulike High School located on the southeastern corner of the Pukalani Bypass/Haleakala Highway/Kula Highway "Five Trees" intersection walk along Kula Highway, which has no sidewalks. They also report that students walk on Haleakala Highway in Pukalani, again because there are no sidewalks. The "key informants" were also worried that student "inexperienced" drivers would have difficulty driving to and from the school if an alternative is selected that is near the school because of the high traffic volumes associated with the highway, such as travel demand to and from the summit and the more populous communities of Pukalani and Makawao.

The location of the U2-A terminus at the "Five Trees" intersection would facilitate access to King Kekaulike High School. This alternative would have minimal affects to the school's main entrance, which is located approximately 300 m (1000 ft) south of the intersection on Kula Highway, because much of the high traffic volumes associated with the highway would use Haleakala Highway. Some of this traffic would, however, pass in front of the school's second back entrance/exit on Haleakala Highway. Under any of the U2-B alternatives, the majority of traffic would pass in front of the main entrance/exit, and therefore may make it more difficult for "inexperienced" drivers to enter or exit the school.

Bicycling Impacts

Bicycle tours are a popular tourist activity on Maui. Tours normally start from the summit of Haleakala, run through Crater Road, Haleakala Highway and Baldwin Avenue, and end in Paia. Although Kihei-Upcountry Maui Highway was not identified in Bike Plan Hawaii (April 1994) as a potential bikeway, the Kihei-Makena region would be a natural area to end some of the Haleakala bike tours. The proposed roadway would have sufficient room for bicyclists riding single file because bike lanes would be provided at urban roadway sections and adequate shoulders would be provided at rural roadway sections. Bike tour operators would be less likely to modify their routes if U1 or U3 is selected because of their distance from the "Five Trees" intersection.

Highway Safety

Engineering design standards for a rural, limited access arterial roadway, as specified by the American Association of State Highway and Transportation Officials (AASHTO), were used as a fatal flaw criterion in selecting alternatives for the project. Therefore, all the alternatives would provide a safe transportation facility. Regardless of the alternative selected, the Kihei and Upcountry termini would be signalized. However, since the U1, U2-A and U2-B alternatives could divert traffic onto Omaopio and Pulehu Roads, and because these roadways are not designed to accommodate high volumes of traffic, accidents could increase on these two roadways.

4.6 Community Facilities, Services and Parks

None of the alternatives would directly affect (through right-of-way impacts) existing public facilities and services, parks or recreational facilities. However, access to these facilities and services would be enhanced by any of the alignment alternatives because of the decreased travel time between Kihei and Upcountry.

4.7 Crime

Table 4-1 exhibits the crime rates of the communities in the study area for selected offenses for the years 1993 to 1996. The table indicates that for property crimes, such as burglary and theft, the Kihei to Makena communities have crime rates two to four times the rate of Upcountry communities. The crime rate differences for other offenses, such as criminal property damage, are not as great or the Upcountry communities have higher rates than the Kihei-Makena communities. The information presented in this table supports views expressed by "key informants" from Kihei who identified crime as a social problem affecting their community, and views expressed by Upcountry "key informants" that that crime is not a problem.

Scoping activities and interviews conducted for this study indicated a strong belief among some Upcountry residents that Kihei-Upcountry Maui Highway would increase the crime rate in Upcountry because criminals based in Kihei would have more convenient access to Upcountry. Makawao and Kula police officers interviewed for this study could not speculate on whether the highway would increase the crime rate in Upcountry, although both officers agreed that the proposed highway would facilitate better police response through additional highway infrastructure.

Table 4-1
Crime Rate of Selected Offenses Per 10,000 Residents

Offense/Location	Year			
	1993	1994	1995	1996
Burglary				
Haliimaile	97.61	126.45	40.98	59.88
Makawao	53.90	162.05	149.25	97.29
Pukalani	88.47	67.85	93.84	65.64
Kula	100.40	54.37	43.54	49.94
Kihei	211.12	304.89	241.38	249.24
Wailea-Makena	141.69	144.69	206.49	132.51
Theft				
Haliimaile	86.77	231.82	174.18	189.62
Makawao	297.10	342.79	264.75	282.48
Pukalani	237.47	256.33	199.41	175.51
Kula	111.92	166.29	163.27	166.46
Kihei	730.30	905.90	909.66	843.66
Wailea-Makena	631.60	618.44	814.61	766.34
Criminal Property Damage				
Haliimaile	108.46	126.45	163.93	129.74
Makawao	158.68	180.42	177.03	161.42
Pukalani	85.36	123.64	77.71	57.08
Kula	64.19	57.56	65.31	90.80
Kihei	138.01	238.65	176.96	197.89
Wailea-Makena	100.86	105.02	117.99	154.59
All Offenses*				
Haliimaile	835.14	1022.13	891.39	928.14
Makawao	1483.79	1676.23	1783.09	1587.77
Pukalani	963.84	1020.81	1036.66	927.51
Kula	515.14	580.43	738.61	776.33
Kihei	2134.23	2863.76	2784.85	2753.02
Wailea-Makena	1203.17	1155.19	1590.65	1462.01

Note: * Includes violent, drug, forgery, gambling, runaway, sex, terroristic threatening, truancy, and court order violation offenses.

Source: Police Department, County of Maui, July 14, 1997

5. POTENTIAL ECONOMIC IMPACTS

This chapter analyzes potential economic impacts of the alternatives for the Kihei-Upcountry Highway project. The following economic impacts of the proposed project are discussed:

- effects of the project on local tax revenues, public expenditures, and employment opportunities;
- impacts on the existing highway-related businesses and the economic vitality of established business districts; and
- impacts on the local or regional economy.

5.1 Tax Revenues and Employment

Property values could increase over the long term for lands adjacent to the highway, particularly at the termini, if they could be developed (i.e., proper zoning and water availability), resulting in increased property tax revenues for Maui County. None of the alignment alternatives would decrease property values in adjacent parcels. These parcels would more likely be affected by current land use and economic development trends.

Because of right-of-way requirements, property taxes that would be collected by Maui County would decrease by $13,000 to $17,000 per year (1997 dollars) for the four alternatives that have Upcountry termini at U1 and U3. The four alternatives with the U2-A and U2-B termini would produce property tax decreases of approximately $44,000 to $46,000 per year (1997 dollars). This higher impact is attributable to the conversion of vacant land designated urban to roadway right-of-way. The U1 and U3 alternatives would convert almost exclusively lands designated agricultural, which have much lower property values.

The proposed project would infuse up to $66 million (depending on the alternative) in federal funds for construction into the local economy, which would increase short-term employment and the purchase of local goods and services. The potential for additional long-term employment opportunities depends on how well the proposed project facilitates employee-producing land uses in areas approved by the County. For example, the U2-A and U2-B alternatives would support current land use plans for parcels near the mauka terminus of these alignments (Kulamalu), including business development. Although the Kulamalu development would occur with or without the either U2-A or U2-B alternative being selected, both alternatives would directly and indirectly support this area as a business district, leading to increased long-term employment opportunities. The Kulamalu developer formally suggested the U2-B alignment, and has developed a master plan with the U2-B alignment. A U2-A alignment may cause the developer to modify the Kulamalu master plan.

5.2 Impacts on Highway-Related Businesses and Business Districts

Existing commercial districts in Upcountry are located in Pukalani and Makawao (see Section 2.2). Kihei's commercial districts are along South Kihei Road and at a parcel in North Kihei, west (mauka) of Piilani Highway. Regardless of the alternative chosen, the proposed highway is not expected to adversely affect these districts because the roadway would not function as a commercial district bypass, except for Kahului. In contrast, Pukalani Bypass adversely affected certain Pukalani businesses. The proposed highway would not function in such a manner. Pukalani Bypass' impacts to Makawao was less profound. A Makawao business owner stated that Makawao caters to very few drive-by visitors because of its location away from the main traffic route. Most business patrons intend to visit Makawao for its shops and restaurants.

Although the proposed project would enable many motorists to bypass Kahului, economic impacts to Kahului businesses would be minimal. Residents would continue to travel to Kahului regardless of the proposed project because of Kahului's attractiveness as the island's principal commercial center (Kaahumanu Shopping Center, K-Mart, Costco, Eagle Hardware, etc.).

5.3 Impacts on Regional and/or Local Economy

The proposed project would infuse up to $82 million (up to $66 million in federal funds) into the local economy, providing job opportunities and the purchase of goods and other services needed to complete the project. In that respect, the proposed project, regardless of the alternative, would have a positive impact on the local economy. Further, if Segments U1, U2-A or U2-B is selected, this would probably facilitate expansion of Pukalani in the direction of the roadway, providing further benefits to the local economy through construction job creation, purchases of goods and services, and possible long-term employment opportunities.

All the build alternatives would enhance access to tourist destinations in Upcountry and Haleakala National Park, and therefore would have a positive effect on this industry. The proposed project may facilitate economic activities catering to visitors.

Impacts on agricultural activities are discussed in Section 4.2.

The proposed project would support Maui's efforts to develop high technology industry. The roadway would provide increased synergism between Science City on the summit of Haleakala Crater and the R&T Park in Kihei. Currently, Science City receives technical support from defense contractors occupying space in the R&T Park.

6. MITIGATION MEASURES

The following are suggested measures to mitigate or minimize adverse impacts described in previous sections.

6.1 Agriculture and Ranching

Isolated or divided fields require mitigation measures to maintain their productivity. These measures should include haul road crossings (the U1 alternative should include two undercrossings), and the modification and reconstruction of existing irrigation and drainage systems. Access provisions for farm equipment to reach the isolated fields should be made. If U2-A or U2-B alternative is selected, Hamakua and Reservoir 40 Ditches should be protected and remain operative during and following construction.

If a U3 alternative is selected, SDOT should purchase any unworkable remnant ML&P land based on guidelines of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Also, if a U3 alternative is selected, SDOT should work with Maui County to modify the Kula Agricultural Park.

Stock-proof fencing should be erected along both sides of the highway where there is cattle grazing. These fences may be constructed of hog wire with barb wire along the top and bottom of the fence. Provisions should be made at various bridge crossings so that cattle could be herded from one pasture to another without disrupting traffic. If a U3 alternative is selected, the nearby cattle corral should be relocated based on guidelines of the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

6.2 Land Use Impacts

Mitigation should not be required because the proposed project is not anticipated to cause unplanned development. However, it is nevertheless recommmened that the SDOT deny access to the new highway from parcels other than those with proposed development that is approved by Maui County and is consistent with appropriate State and County land use objectives and guidelines. If DHHL requests access to the proposed highway for their Ulupalakua area homesteads, the SDOT should consider granting such a request in order to relieve increasing traffic volumes on Kula Highway from this development.

6.3 Traffic Patterns and Safety

Under a U1, U2-A or U2-B alternative, at least one of the intersections of the proposed highway with Omaopio and Pulehu Roads should be signalized to facilitate crossing by heavy trucks. If possible, the timing algorithm of this signal(s) can be set to discourage motorists from using Omaopio and Pulehu Roads as a "short-cut." This, of course,

would be an inconvenience for Kula farmers who previously had an uninterrupted route to Hana Highway.

If a U3 alternative is selected, signage should be provided to direct motorists to the proper route to the Haleakala summit.

Regardless of the alternative selected, the SDOT should consider constructing sidewalks along both sides of Kula Highway from the "Five Trees" intersection to at least the school. Since it is expected that development would occur on the south (mauka) side of Pukalani, sidewalks should also be appropriate on the east (makai) side of Kula Highway.

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APPENDICES

Appendix A
Interview Questions

1. How long have you lived in [location]?
2. How would you define your neighborhood? What makes it a "neighborhood"?
3. How old is your neighborhood?
4. How well do your neighbors know one another?
5. Would you say there is a sense of neighborhood? If so, in what way?
6. What kind of issues or problems has your neighborhood experienced in the last few years?
7. How were these issues or problems resolved?
8. [If interviewee is part of community association] What kinds of issues does your community association get involved with?
9. Is there something about [location] that you wish to stay the same?
10. What would you like to change?
11. What are the threats to the things you value about this place, if anything?
12. How have things changed in [location] in the last five years?
    ten years?
    twenty years?
13. What do you think [location] will be like in 20 years?
14. What kind of future would you like for [location]?
15. What are some of the obstacles to this future?
16. What are some of the opportunities or what can be done for this future to come true?
17. How do you feel about this project?
18. What kinds of impacts do you expect to your neighborhood from this project?
    to [location]?
    to the island?
19. Would a certain alternative make a difference?
20. How can the negative impacts be prevented or minimized?
21. How will [location] benefit from this project? How about the island? Neighborhood?

Appendix B
List of "Key Informants"

Name	Position	Organization
Peter Baldwin	President	Haleakala Ranch
Virginia Baldwin	Kula 200 resident	
Wayne Boteilho	Legislative Analyst	County Council
Michele Chouteau	Legislative Analyst	County Council
David Craddick	Director	Board of Water Supply, County of Maui
Medelin D'Enbeau	small business owner	Makawao Main Street Association
Kris Dixon	Makawao Community Police Officer	Maui Police Department
Dan Evert	Past President	Pukalani Community Association
Paul Elkins	long-time Pukalani business owner	
Will Freeman	Planner	Board of Water Supply, County of Maui
Gary Gifford	President	Maui Land & Pineapple Company
G. Stephen Holaday	General Manager	Hawaii Commercial and Sugar Company
John Hoxie	Vice President	Hawaii Commercial and Sugar Company
Buck Joiner	Member	Kihei Community Association
Dave Jones	Member	Kihei Community Association
Russ Kanady	Member	Kihei Community Association
Alan Kaufman	President	Kula Community Association
Brett Klyver	Director of Development	Maui R&T Park
Mabel Lopez	President	Makawao Community Association
L. Douglas MacCluer	Plantation Manager	Maui Pineapple Company
Dick Mayer	Vice Chair	Upcountry Citizens Advisory Committee
Peter Meagher	Past President	Makawao Community Association
Brian Miskae	President	Kihei Community Association

List of "Key Informants" (continued)

Name	Position	Organization
Randall Moore	Land Manager	Hawaii Commercial and Sugar Company
Wesley Nohara	Plantation Superintendent	Maui Pinapple Company
Bill Overton	Manager	Wailea Community Association
Henry Rice	President	Kaonoulu Ranch
Susan Scofield	Principal and Pukalani resident	King Kekaulike High School
Ernest Soares	Kula Community Police Officer	Maui Police Department
Warren Suzuki	Vice President	Maui Land & Pineapple Company
Steve Sutrov	Past President	Kula Community Association
Masa Uradomo	Kula farmer	

APPENDIX I

Archaeological Reconnaissance Survey Report

Archaeological Inventory Survey Report of the Preferred Alternative

Cultural Impacts Assessments Report

ARCHAEOLOGICAL RECONNAISSANCE SURVEY OF THE PROPOSED KĪHEI TO KULA ROAD CORRIDORS, KAILUA TO KAMA`OLE *AHUPUA`A*, MAKAWAO AND WAILUKU DISTRICTS, ISLAND OF MAUI (TMK 2-2 AND 2-3)

by

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Cultural Surveys Hawaii, Inc.
June 1999

ABSTRACT

An archaeological reconnaissance survey of six proposed alternate routes for the Kīhei to Kula road corridor was conducted by Cultural Surveys Hawaii, Inc. from 18 February through 6 March 1997.Subsequent to the original reconnaissance survey additional alternatives, U2A and U2B were also subjected to reconnaissance survey. The alternate corridors are four hundred feet wide and over 121,176 linear feet (1112.7 acres). The alternate routes under study are located in the Makawao and Wailuku Districts of Maui island on the western slopes of Haleakalā. They extend from Kailua at about 2300 ft. (700 m.) above mean sea level (amsl) at the north, through thirteen *ahupua`a*, to Kama`ole at about 100 ft. (30 m.) amsl in the south.

The reconnaissance survey included field work to assess archaeological sites, archival research of historical documents and maps, and research of previous archaeological studies. The fieldwork was conducted by three archaeologists walking each 400 foot wide corridor along a staked center line.

A total of 25 historic properties, or sites, were recorded. Twenty of these are new sites, designated State Sites #50-50-10-4760 through #50-50-10-4779. Previously recorded sites are the Kalialinui petroglyph site #50-50-10-1061; Kaluapulani Gulch petroglyphs, site #50-50-10-1062; Kaluapulani Gulch Petroglyphs (Canoes etc.) #50-50-10-4178; an historic cattle wall #50-50-10-4180; and two pineapple plantation clearing mounds, #50-50-10-4181. The new site types included enclosures, walls, mound and cairns, midden and lithic scatter, modified outcrop, road, ditch, overhang shelters and petroglyph sites. The primary functions of a majority of the sites found were agricultural and ranching (animal closures), although there were 4 recurrent habitation sites, 1 permanent habitation site, symbolic function for petroglyphs, and military function for a complex of enclosures.

In the U2A corridor historic properties, or sites, were found in two localities along Alternate U2A. The first, in Kaluapulani gulch, are two friezes of petroglyphs on the east side of the corridor. A search of the land to the west of the corridor revealed no historic properties there, thus, an option is to adjust the corridor to the west to avoid the archaeological sites.

Another site was found in Kalialinui gulch on the west side of the corridor. This site is a small shelter-cave. If the corridor will impact the site mitigation measures could be to re-align the corridor to the east where no sites were found, or to retrieve the potential data from the site by archaeological excavation. No other sites were found in Alternate U2A.

If segment U2A is selected for the final road corridor an archaeological inventory survey is recommended to mitigate impacts to the historic properties in the vicinity of the corridor.

The western portion of Alternate U2B corridor, from the north edge of Kalialinui gulch westward to its terminus, was reconnoitered during the present survey work.
No historic properties, or sites, were found in the surveyed section of the corridor.
However, U2B passes directly through site 50-50-10-4181 on the east side of Pu`u o Weli. It

consisted of four features including two agricultural clearing mounds and two stone alignments. Testing conducted at the stone alignments yielded historic artifacts associated with pineapple agriculture and the site is considered "no longer significant" (Wulzen 1996: ii). This previous work did not consider Pu`u o Weli, in the U2B corridor, as an historic property.

The eastern section of U2B, from Kalialinui gulch to the Kula Highway was previously subjected to an archaeological survey in 1996. (This portion of the route was not re-surveyed in the current work). The 1996 survey recorded one historic property, or site, in the area that is the U2B corridor. The site - 50-50-10-4181 - was tested by archaeological excavation during that survey and found to be a modern site associated with pineapple cultivation. Based on the testing the site is considered to be no longer significant and no further archaeological work is recommended for the site.

Near it's *mauka* terminus Alternate U2B cuts into the west and north sides of the cinder cone Pu`u o Weli, which historically has been quarried for its cinder. This *pu`u* was not treated as an historic property in the previous archaeological study, but is potentially significant from an historic perspective in the context of the petroglyphs surrounding it, and as an early quarry associated with development in Kula.

Construction of Alternate U2B also has potential to indirectly impact the friezes of petroglyphs in Kaluapulani gulch - site 50-50-10-1062. They will require protective measures against short and long term negative impact. If segment U2B is selected for the final road corridor an archaeological inventory survey is recommended to mitigate impacts to the historic properties in the vicinity of the corridor.

On the west and southwest slope of Haleakalā, previous archaeological researchers report a pattern of at least four zones: 1) coastal; 2) intermediate or barren; 3) upland habitation and agriculture; and 4) forest zone. inland and coastal settlement and agriculture with little evidence of occupation between these extremes. The corridors under study extend from the upland (*mauka*) zone to the coastal (*makai*) zone. The present findings within the road corridors support this predicted settlement pattern.

Land Commission claims and awards (LCAs) of the Mahele and Kuleana Acts reflect some aspects of traditional life and new agricultural trends associated with the growth of an international trade. The locations of LCAs on the western flank of Haleakalā also support the predicted pattern of habitation and agriculture in the upland and coastal regions and an absence of these activities in the intermediate zone.

National Register of Historic Places significance criterion D is assigned to sites State sites #50-50-10-4750; -4760; -4761; -4763; -4780; -4763 through -4778 because the sites may be likely to yield information important to history and prehistory of Hawaii. An inventory level archaeological survey is recommended for mitigation of adverse impact to these sites, followed by data recovery of specific sites.

Sites Sites #50-50-10-1061, #50-50-10-4178, #50-50-10-4762, and #50-50-10-4764 are

significant under National Register criteria D and C because they are, respectively, likely to yield information important to history and prehistory, are considered excellent site types. Site #50-50-10-4762 is also significant under Hawaii Historic Preservation draft rules criterion E because it is "culturally significant". Recommendations for these sites call for an inventory level archaeological survey and preservation of these site areas. Mitigation of impact for these sites may necessitate realignment of portions of some of the Alternates to avoid the sites.

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I. INTRODUCTION

An archaeological reconnaissance survey of eight alternate routes for a proposed Kīhei to Kula road corridor was conducted by Cultural Surveys Hawaii, Inc. from 18 February through 6 March 1997 for Parsons Brinkerhoff. The routes under study are located in the Makawao and Wailuku Districts of Maui island on the western slopes of Haleakalā.

Subsequent surveys were conducted for the new U2A and Alternate U2B alignments as a result of the finding of historic properties in the previously surveyed U2 corridor (Folk and Hammatt, eds. 1997).

Historic properties were found in Kaluapulani gulch (also shown on some maps as Haakakai gulch), and in Kalialinui gulch in the new U2A corridor. However, minor realignment of the corridor a few hundred feet to the west (downslope) will avoid these cultural resources in Kaluapulani and minor realignment to the east (up slope) will avoid the cultural resources in Kalialinui. No historic properties were found in the other segments of the U2A corridor.

Project Area Description

The proposed Kīhei to Kula road corridors selected for study extend from Pi`ilani Highway in the south at about 100 ft. (30 m.) amsl north to Kula Highway at about 2300 ft. (700 m.) amsl. The corridors cross thirteen *ahupua`a* (Figures 1-3) from north to south, Kailua, Keahua, `A`apueo, Kalialinui, Oma`opio, Pūlehunui, Kealahou 3 & 4, Waiakoa, Ka`ono`ulu, Kōheo 1 & 2, Waiohuli, Kēōkea, and Kama`ole.

The eight alternate route segments are based on four upcountry termini designated U1, U2A. U2B, and U3 and two Kīhei termini designated K1 and K2; these designations are used to identify the route segments in this report. U1 intersects Haleakalā Highway, U2A & U2B and U3 intersect the Kula highway. K1 and K2 intersect Pi`ilani Highway.

A segment common to alternatives U1 and U2 and is designated U1/U2 (Figure 3). Each alternate corridor is four hundred feet wide and combined, total approximately 121,176 linear feet (1112.7 acres). The eight alternates are summarized as follows:

1. Alternate U1 is about 18000 ft. long. Beginning at Haleakalā Highway at the intersection Hāli`imaile Road, the route proceeds south through cultivated fields of sugarcane, crosses Kalialinui gulch, Ōma`opio Road and Pūlehu gulch to intersect alternates U1/U2 and U2 in old cane fields converted to pasture north of Pūlehu Road at about 1000 feet above sea level.

2. Alternate U2, also about 18000 ft. long, extends from the Kula Highway at Kaluapulani Gulch west (*makai*) through former pineapple fields - now used for pasture - passing south of Pu`u O Weli - an historically quarried cinder cone - to Kalialinui Gulch. It continues west on the south side of Kalialinui Gulch through

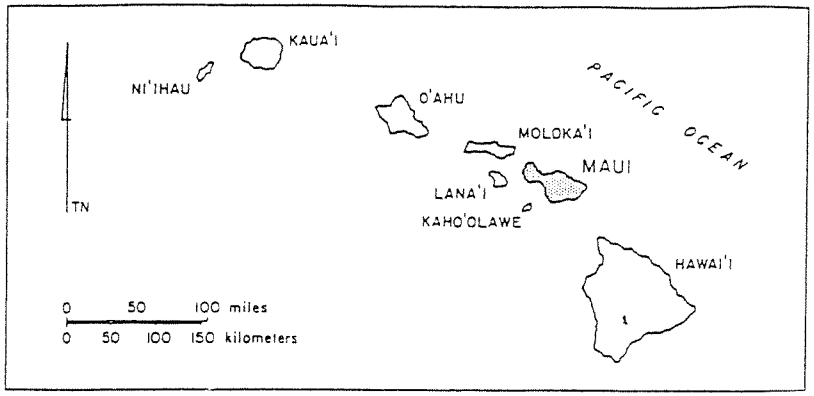

Figure 1 State of Hawai`i

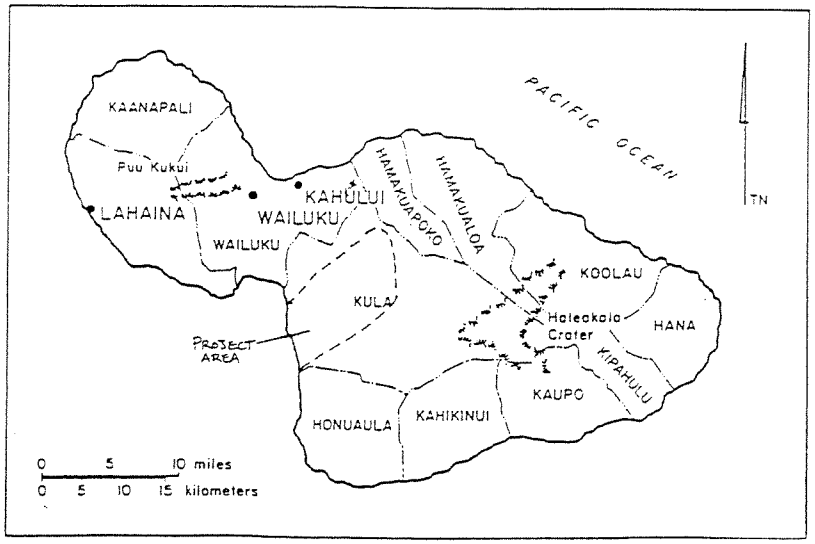

Figure 2 General Location Map, Hawai`i Island

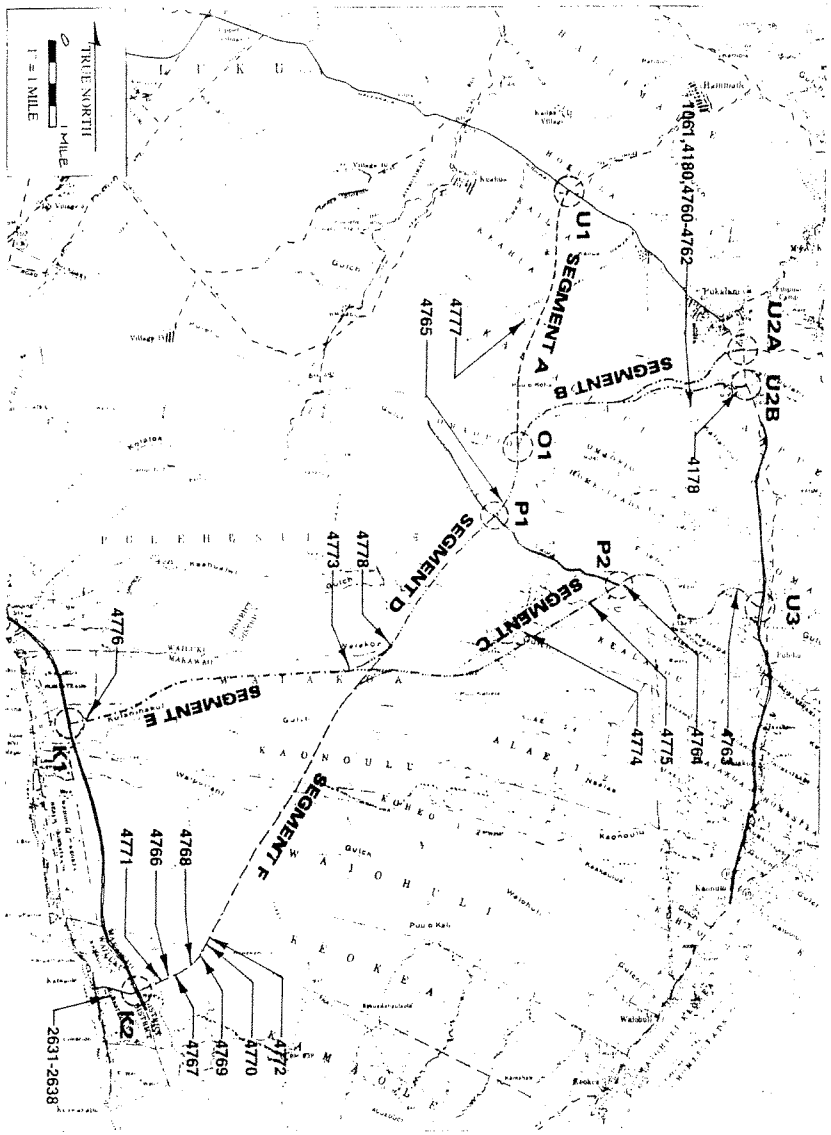

Figure 3 Project area map based on USGS 7.5 minute series topographical maps of the Huiku, Kilohana, and Pu'u O Kali quadrangles, showing the corridor Alternates (the study area), and approximate site locations.

3. fields cultivated in pineapple, and then fields of sugarcane. In the sugarcane Alternate U2 turns south to parallel Alternate U1 crossing Ôma`opio Road and Pūlehu Gulch, joining Alternate U1 and U1/U2 in the old sugarcane fields north of Pūlehu Road.

4. Alternate U1/U2 - a segment shared by Alternates U1 and U2 - is approximately 13000 feet long and extends from the intersection of U1 and U2 north of Pūlehu Road to the intersection of U3, K1 and K2 at about 750 feet above sea level. It begins in old cane field converted to pasture, proceeding south-southwest across Pūlehu Road, through cultivated pineapple fields, across Kolaloa Gulch at about 1000 ft. elevation, to and across Waiakoa Gulch at about 800 ft. to meet with the other alternates.

5. U3 begins at the Kula Highway at Pūlehu Gulch and proceeds west for over 25000 feet through cultivated pineapple fields, pasture, and truck farm lands. At 1600 ft. elevation the route crosses Pūlehu Road into more pineapple fields, then crosses Kolaloa Gulch, and Waiakoa Gulch at 1100 ft. elevation as it proceeds to the intersection of K1, K2, and U1/U2.

6. K1 is about 18000 ft. long and proceeds from Pi`ilani Highway at Ka`ono`ulu St. east through ranch pasture land between Waiakoa and Kūlanihāko`i gulches, intersecting Alternates K2, U1/U2 and U3 at 750 ft. above sea level.

7. K2 extends northeastward for approximately 23000 feet, from Pi`ilani Highway at its intersection with the newly built collector road (Road F per the Kīhei Traffic Master Plan), through ranch pasture land. K2 crosses Waipuilani Gulch at about 500 feet above sea level and two branches of Kūlanihāko`i Gulch at about 650 ft. elevation, and joins with the other alternates near the 750 ft. contour.

7. The proposed U2A Alternative is approximately 9,000 ft. long and extends west, southwest from the intersection of Kula and Haleakalā Highway to a point O1 on the U2 Alignment.

8. The U2B Alignment, approximately 8,000 ft. long and extends west, southwest from Kula Highway opposite - from the cane fields at Ôma`opio Road east (*mauka*) through the pineapple fields south of Pukalani town to the Kula Highway at the new King Kekaulike High School - impacted historic properties in a secondary, tributary branch of Kaluapulani gulch, in Kalialinui gulch, and on the ridge land south of Kalialinui gulch.

As a result of the findings of historic properties in Alternate U2 two new *mauka* alignments - Alternate U2A and Alternate U2B - were proposed and surveyed during September 1997.

Scope of Work

This scope of work is in response to the information delivered to Cultural Surveys Hawaii, Inc. (CSH) on Jan. 12, 1996, including agreements concluded during the Jan. 31, 1996 meeting at Parsons Brinkerhoff. The scope incorporates an Oct. 30, 1995 memorandum from Don Hibbard DLNR/SHPD on a review of an Environmental Impact Statement Notice for the Kīhei to Kula Highway.

Based on these documents two phases of work will be undertaken:

Phase I: Conduct background research on 6 corridor alternatives (2 added later) providing an overview in addition to walking of each of the staked corridors to locate sites and define site limits. During this phase, fieldwork would be carried out and fatal flaws, if they occur in any of the three corridors, would be identified.

Phase II: archaeological inventory survey of the single chosen alternative involving complete documentation of all archaeological resources within the chosen corridor. DLNR has requested to review both Phase I and II reports as well as the scope.

A scope of work for each phase is presented below.

Phase I: Assessment and Field Survey of 8 Alternatives

1. Historical background including archaeological and archival information dealing with past land use and history. This will also involve a search of land commission award records and historic maps. Aerial photographs will be studied to find any archaeological sites that may be visible. Ms. Sara Collins and other knowledgeable individuals will be consulted about items of archaeological and historical interest. The purpose of this background research will be to document settlement patterns for the areas covered by the alternatives. Not only will high density, medium density, and low density areas be defined by number of archaeological sites, but also DLNR has requested that the specific kinds of sites be included in this settlement study such as: habitation, agriculture, burials, and religious sites.

2. Interviews with knowledgeable *kama'aina* are planned especially Hawaiians, who could shed light on the settlement pattern as well as help identify traditional cultural places and archaeological sites. This task has been deferred until the Phase II, final road corridor is selected and will be conducted as part of the inventory survey.

3. Fieldwork will be conducted to confirm the predictions for site location as determined by historic documentation, examination of aerial photographs and. Fieldwork will involve helicopter reconnaissance followed by survey of the staked corridors. CSH would request stakes be placed at not more than 200' intervals and preferably at 100' intervals. The survey area for each

corridor will be 400' wide. The length of the survey area is estimated to be from 22 to 25 miles long. Although each site located will not be recorded in detail at this time, the types of features will be noted and the general boundaries of the site complexes will be recorded and initial assessments of the significance of these sites will be made.

4. Preparation of Phase I report. This report will summarize all the background information collected and the results of the fieldwork to evaluate the relative archaeological constraints involved in each of the alternatives. This evaluation will be in the context of the settlement pattern predictions for the area covered by the three corridors and will include maps showing site density and types of sites for each area. Each alternative will be ranked according to the relative impact on archaeological resources. The archaeological site areas will be located on an overall map of each corridor in relation to centerline stakes, and each area will be assessed on a preliminary basis for value and possible mitigative measures. This report will clearly identify if archaeological constraints will be difficult or impossible to overcome.

Phase II: Archaeological Inventory Survey of a Single Selected Corridor

The single corridor selected from the 8 alternatives of Phase I will be subject to a complete inventory survey with 100% ground coverage of the corridor and detailed description and mapping of each site.

The following Scope of Work is standard for satisfying the State and County requirements for an inventory survey level of investigation:

1. A complete ground survey of the entire project area for the purpose of site inventory. All sites will be located, described, and mapped with evaluation of function, interrelationships, and significance. Documentation will include photographs and scale drawings of selected sites and complexes. All sites will be assigned State site numbers.

2. Limited subsurface testing to determine location, boundaries, depth and quantity of cultural materials within archaeological sites and to obtain datable samples for chronological information for sites in the immediate area, if such data is not available from previous studies.

3. Research on historic and archaeological background, including a search of historic maps, written records, Land Commission awards, and Native Testimony. Research will focus on the specific area with general background on the *ahupua'a* and district and will emphasize settlement patterns.

4. Preparation of a survey report which will include the following:

a. A topographic map of the survey area showing all archaeological sites and site areas;

b. Description of all archaeological sites with selected photographs, scale drawings, and discussions of function;

c. Historical and archaeological background sections summarizing prehistoric and historic land use as they relate to the archaeological features;

d. A summary of site categories and their significance in an archaeological and historic context;

e. Recommendations based on all information generated which will specify what steps should be taken to mitigate impact of development on archaeological resources, such as data recovery (excavation) and preservation of specific areas. Recommendations will be developed in consultation with the landowner and State and County agencies.

Survey Methodology

The center lines of the eight corridor segments comprising the alternate routes were located by licensed land surveyor. These center lines were marked in the field - normally at two hundred foot intervals - by wooden hubs and numbered wooden stakes with pink flagging tape at each point. The center line stake markers were used as guides for the survey and to locate sites by bearings and distances.

The archaeological reconnaissance survey was conducted on foot by three archaeologists. Each of the six segments of the proposed alignments were completely covered in the survey. The corridors surveyed were four hundred feet wide; two hundred feet on either side of the center line. The two hundred foot corridor half-width was used as the width for each sweep of the archaeological survey. Thus the archaeologists were spaced at intervals of approximately sixth-seven feet (20.4 meters) apart, with each archaeologist covering a distance of no more than thirty five feet (10.7 meters) to either side of his survey line. Where tall grasses grew the interval between archaeologists was reduced to provide complete coverage.

At the U2A crossing of Kalialinui gulch the survey area was expanded four hundred outside the corridor to the west, or *makai*, side of the centerline. This was done to evaluate the potential impact to historic properties if the corridor were realigned to the west, because of the proximity of historic properties to the east.

The survey of Alternate U2A in Kalialinui was coordinated with another survey - of Alternate U2B - because of the steep valley walls in these sections of the gulch. The result was that the land from the west edge of the U2A corridor to the east side of the U2B

corridor was entirely surveyed within the gulch.

Vegetation was a factor in the survey; where it hampered visibility, the speed of the survey was reduced to provide more adequate coverage. The vegetation in the project area consisted of open savannah of *kiawe* trees and Pangola-like pasture grasses. At higher elevations the savannah closed in to open *kiawe* forest and the understory included dense growths of *panini* cactus. The *kiawe* did not present difficulties for the survey activity in the savannah or open forest, but recent rains produced a substantial growth of the grass understory. The grasses were consistently one to two feet high in the savannah and three, or rarely, four feet high in the open forest. Although difficult to see with sixty percent to one hundred percent high grass coverage, is was possible to view the archaeological features when they were present. The *panini* was difficult to navigate around and through, but the ground beneath it was clear of other vegetation.

All sites were located on the 1 in. = 3000 ft., 5-foot contour map by means of hand held tape and compass relative to the centerline stakes. They were briefly described and preliminary assessments of type, function, significance and future treatment were made. Selective photography was also used to complement survey documentation. The sites were flagged with yellow barricade tape and given temporary CSH site numbers were inscribed on the flagging. In the Kihei section of the K2-U1 corridor some sites comprised a grouping, or complex, and the barricade tape flags were placed to mark the bounds of the site grouping within the road corridor. In other instances where a site had fewer features, each feature of the site was also flagged and assigned a letter suffix to the temporary site number.
methods

II. NATURAL HISTORY

Geology

The *ahupua`a* of Kailua, Keāhua, `A`apueo, Kalialinui, Ōma`opio, Pūlehu Nui, Kealahou 3 & 4, Waiakoa, Ka`ono`ulu, Kōheo 1 & 2, Waiohuli, Kēōkea, and Kama`ole are all located on the western slope of Haleakalā. Haleakalā is composed of lava flows known as the Honomanū Volcanic Series of the Tertiary system. These ancient lavas have been mostly covered by later flows and are exposed in only a few localities, along the north and northeast shore sea cliffs and in Ke`anae Valley (Macdonald, *et al.* 1983:388).

In the project area, the Honomanū Series lavas are covered by the Kula Volcanic Series of the Pleistocene epoch. Lavas of the Kula Series consist mostly of *aa*; eruptions were explosive to the extent that many large cinder cones were formed and beds of ash are common. These cones are present mostly on the summit and northern slopes of the mountain but also occur on the western slope in vicinity of the project area. The Kula flows are relatively thick, averaging from twenty feet thick near the summit of Haleakalā to fifty feet thick at the coast. More recent rocks of the Hāna Volcanic Series mantle the Kula Series at the east and southwest ends of Haleakalā, but do not extend into the study area (*op. cit.*:383,390). The western edge of the study parcel (in the vicinity of Pi`ilani Highway) is characterized by a thin band of sedimentary rock consisting of a recent, younger alluvium. The Kīhei coastline is comprised of an older sediment consisting of the lithified dunes of the Pleistocene epoch (*op. cit.*:383).

Geography

Kula Disctrict:

The western slopes of Haleakalā receive a relatively small amount of rain annually; the recorded mean annual rainfall at the mountain's summit is 1000 mm. which decreases to 400 mm. at 1000 ft. above mean sea level (amsl). The majority of the project area receives between 400 mm. (sea level to 1000 ft. amsl) and 500 mm. (1000 to 2000 ft. amsl) of rainfall annually. The *mauka* portion of the parcel (2000 to 2300 ft. amsl) receives between 500 mm. and 750 mm. per year (Giambelluca *et al.* 1986:112). Mean monthly rainfall records show the heaviest rainfall to occur between November and March, ranging from 50-100 mm. (from approximately 300 ft. to 2000 ft. amsl), with the months of April to October averaging between 5-25 mm. During the driest month, June, the area receives 5-10 mm. (*op. cit.*:113-124).

Air temperatures in the upper elevations are cool; Kula San station, located at 3004 ft. amsl, records a maximum annual mean ranging from 69° to 75°F and a minimum annual mean from 50° to 58°F. The station has recorded a record low of 40°F in December and a record high of 90°F in June (Armstrong 1973:58).

Upland Zone

Soils in the *mauka* portions of the project area (the low uplands) consist primarily of the Keāhuaa-Keahua-Molokai association, consisting of "moderately deep and deep, nearly level to moderately steep, well-drained soils that have a moderately fine textured subsoil" (Foote *et al.* 1972: General Soil Map, Maui Island). These soils range from sea level to 1500 ft. amsl and have a temperature between 73° and 75°F (*op. cit.*:8). A small area, where Pūlehu Gulch meets Kula Highway, has soils of the Puu Pa-Kula-Pane association. This soil association consists of "deep, gently sloping to steep, well-drained soils that have a medium-textured or moderately fine textured subsoil or underlying material; on intermediate and high uplands." (Foote *et al.* 1972: General Soil Map, Maui Island. These soils range from 1000 to 6000 ft. amsl and have a temperature between 55° and 69° F (*op. cit.*:9).

Vegetation consists of *kiawe* and lowland shrubs below 1000 ft. amsl, including *koa haole*, finger grass, and *pili* grass; and lantana-*koa haole* shrubs between 1000 and 3000 ft. amsl, including klu, *panini*, *ilima*, and Natal redtop grass (Armstrong 1973:64). Wildlife consists mostly of upland game birds (Foote *et al.*:8).

Handy and Handy (1972:55) describe the Kula region as sloping land covered with old, red soil in which sweet potato (*`uala*), sugar cane, and pineapple grow well. The word *kula* is traditionally used to refer to dry land versus wet, taro land. Handy and Handy refer to fields of *pili* grass in Kula, traditionally used for roof thatching. The authors state that "before cultivation took over the area, the carpeting grass was interspersed with vines (such as the *koali*, morning-glory) and many shrubs, all of which found practical uses by the immigrant folk. There were also a few stunted trees." (*Ibid.*) Handy and Handy also indicate that in the uplands of Kula grew flowering plants (including native ginger), medicinal herbs, thick shrubs, and many different trees whose wood was used for many purposes.

Coastal Kīhei Region:

The Kīhei area receives less than 400 mm. of rainfall annually (ranging from 5 mm. to 50 mm. monthly), making it the minimum rainfall area on Maui (Giambelluca *et al.* 1986:14). Most of the rain in this area comes during winter storms. Giambelluca *et al.* indicate that "the Kihei minimum is part of a broad area of low rainfall covering the saddle of the island and extending along the leeward coast from Makena to Ka`anapali. The aridity of this region results from the rain-shadow effects of the island's two large volcanoes" (*op. cit.*:16). Typically, Kīhei is sunny and dry with an average temperature of 77°F with occasional variations ranging from the low 60s to the high 80s (CSH 1991:24).

Intermediate Zone

Soils in the area immediately *mauka* of the Kihei coastal beach zone are of the Pūlehu-Ewa-Jaucus association. These are "deep, nearly level to moderately sloping, well-drained and excessively drained soils that have a moderately fine textured to coarse-textured

subsoil or underlying material; on alluvial fans and in basins." (Foote *et al.* 1972: General Soil Map, Maui Island). These soils develop between sea level and 600 ft. amsl and have a temperature of 75°F (*op. cit.*:8).

Vegetation consists of *kiawe* and lowland shrubs below 1000 ft. amsl, including *koa haole*, finger grass, and *pili* grass (Armstrong 1973:64). Wildlife consists of native water birds and upland game birds (Foote *et al.* 1972:8). During the field survey, a population of wild deer was observed in the *makai* portion of the study parcel.

III. HISTORIC BACKGROUND

Historic Setting

The project area lies primarily in what is referred to as the "barren zone" of the Makawao and Wailuku Districts, the area located between the narrow coastal zone and the upland habitation and agricultural zone which begins at 2000 ft. amsl (Cordy 1977:4). The eastern portion of the present study area extends into the inland zone. According to Cordy the barren zone was probably most utilized in the late pre-contact era as a route between the inhabited coastal and inland areas with corresponding intermittent habitation (*op. cit.*:12). Fredericksen and Fredericksen (1995:2) state that the upper area was probably used intermittently for its resources (*e.g. koa* and possibly sandalwood trees) and possibly for dryland agriculture towards the end of the pre-contact period. Sources indicate that upper Kula (old district), even with its arid climate, has continuously been a place of agricultural production, particularly of dryland *`uala* or sweet potato. In their studies of Ōma`opio, (Donham 1992:4) and Waiohuli and Kēōkea (Kolb *et al.* 1997) the authors discuss the presence of *heiau* and the subsequent inference that a large permanent population must have been present, as well as noting the presence of habitation and agriculture in the uplands (2000 to 2800 ft. amsl) of Kēōkea and Waiohuli (south Kula) (Kolb *et al.* 1997). Wong-Smith (Brown and Haun 1989:C-2&3) also notes several *heiau* located in the uplands of Kēōkea, Waiohuli, and Kailua and overlooking Mā`alaea Bay. Dryland agriculture in Kula would extend from pre-contact times to the 19th century and on into the present, amidst the influx of other land uses such as ranching, pineapple and sugar cane cultivation, and residential development.

Mythological and Traditional Accounts

Mythology regarding this region of the Makawao (Kula) and Wailuku Districts is relatively scarce. Legends of Maui the demi-god often encompass the entire island (or large portions) and include Haleakala, but rarely do they focus on the area inclusive of the study parcel. However sayings regarding the Makawao and Wailuku Districts do exist, as well as accounts of the pre- and post-contact activities of the chiefs. The literal translations of relevant land division names are presented below, along with selected historical and legendary sayings regarding Kula, Makawao and Wailuku, and traditional accounts regarding Wailuku, Kula, Pu`unene, Kama`ole, and Kīhei.

Literal translations of several of the land areas and divisions relevant to the project area are listed below. Unless otherwise noted, the translations are taken from Pukui, *et al.* (1974).

Makawao (district):	"forest beginning" (or "Watchful eyes of Wa-o" (timeless or eternity)--Wong Smith in Donham 1990b:B-1)
Kula (district):	"plain"
Kīhei:	"cape, cloak"
Kama`ole:	"childless" (or "barren"--Fredericksen, *et al.* 1994:3)
Kēōkea:	"the white sand"

Waiohuli:	"water of change"
Kōheo:	"to show off *or* to twirl"
Ka`ono`ulu:	"the desire [for] breadfruit"
`Alae:	"mudhen"
Waiakoa:	"water [used] by warrior"
Kealahou:	"the new pathway"
Pūlehu Nui:	"large Pūlehu [broiled]"
Oma`opio:	possibly "whistling thrush"
Kalialinui:	meaning uncertain
Maka`eha:	"sore eye"
`A`apueo:	"owl call" (Wulzen, *et al.* 1996:B-6)
Pukalani:	"heavenly gate" or may take its origin from Pu`u-ka-lani "hill of the heavens"
Keahua:	"the mound"
Kailua:	"two seas (probably currents)"
Wailuku:	"water of destruction"
Pu`unene:	"goose hill"

Pukui (1983) notes several sayings regarding Kula. These sayings range from the historical, legendary, and environmental to those of both ridicule and admiration. The following two sayings refer to historical and legendary events in Kula.

> "*`Ai pua`a a Kukeawe. The pork-eating of Kukeawe*" refers to "a person who is not satisfied with the number of his own pigs and so robs his neighbors of theirs." (*op. cit.*:#88) This saying stems from the early historical account (c.1785) of a petty chief under Kahekili named Kukeawe, whose story (as told by Kamakau).

> "*O ka wai kau no ia o Ke`anae; o ka `ūlei ho`owali `uwala ia o Kula. It is the pool on the height of Ke`anae; it is the `ūlei digging stick for the potato [patch] of Kula.*" (*op. cit.*:#2447) This saying relates the story of a man from Kula and a woman from Ke`anae, both of great beauty, who in their mutual attraction boasted of their own physical perfection. The woman referred "to her body as the pool on the heights of Ke`anae...he looked down at himself and boasted of his manhood as the digging stick of Kula." The man's chosen metaphor implies not only the greatness of his ego and/or "manhood," but the importance of agriculture/sweet potato production in Kula.

Some sayings note environmental characteristics of Kula, using their imagery to describe other aspects of life.

> "*Moe kokolo ka uahi o Kula, he Hau. The smoke of Kula traveled low and swift, borne by the Hau wind.* Said of one who is swift in movement. Also, in love and war much depends on swiftness and subtlety." (*op. cit.*:#2170)

> "*Kokolo ka uahi o Kula, he Kēhau. The smoke of Kula creeps along when the Kēhau breeze blows.* Where there is smoke there is fire." (*op. cit.*:#1824)

Pukui records three derisive sayings regarding Kula and one saying of praise which hinge upon the inland location of the Kula community:

> "*Kula unahi pikapika he`e. Kula people, scalers of the suckers on the tentacles of the octopus.* Said in fun of the people of Kula, Maui. A Kula chiefess who lived inland did not know what the suckers on an octopus were and tried to scale them as one scales fish." (*op. cit.*:#1911)

> "*No Kula ia po`e ke hoe hewa nei. To Kula belong the people who are such poor paddlers.* Kula, Maui, people are ignorant. Also, never mind the talk of fools." (*op. cit.*:#2339)

> "*O Kula i ka hoe hewa. Kula of the ignorant canoe-paddlers.* Said of Kula, Maui, whose people did not know how to paddle canoes because they were uplanders." (*op. cit.*:#2473)

> "*Na keiki uneune māmane o Kula. The lads of Kula, who tug and pull the māmane up by the roots.* An expression of admiration for the people of Kula, Maui, who accomplish whatever they set out to do." (*op. cit.*:#2238)

Pukui (1983) records several sayings about Makawao including these three, which describe the characteristics of the inhabitants and the environment:

> "*E hu`e mai `oe i ke kaoi`e o Makawao! Try uprooting the koai`e tree of Makawao!* I defy you to tackle a lad of Makawao! A boast from a native of Makawao, Maui." (*op. cit.*:#298)

> "*Keiki holoholo kuaua o Makawao. The lad of Makawao who goes about in the rain.* Said of a native of that place who is not afraid of being wet." (*op. cit.*:#1705)

> "*Ka ua `Ūkiu o Makawao. The `Ūkiu rain of Makawao.* Refers to Makawao, Maui." (*op. cit.*:#1602)

> "*Ho`olale a ka ua `ūkiu. A suggestion of the `ūkiu rain.* Go ahead and do what was suggested. The *`ūkiu* rain is cold enough to make one hurry and scurry." (*op. cit.*:#1092)

Pukui (1983) notes a few sayings regarding Wailuku, including the following which refers to one of many battles which occurred in the area:

> "*Ke inu aku la paha a`u `Alapa i ka wai o Wailuku. My `Alapa warriors must now be drinking the water of Wailuku.* Said when an expected success has turned into a failure. This was a remark made by Kalaniopu`u to his wife Kalola and son Kiwala`o, in the belief that his selected warriors, the `Alapa, were winning in their battle against Kahekili. Instead they were utterly destroyed." (*op. cit.*:#1711)

Traditional accounts concerning Makawao and Wailuku seem to be limited to the pre- and post-contact activities of the chiefs. Compiled below are traditional accounts regarding Wailuku, Kula, Pu`unene, Kama`ole, and Kīhei.

Kamakau (1961) provides references to the areas of Wailuku, Kula, and Kīhei involving the ruling chiefs of Maui and Hawaii and their warfare during the 1730s:

> When Ke-kau-like heard that the ruling chief of Hawaii [Alapa`i] was at Kohala on his way to war against Maui, he was afraid and fled to Wailuku in his double war canoe named Ke-aka-milo...and the fleet landed at Kapa`ahu at the pit of `Ai-hako'ko' in Kula. Here on the shore the chiefs prepared a litter for Ke-kau-like and bore him upland to Haleki`i in Kukahua. There Ke-kau-like died...in the month of March, 1736. (*op. cit.*:69-70)

> Alapa`i sailed from Kohala on Hawaii...But when he landed at Mokulau in Kaupo (Maui) and heard that Ke-kau-like was dying, he gave up all thought of war and wished only to meet Ke-kau-like and his (half) sister Ke-ku`i-apo-iwa-nui...He landed at Kīheipukoa with all his chiefs and fighting men...While he was at Kīhei, Alapa`i heard that the ruling chief of Oahu was making war upon Molokai. Most of the chiefs of Molokai...were of Hawaii...Alapa`i's sympathy was aroused, for these were his own brothers and children (relatives), and he made ready to go to their help on Molokai. (*op. cit.*:70)

Speakman (1984:14), in his narration of the power struggle between the sons of Ke-kau-like for succession to the Maui throne, describes battles which occurred in West Maui, and specifically Pu`unene:

> For several years after Ke-kau-like's death, the war continued. A major battle took place at Honokawai in West Maui. The forces of Alapa`i and the young Maui heir [Kamehameha-nui] were badly mauled and withdrew. Another battle occurred in which the ruling chief of Oahu fought in alliance with Ka-uhi, the challenger. The hardest fighting happened at Pu`unene in the dry central plain of Maui. The slaughter was great on both sides, and a stalemate resulted in a peaceful settlement between the ruling chiefs.

Kamakau (1961:142) relates an account of a lesser chief on Maui during the 1780s, with references to Kula, Wailuku, and Kama`ole:

> During this period there were disturbances among the country people, not only on Oahu but also on Maui. The trouble arose through one of the lesser chiefs (*kaukauali`i*) named Ku-keawe, a favorite (*aikane*) of Ka-hekili to whom Ka-hekili had given the privilege of letting his pigs run over the land of Kula and roasting them as he needed them. But he seized also the pigs belonging to the country people of Kula, Honua`ula, and Kahikinui, as far as Kaupo, and went with a large party to rob them of their wealth even with

> violence. This was the cause of the uprising of the country people called the "Battle of the pig-eating of Ku-keawe" (*`Aipua`a-a-Ku-keawe*). When the plundering party reached Kaupo they were surprised by some fighting men of Kahikinui, Honua`ula, Wailuku, and Waihe`e...they climbed the mountain of Haleakala in order to descend to Kamaole in Kula...Here they were surrounded by Ka-wehena's men, Ku-keawe was killed, and his body stuck up like an image toward the sea of Palauea.

A second reference to Kama`ole, regarding the coastal place name Kaluaaihakoko, is recorded by Kamakau in an account of the ruling chief `Umi (1961:230):

> ...`Umi came from a humble family, yet when he became ruling chief the people bowed to him...But Kiha-Pi`ilani despised `Aihako'ko' and Ku-malae, the children of his sister Pi`i-kea-a-Pi`ilani, because they were born to `Umi. `Aihako'ko' was brought to Maui, but Kiha treated him with contempt and killed his favorite *kahu*; and `Aihako'ko' died of grief for him and was buried at Kapa`ahu where is the burial cave of `Ai-hako'ko'. The young people are mistaken in giving the name Ka-lua-`Ai-hako'ko' to the coconut grove at Koa-kanu on the seacoast of Kama-`ole in Kula...

Speakman (1984:70-74) provides an account of the experiences of the British Captain George Vancouver, who first visited Hawaii under Captain Cook and later captained his own voyages. Kīhei was one of the locations visited by Vancouver during his explorations of Hawaii between 1793-1794. During these visits, the captain became closely connected with several high chiefs and kings, including Kamehameha (of Hawaii) and Ka-hekili (of Maui). Speakman (*op. cit.*:74) and Clark (1980:50) note the presence of a monument at Mai Poina `Oe Ia`u Beach Park in Kīhei commemorating Vancouver's on-shore expedition in 1792, when he first met Kahekili.

Prehistoric Period

An abundance of *heiau* - 33 total recorded in the archaeological survey of Maui by Winslow Walker (1931) - are in the district of Makawao between roughly the 2000 ft. to 3000 ft. elevation contours. This provides an image of extensive agricultural fields across open land in prehistoric times, much as Kula appears today. Only two *heiau* are located on the coast at Kalepolepo, the others are all in the upland (Kolb *et al.* 1997:28). In their recent study in Waiohuli, selected portions of Kēōkea and Kama`ole, Kolb *et al.* documented 1093 features making up 213 sites of mostly pre-historic agricultural and habitation sites with some ritual sites and historic agricultural sites.

Early Historic Period

For elaboration on the following subjects of whaling, the Irish potato industry, the Chinese presence in Kula, ranching, and sugar cultivation the reader is referred to Helen Wong Smith's research as presented in Brown and Haun (1989: Appendix C) and Kolb *et al.* (1997). However, a general overview of these subjects is provided in the following sections (**Early Historic Period** through **Summary**) along with supplemental information not covered by Wong Smith.

During the early 1800s, the whaling industry was introduced in Hawaii. Although the whaling centered around Lahaina and mainly effected the Kula/Kīhei area with its agricultural demands, Clark (1980:47) notes that "From the 1840s to the 1860s a small whaling station was maintained at Kalepolepo [Kīhei]."

The introduction of whaling to the Maui community brought with it an increased demand (from the sailors) for the potato. As a result, after 1830 dryland agriculture in the old Kula District expanded to include the Irish potato. The California Gold Rush of 1849 intensified this demand as a California-Hawaii potato trade began to flourish. Kula became the area of highest potato production and came to be known as "the potato district" (the area between 2000 and 5000 ft. amsl). Potato production thrived in Kula from 1830-1850 until successful potato cultivation and production in California and Oregon resulted in a decline in the Hawaii trade. (Burgett and Spear 1995:6-7) Donham (1992:5) notes that the inundation of land clearing and cultivation associated with the Gold Rush resulted in "deforestation [which] adversely affect[ed] the amount of rainfall in the district, and periods of drought became more common."

Around 1849 John Halstead built The Koa House at Kalepopo in Kīhei. The building, part store and part residence, thrived on the whaling industry and the resultant potato industry. The store also served as a gathering place for the whaling sailors. David Malo created a balance for this boisterous crowd by constructing a church at Kalepolepo sometime after 1843. During the Gold Rush years, the store became "an emporium for Irish potatoes." Halstead ran his store until 1876, closing shop when the potato industry diminished and moving to Ulupalakua. (Janion 1977:25-31)

The increase in agricultural production associated with the potato industry encouraged many Hawaiians to venture into cash-cropping (Speakman 1984:116) and attracted Chinese immigrants to Kula in the 1840s. During the subsequent 30 to 40 years the Chinese created a thriving community (Burgett and Spear 1995:7). According to Speakman (1984:140), even though the Kula land was hard, with scattered rains and common droughts, "the Chinese who lived and worked around Kēōkea enjoyed the healthiest climate to be found almost anywhere; they also enjoyed themselves and became good friends and neighbors of the Hawaiians living there."

During this time period sugar cultivation and ranching were established in the Kula region. Sugar was present prior to 1846, with six sugar producers operating on the slopes of Haleakalā (Wong-Smith in Brown and Haun 1989:C-7). As Wong Smith points out (*op. cit.*:C-6), ranching was present in the area prior to the 1840s. Cordy (in Fredericksen, *et al.* 1994:3) specifically mentions that the majority of Kama`ole *ahupua`a* at that time, as noted in Mahele awards, was government cattle range (with Irish potato on inland parcels).

Mid-1800s (Land Commission Awards)

Settlement Pattern in Kula as shown by LCAs

As background, it is important to know that Kula was famous for its *`uala* (sweet potato) "plantations" (Handy and Handy 1972:511). The combination of good soil developed in

volcanic ash, cool temperatures and frequent clouds to lower evapo-transpiration and bring moisture as fog drip, and rainfall distributed fairly evenly throughout the year would also have allowed for taro cultivation for subsistence by Hawaiians living in Kula on a permanent basis.

Informants for Handy and Handy (*Ibid.*) in the 1930s place a "considerable population" on the "lower westward slopes of Haleakala." This information is supported by the findings in Kēōkea and Waiohuli of numerous archaeological sites of prehistoric age (Brown and Haun 1989; Kolb *et al.* 1997). However, Jarves (in Kuykendall 1980:313) describes the Kula area in July 1846 in the midst of the cash cropping boon of Irish potatoes there.

> "It ranges along the mountain (Haleakala) between 2000 and 5000 feet elevation, for the distance of 12 miles. The forest is but partially cleared, and the seed put into the rich virgin soil."

This would seem to suggest that prehistoric occupation in Kula was dispersed and with possibly *swidden* type agriculture practiced. Substantial forest clearing does not appear to have occurred until the mid-1800s for commercial agriculture, especially potatoes and sugar cultivation throughout most of Kula during the Mahele period. In Waiohuli and Kēōkea Kolb *et al.* noted that in this period the forest fringe began just above the Kula Highway at about 1,036 meter amsl (3,400 foot) elevation (Kolb *et al.* 1997:99).

Kolb *et al.* also noted that Māhele records showed "awards extending down to *ca.* the 700 meter (2,300 foot) elevation" in Waiohuli & Kēōkea but survey and testing showed the agricultural fields actually extended down to the 460 meter (1,500 foot) elevation (*Ibid.*). These areas were not planted in sugar cane or pineapple as have the areas farther north, and this study might indicate that the areas farther north also had more agricultural plots farther *makai* than those noted in the Māhele records. Long-term commercial cultivation of sugar cane and pineapples in the more northerly *ahupua`a* would have destroyed surface evidence of such plots.

The following *ahupua`a* were examined for Land Commission claims: `A`apueo, the four *ahupua`a* of `Alae, Kalialinui (most commonly written as Kalialianui in the documents), Kama`ole, Kamehame (Kamehame Nui and Kamehame Iki), Ka`ono`ulu, the 4 *ahupua`a* of Kealahou, Kēōkea, Kōheo, Kukuiaeo (Kukuiaea), Makaehu, the ten *ahupua`a* of Ōma`opio, Pūlehu with Pūlehu Iki and Pūlehu Nui, Waiakoa, and Waiohuli. While in some cases the boundaries of the *ahupua`a* appear as straight lines across the map's surface, gullies (whenever present) appear to act as natural demarcation lines between *ahupua`a*.

It seems likely that `Alae, Ōma`opio and Kealahou, which had multiple sections at the time of the *Māhele* and *kuleana* awards (*i.e.* `Alae 1, 2, 3, 4) may have been single *ahupua`a* at some previous time, and subsequent division of these lands resulted from population expansion and/or expanded land use.

While traditionally we speak of the number of claims or awards in an *ahupua`a*, it seems to make less sense to do so in the Kula area than elsewhere since the claimants here did not

confine their claims to one *ahupua`a*. A large number of claimants request *apana* in two, three, or more *ahupua`a* as a general practice. Therefore, we have tried to look at the Land Commission claim data in a slightly different way. Within each *ahupua`a*, the *`ili* and number of *apana* or specific land pieces seem to better reflect the mosaic of resident population, "migrant farmers" who come from elsewhere on Maui to work in their fields, and the absentee landlords who had various crops (especially potatoes) raised for them. While the Native Register documents for Kula tend to omit the name of the *`ili* (smaller strips of land within the *ahupua`a* where the *apana* were claimed), the Foreign and Native Testimony documents generally name these. Claimants in the Register, and *konohiki* (land managers), *luna auhau* (tax assessors), and neighbors in the Testimony documents (except for the royal claims for entire *ahupua`a*), discuss either vaguely or specially the land use of each *apana* claimed. In a few instances there is a claim for land that is temporarily fallow, but rarely, if ever, in Kula does anyone ever mention waste land. There are several mentions of fields which are temporarily lying fallow.

We have devised a table (Appendix B) which gives by *ahupua`a* (column 1), the *`ili* within that *ahupua`a* (whether awarded) (column 2), the land use (column 3), the claimant's name (column 4), the claim number (column 5), the acreage and the *apana* awarded, or entire claim # not awarded (column 6), and the location of the Tax Map Key (TMK) number where found on the TMKs. This table is accompanied by a map (Figure 8, in the back pocket), compiled using the TMKs, showing the *ahupua`a* for Kula with the located *apana*. Boundaries between some *ahupua`a* are not absolutely clear on the TMK maps, particularly between Kamehameiki and Pūlehuiki. Here there are several claimants who tell of their land in one *ahupua`a*, while the award appears in the other.

Land use has been restricted to house lots, potato fields (both Irish and sweet having the same habitat) and *kalo* (refer to Figure 8 in the report back cover) for the reconnaissance survey since the located claims are not within the road corridor alternatives, but rather are focused in the upland zone between the 2000 ft. (610 m.) and 4000 ft. (1219 m.) elevation, mainly along the old Kula Road. Claims extended down to the 2,300 ft. elevation in the south in Kama`ole and Kēōkea and to the 1,100 ft. elevation in the north in `A`apueo and Makaeha.

In Kēōkea claim 6654, which is a wrong number and therefore not awarded, is among a number of house lots claimed but not awarded at the shore. Modern TMK maps do not show any of the awarded Land Commission claims along the shore. Kolb *et al.* have a map of the Kīhei coastline which shows these awards (Kolb *et al.* 1997:65)

Some *kuleana* were awarded although they were not claimed, some were exchanged for land in another *ahupua`a*, and traces of two *kuleana* were noted on the TMKs that were illegible Ōma`opio TMK 2-3-05, parcel 132 and Waiohuli TMK 2-2-05, parcel 34) and some numbers were transposed or misread so that 3759B appears as 8759B.

Including two claims (2383 for `Alae and 3829 for Pūlehuiki) not claimed but awarded, there were at least 254 *apana* granted by the Land Commission in Kula to 187 claimants; this is approximately 40% of the 619 *apana* claimed for that district. This number includes

the royal awards of entire *ahupua`a* where no land use is given. Each claimant puts in a claim for an average of 3+ *apana* an average slightly higher than in most other places.

One map of a coastal area was located which shows coastal awards (in Kolb *et al.* 1997: 65) in Kalepolepo. Other coastal awards are not located. In Kula 69 house lots were claimed; many of these were in the coastal villages of Keawakapu, Laie, Kapukahawai, Wailuku and Kalepolepo. Only 15 of the 67 are awarded and 12 of the 15 can be seen on the Kolb *et al.* Map. Claims also list some potatoes plots and bananas claimed in conjunction with the house lots.

The rest of the Land Commission Awards (LCAs) in Kula occur in a narrow horizontal band along the old Kula road where there is sufficient natural rain for growing crops and where it is cool enough for tuber crops. There are number of house lots claimed in this area. Of the 24 "hooilo" (winter or permanent gardens) claimed in the Kaonoulu, Koheo, and Kamehame *ahupua`a*, 3 are awarded, of those 2 are shown on maps; these are in this Kula road upland zone.

The unawarded claims give a different picture of the land use than do the awarded claims, indicating many house lots at the shore, typical of other areas. It would also seem from the non-awarded claims that many residents had their coastal house lot and an upland house lot.

The Kula map drawn by Monsarrat and Dodge (1872-1879; Registered Map No. 913) shows only a few awarded claims, but some of these are different from those shown on the TMKs. What is evident on R.M. 913 is that some of the names of claimants appear with grant numbers, rather than Land Commission Awards. Helen Wong-Smith (in Donham 1990b:B-4) notes that prior to the Mahele land in Makawao was offered for sale, fee-simple, to native Hawaiians. These parcels (numbering close to 100) ranged from 5 to 10 acres and were purchased for $1.00 an acre, which may explain why many of the LCAs are not on the TMKs because the claimants had already opted for grant status.

A number of claimants use more than one number for the same claim. Kekahuna uses 4 different numbers, Hewahewa uses 3, Kaai uses 3, Kekua uses 3, and 16 others use 2 different numbers for their claims. This explains some instances where some claims are not awarded, as the same piece is awarded under another number. Some claimants are of high chiefly status, *e.g.* Keaweamahi, Keahokalole, and Namauu who claims a house lot in Waiohuli; and Naihe with a house at Kama`ole; some are important personages such as Kaawai, the land commissioner of Maui, and Hewahewa, who is awarded land on all islands and has a home in Kalepolepo; these persons appear to have claims in many places. There are, however, also claimants who appear to be commoners from elsewhere, Wailuku, Waikapu, Lahaina, who, along with the chiefs, are raising sweet potatoes and Irish potatoes for trade with the seagoing vessels or for the California Gold miners who had no time to raise food, or both.

The following table lists by *ahupua`a* the number of *apana* claimed and granted and the number of claimants.

Table 1: Land Commission Claims for Kula

Ahupua`a	# of claims	# of apana requested	granted	# of claimants, comments
`A`apueo	8	14	2	8
`Alae (various)	14	18	3	14
Kalialianui	15	31	13	15
Kama`ole	49	90	26	14, some consolidated awards
Kahamehame	8	7	1	8, 5 claims on TMK map, some confusion with Pūlehu Iki claims
Ka`ono`ulu	35	57	21	33
Kealahou (various)	22	43	19	19
Kēōkea	46	111	32	44
Kōheo	11	13	5	11
Kukuiaea/Kukuiaeo	1	1	1	1
Maka`eha	1	1	0	1
Ōma`opio 1-10	25	56	21	18
Pūlehu/Pūlehu Iki/ Pūlehu Nui	17	33	32	16, some: consolidated awards; awarded not claimed
Waiakoa	17	44	33	16
Waiohuli	41	100	30	40

The majority of claims consist of *apana* for kula, often specified as sweet potatoes or Irish (foreign, or small) potatoes, some dry lo`i, winter kula *makai*, as well as occasional bananas, and house lots. There are many claims for *moku mau`u* which the translator of the Native Register believes might be small arable pockets in stony soil. Mostly they are unspecific as to land use, although occasionally they say *moku mau`u* of sweet potatoes. Whether this means all *moku mau`u* were sweet potatoes is unknown.

The following land use profiles list, by *ahupua`a*, 1) the number of houses, 2) number of Irish potato patches (*mala, kihapai*, or *kula*), 3) number of sweet potato patches (*mala, mahina, moku mau`u, kula*), 4) the number of *kula* or *`ili*, pastures, when no specified cultigen is named, 5) generic potato ground or patches or plots which probably can be considered as sweet potatoes, 6) generic plots such as *kihapai*, *moku mau`u*, or "claims," 7) number of *lo`i*, taro (kalo), and 8) other.

At `A`apueo, Keohokalole claims and receives the ahupua`a. Awarded claims range from the minimum 6+ acres to Kekahuna's (9022) 22 acres of *kula*. The two claims not awarded are for *kula* or an unspecified "claim." Claimed are *apana* for 1 house lot, 6 Irish potato

patches, 6 sweet potato patches, 11 *kula/`ili* or pastures, 1 "claim,", and no taro or other items mentioned.

At `Alae 1, 2, 3, & 4, Keohokalole is awarded `Alae 3. There is 1 house lot, 2 plots of Irish potatoes, 2 of sweet potatoes, 6 *kula*, 1 generic potato ground, 19 generic "claims" or *moku mau`u*, and no taro or other items mentioned.

At Kalialinui, Kamaikaaloa claims and receives the ahupua`a (claims #4460 and 7124) of 19.838 acres in claim 7124. There are claims for 4 house lots, 7 Irish potato patches or lands, 3 sweet potato patches, 20 *kula* (1 a winter *kula*), 3 unspecified "claims," etc., as well as 12 taro patches, and mention of wauke, a boggy place, and bananas.

At Kama`ole, the entire *ahupua`a* is not claimed. There are 3 claimants who receive close to or more than 50 acre *apana*, while most are from ½ acre to several acres. There are 17 house lots, 55 Irish potato patches or lands, 15 sweet potato lands, 23 *kula*, 25 generic potato lands, 27 generic *moku mau`u* or "claims," 5 *mo`o* of dry kalo, 1 *mo`o* sugar cane, 1 pig enclosure, and 2 *mala* of bananas.

At Kamehame there is no house claim, there are 2 Irish potato patches, 0 sweet potato land, 3 *kula*, 0 generic potato lands, 9 generic lands or "claims," and no taro, but there is mention of 2 *pa`a*, 2 bogs, and a bracken place.

At Ka`ono`ulu, Hewahewa is awarded the *ahupua`a* of 5715 acres. Other apana awarded range in size from .22 Acre to 28 acres. Claims are for 2 house lots, 22 Irish potato patches or land, 0 sweet potato claims, 46 *kula* which include winter *kula*, 1 generic potato land, 67 *moku mau`u* or "claims," 18 taro patches, a stream bank, and a *kuapa* (or pond) is mentioned in claim No. 5407.

At Kealahou (1, 2, 3 & 4), Keohokalole is awarded Kealahou 3-4 (no acreage given). In Kealahou the next largest award is for Kekapai who receives 6 apana of 10.25 acres, plus other smaller parcels. Claims for *apana* include no house lots, 3 Irish potato lands, 4 sweet potato lands, 31 *kula* etc., no generic potato lands, 26 *moku mau`u* or other generic land, and no taro or other items mentioned.

At Kēōkea (5332 acres) awards granted range from .25 acres to 16+ acres. *Apana* are claimed for 22 house sites, 42 Irish potato patches, 33 sweet potato patches, 26 *kula* or pastures,. 6 generic potato lands, 19+ generic lands, and 73 taro lands, with 5 banana patches, sugar cane and fishing rights mentioned (claim 6453).

At Kōheo, Keohokalole claims and gets the *ahupua`a*. The only other award is 14+ acres awarded to Kahinu for 4 *apana* of taro and Irish potatoes. Claims not awarded include no claims for house lots, 7 Irish potatoes lands, 0 sweet potato lands, 11 *kula* including 1 winter *kula*, 0 generic potato lands, and 3 kalo patches.

At Kukuiaea, Keohokalole receives the *ahupua`a* of 150+ acres. There are no other claimants and Keohokalole does not mention land use.

At Maka`eha, Kekahuna claims but does not get the *ahupua`a*. Donham (1990c:6) notes that Keohokalole had been offered Makaeha but she transferred this to the government. This is also true for the *ahupua`a* of Kailua. There are no other claims in Maka`eha.

At Ōma`opio 1-10, there is 1 claim for a house site, 8 claims for Irish potatoes, 1 for sweet potatoes, 28 for *kula*, none for generic potato lands, 5 for generic land, 21 *lo`i*, sugarcane and 2 wauke patches. LCA 281B is awarded to Ali, a non-resident claiming Lahaina as his place of residence. He has 1052± acres. Nine awards are centrally located between the north Ōma`opio *ahupua`a* boundary (the high ground between Kalialinui Gulch and Pūlehu Gulch) and the south Ōma`opio *ahupua`a* boundary which is the stream bed in Pūlehu Gulch.

We do not believe this narrow band of plots is typical of the prehistoric settlement pattern in Ōma`opio. The land form in the *ahupua`a* provides widespread areas of arable land. Prehistoric settlement including cultivated fields would have been dispersed across the whole landscape in the *ahupua`a* between 488 and 1219 m. amsl. The pattern we see reflected in the distribution of Land Commission Awards probably results from population decline and subsequent resettlement of the remaining farmers to land close to or adjacent to the major trails or roads such as Ōma`opio Road, Kimo Road and Lower Kula Road leading to the new population centers at Makawao-Pu`uokalani and Kahului.

At Pūlehu, Pūlehuiki and Pūlehunui, Keaweamahi receives 1 *apana* of 16,678.78 acres. There are no claims for house lots, 11 patches of Irish potatoes, 25+ patches of sweet potatoes, 35 *kula*, no generic potatoes, 13 generic lands, no taro lands, and mention of pigs, a bog and 3 springs.

At Pūlehu, Kaili claims 7 *kula* but relinquishes them for 20 acres in Ōma`opio.

At Waiakoa, there is 1 claim for a house lot, 7 for Irish potatoes, and 7 for sweet potatoes, 52 for *kula* or pastures, none for generic potatoes, 3 for generic lands, and 1 taro field.

At Waohuli, there are claims for 25 house lots, 35 Irish potato lands, 113 sweet potato lands, 74 *kula*, 30 generic potato lands, 4 generic lands, 24 taro fields, 16 banana patches, 2 sugar cane lands. There is mention of the government road.

It is interesting that very many if not all the land sections have place names of their own in addition to the *`ili* and *ahupua`a* names. We also note that many of the awards, in describing the bounds of their lands, use for reference the land of many other people who never received awards. *Pōalima* (land worked for a chief) and *aupuni* (government land) are also mentioned in describing claims to the Land Commission.

The majority of house lots claimed are in Kēōkea (22) and Waiohuli (25) although *kula* often had houses on them that were not claimed separately.

Winter *kula* is a term used only on Maui and in Kula; they are often indicated as being *makai*. One gets the impression that there was great movement between lowland and

upland and between other *ahupua`a* elsewhere and Kula, particularly during this potato growing time. Another interesting fact coming from the Mahele accounts is the canoe landing at Lahaina for the Waikapu people who come to sell their potatoes (Creed 1993). A sizeable number of Waikapu claimants had potato patches in Kula.

Another great potato growing area, Paehu, is mentioned by surveyors and Mr. E. Baldwin in their notes (F.T. 91-95v16 and N.T. 91-95v16). They discuss the loss of potato lands there where people thought to consolidate their lands but could not afford them and so lost them altogether. This kind of documentation does not appear for our Kula district lands, although there is mention of consolidation of claims to get grants of larger lands. In Waiohuli many claimants do not receive their claims, a few because they have not been there long enough. This comment adds support to the argument that 1848 was near the height of the Irish potato growing phenomenon, especially for the market in California. In the Kula District it appears that higher status claimants, living elsewhere on other parts of Maui and even on other islands, came into Kula at this time to grow potatoes.

By 1880 the government survey of the Kula area (RM 913) shows very few Land Commission Awards and even shows those who received awards as having replaced the award with grants. Many homestead sections were opened up before 1880 and many new names appear on this map. By 1853 90 land grants were awarded in the Kula area.

Typical subsistence agriculture continued to be prominent in the southernmost *ahupua`a*, but there, as elsewhere in Kula, people from outside Kula are coming to Kula to raise potatoes for the foreign market.

Late 1800s

A note of interest regarding the Chinese presence in Kula is that Sun Yat-sen, father of the Chinese Revolution and founder of the Chinese Republic, frequented the area in the 1880s. His brother was a Kula rancher. Sun Yat-sen, an Iolani graduate who also attended medical school, was often asked medical advice while visiting Kula. "When word reached Kula that the 1912 revolution was a success, the town [celebrated]...Sun Yat-sen [was] a familiar and respected personality in Kula." (Speakman 1984:141-143)

By the 1880s lower Kula consisted primarily of pasture land for ranching (Wong Smith in Donham 1990b:B-6). Kennedy (1992:7) notes that at this point *kiawe* was imported to feed cattle and provide wood. Maps from late 1800s/early 1900s indicate that several ranching companies owned and operated land in Kula. The land of Kēōkea, particularly the lowland/coastal portion, was historically used for ranching activities by Haleakala Ranch Company (Donham 1990b:6).

Sugar companies began operating in the Makawao area in the late 1800s. In 1899 the Kīhei Plantation Company (KPC) was founded and began sugar operations in Kīhei and the plain above. This plantation was then absorbed by the Hawaiian Commercial and Sugar Company in 1908. The best KPC fields continued to be cultivated (some are still productive), while the remaining plantation lands became cattle pasture. (Cox 1976:14-15)

The Hawaiian Commercial Company was founded in 1878 by Claus Spreckels and in 1882 became the Hawaiian Commercial and Sugar Company (HC&SC), located in Pu`unene. In 1899 the company was acquired by investors headed by J.B. Castle, with Alexander & Baldwin replacing the plantations agents. In 1948, HC&SC absorbed the nearby Maui Agricultural Company, a Paia plantation. (Conde and Best 1973:208-210,213)

Early 1900s To The Present

Twentieth century activities in Makawao and Wailuku include sugar and pineapple cultivation, military operations, agriculture, ranching, and residential and commercial land development. According to Fredericksen and Fredericksen (1993:6), Kula experienced a shift toward diversified agriculture and cattle raising during this time frame, with the area of Ōma`opio undergoing "intensive residential land development." Kīhei also became an area of extensive development.

In 1905 the Kula Pipeline was built during a harsh drought, expanding the water resources of the Kula area (Mark in Kennedy 1992:7).

Sugar production continued into the twentieth century, with Hawaiian Commercial and Sugar Company cultivating sugar in the Kīhei and Wailuku area, particularly during the 1940s-1960s (Sinoto and Pantaleo 1992:5). HC&SC currently operates the cane fields which constitute the bulk of the study parcel.

Pineapple cultivation was introduced to Makawao in the early 1900s. The Maui Agricultural Company (M.A.Co.), primarily a sugar producer, began planting pineapple in its upland parcels. "Some of the M.A.Co. fields in the higher elevations were too far from the main line railroad and lacked a water supply for fluming and irrigation. In 1923 the plantation started planting pineapple on these lands...the C.P.C. [California Packing cannery] concern then built a large cannery...The M.A.Co. move[d] the cannery workers from Paia to Kahului." (Conde and Best 1973:233)

Maui Land and Pineapple Company also had its beginnings during this time period. According to Speakman (1984:130-131) the company started as Baldwin Packers which then became Maui Pineapple Company, owned by Alexander & Baldwin. The company developed over the 1950s and 1960s, becoming "the largest producer of pineapple on Maui." The Cameron family then took control and the company became Maui Land and Pineapple Company. McPhatter and Rosendahl (1996:3) note that Maui Land and Pineapple Company planted pineapple in `A`apueo in 1979, in an area currently used for cattle pasture. During the 1970s, under the new ownership, the company began endeavors into residential land development, such as the condominiums at Kapalua. Maui Land and Pineapple Company continues to cultivate pineapple within the western reaches of the study parcel.

While World War I had little impact on Maui, World War II brought with it a significant military presence. Speakman (1984:166-176) provides a detailed review of the Marines on Maui, particularly Camp Maui in Kokomo and training maneuvers held on Kaho`olawe and

at Ma`alaea Bay, along its beach and in the *kiawe* groves to the east of the Bay. Allen (1971:230) notes that the Marines conducted amphibious landing training at Ma`alaea Bay. Allen (*Ibid.*) also gives an extensive account of the Navy presence on Maui, which included the Combat Demolition Training Station at Kama`ole and two naval air stations, one at Pu`unene and the other at Kahalui. The training station at Kama`ole was responsible for research work at Kīhei as early as 1940. The Pu`unene air station was established in 1939, making it the second oldest in Hawaii. During 1941 (especially after Pearl Harbor) the station expanded to cover much of the Pu`unene plain and served as an important naval hub for training, plane maintenance, and medical care for the enlisted.

A recent article in *The Honolulu Advertiser* (Tanji 1997:A23&26) notes an on-going research project (conducted by the Maui Military Museum) which studies the Naval Air Station at Pu`unene, with its corresponding air strip, and the plentiful historic military artifacts which they are unearthing in the area. Bartholomew and Bailey (1994:147) refer to the Army camps throughout Maui (including Kula) and two hospitals, one in Waikapu and one in the old Makawao School.

Burgett and Spear (1995:8) discuss the introduction of ranching ventures into the uplands of Kula in the early 1900s. TMK maps (sections 2-2 and 2-3) list the following landholders: Haleakala Ranch Co., Ulupalakua Ranch, Inc., Kaonoulu Ranch Co., Ltd., Maui [Land and] Pineapple Co., Ltd., the James Campbell Estate, the State of Hawaii, and Hawaiian Homes Lands. As discussed by Wong Smith (Brown and Haun 1989:C-7), agriculture and cattle raising would continue to be important activities in the Kula area. During the 1970s, Kula produced the majority of Hawaii's locally grown produce and livestock ranches comprised most of the remaining land use. At present, non-residential areas are still in use as centers of agricultural production, particularly in the "potato district" of Kula (Donham 1992:5). Haleakala, Ulupalakua and Kaonoulu Ranches are also still in operation.

Kīhei underwent a rapid residential and commercial development beginning in the 1970s. Clark (1980:49) notes that the groundwork for this development was established in the late 1950s when investors began purchasing coastal property. However, the construction boom of high rise apartments, hotels, and condominiums and corresponding shopping centers, restaurants, and real estate offices didn't occur until the 1970s. Speakman (1984:188) notes that along with the condominiums and "classy" hotels (Maui's "hallmark") came the construction of millionaire homes in the dry hills overlooking Kīhei and the view beyond of Kaho`olawe and Moloka`i. He comments on the congestion and overcrowding which resulted from this development (*op. cit.*:188-189): "It was partially blamed on the fact that Kīhei was owned by many proprietors or speculators, each with individual plans uncoordinated with general planning, and partly on the failure of the County planners to hold the line against the runaway development. Kīhei became the model for the wrong way to go about expansion." Pi`ilani Highway was constructed to ease the congested Kīhei traffic which resulted from this development and expansion of the tourist industry.

One Informant Interview

On April 16, 1997 Mr. Thomas Devereux of Cultural Surveys Hawaii Inc. (CSH) met with

Mr. Douglas MacCluer, manager of Maui Land and Pineapple Co. MacCluer is an avid hunter and hiker who has been employed in the pineapple industry on Maui for over thirty years and is well acquainted with the project area. The objectives accomplished at this meeting with MacCluer were: (1) a review of the archaeological sites located during the survey by CSH crew members, (2) conducting a field inspection of the surveyed sites, (3) conducting a field inspection of other site locations known by Mr. MacCluer to contain archaeological sites in the vicinity of the road corridors.

All archaeological sites identified by Cultural Surveys Hawaii in the *mauka* portion of the project area were confirmed by Mr. MacCluer during the field inspection. The field inspection was conducted by vehicle and on foot in the *mauka* portions of the project area in the cultivated pineapple fields. Several other archaeological sites known to Mr. MacCluer were pointed out at this time along segments B and C but were determined by Cultural Surveys Hawaii staff to be located well outside the alignment boundaries. It was Mr. MacCluer's opinion that CSH had located, within the alignment corridors, all archaeological sites with which he was familiar.

Summary

The project area is located primarily in the barren zone of the Makawao and Wailuku Districts, with the western boundary at the coast and the eastern boundary extending into the upland zone. The upland zone has served as an agricultural center since the pre-contact era; *`uala*, or sweet potato, has traditionally been cultivated in Kula in elevations above 2000 ft. amsl. Corresponding with this agricultural activity was habitation in the uplands and in the coastal zone with transportation routes and intermittent habitation inn the zone between the coast and the upland referred to as the intermediate or barren zone.

Mythology regarding this portion of Maui is relatively scarce and traditional accounts focus on political activities. Existing accounts describe the people of Kula, Makawao, and Wailuku (referring to the importance of agriculture in Kula) and record the struggles and activities of Maui and Hawaii chiefs in the 1700s, including Ke-kau-like, Alapa`i, Ka-hekili, Ku-keawe, `Umi, and also British Captain Vancouver.

During the early historical period Kula's agricultural role was expanded as the introduction of whaling and the California Gold Rush of 1849 initiated a demand for the Irish potato, which was cultivated in the uplands. The traditional *`uala* planting grounds were now also used for the Irish potato, and the area became known as the "potato district." Immigrants from China came to Makawao during this time and created a thriving community in Kula. Cash croppers in the Kula Region had a readily accessible port at Kalepolepo where J.J. Halstead had his store and residences, referred to as the "Koa House." Sugar cultivation and ranching were also introduced in the region in the early 1800s.

Many of the Land Commission claims in the Kula area were not granted. It is believed that many people living and farming in this area tried to consolidate their land holdings into a single large piece; a study of the grants in this area may show this in detail.

The Māhele-era data indicates both coastal zone and upland zone had permanent habitation, though the awarded claims suggest fewer coastal house lots than in the upland zone. The exception is a cluster or village-type setting at the Kalepolepo fishpond(s). Agriculture is almost exclusively in the upland zone, though a few claims note "winter *kula* makai." Whether *makai* means at the shore has not been deduced from available sources (*e.g.* TMK maps, or historic 19th and 29th century maps). The few "hooilo" or winter *kula* that were awarded are in the upland zone along the Old Kula Road, approximately at the center of the district and were not noted as being "makai."

The *Māhele* and Grant data also indicates variations across the region in terms of number of claims and awards and the elevational ranges of the upland zone. At the southern end of the region, upland *kuleana* claims are at roughly the 2800 to 3000 ft. amsl range. Moving north the elevational range drops. In Omaopio the range of the upland belt appears to be from *ca* 1200 to 2700 ft. amsl; in `A`apueo from *ca.* 1100 to 4000 ft. amsl, at Pukalani, 1100 to 1700 ft. amsl. The ranges are based on available map locations for Land Commission awards and similar mid-1800's grant data.

There is virtually no specific land use data for the intermediate zone between the coastal and upland zones from the *Māhele* data. however there are references to trails with one of the most important accessing Kalepolepo, which was an early victualing trade post for pigs, cattle, sheep, perhaps taro from Waikapū, sugar, potatoes and undoubtedly water.

The late 1800s were marked by the continuation of ranching and sugar in Makawao. Lower Kula consisted primarily of pasture land by the end of the century. By the late 1800s, Hawaii Commercial and Sugar Company became a major presence in Makawao with its absorption of other neighboring operations. Also, Sun Yat-sen frequently visited Kula and its Chinese community during the 1880s.

During the twentieth century sugar, pineapple, diversified agriculture, and ranching activities would continue while military operations associated with World War II and residential and commercial development would be introduced. Hawaii Commercial and Sugar Company and Maui Land and Pineapple Company continued their operations in the area. The military established itself on Maui during WWII with a Marine camp in Kokomo, Naval Air Station at Pu`unene, a Navy Combat Demolition Training Station at Kama`ole, Army camps and hospitals in Kula and Makawao area. Agriculture and ranching continued in the area, with Kula providing a major source of produce for Hawaii in the 1970s and ranches constituting much of the remaining land use. Kula continues to provide local produce, including vegetables and flowers. Haleakala, Ulupalakua, and Kaonoulu Ranches continue to operate at this time. Residential and commercial development was initiated in the 1950s, with a construction boom beginning in the 1970s. The focus of this development was Kīhei, an area now known for its resorts and retail ventures. Pi`ilani Highway was constructed to ease the Kīhei traffic which became congested as a result of this development and the expansion of the tourist industry on Maui.

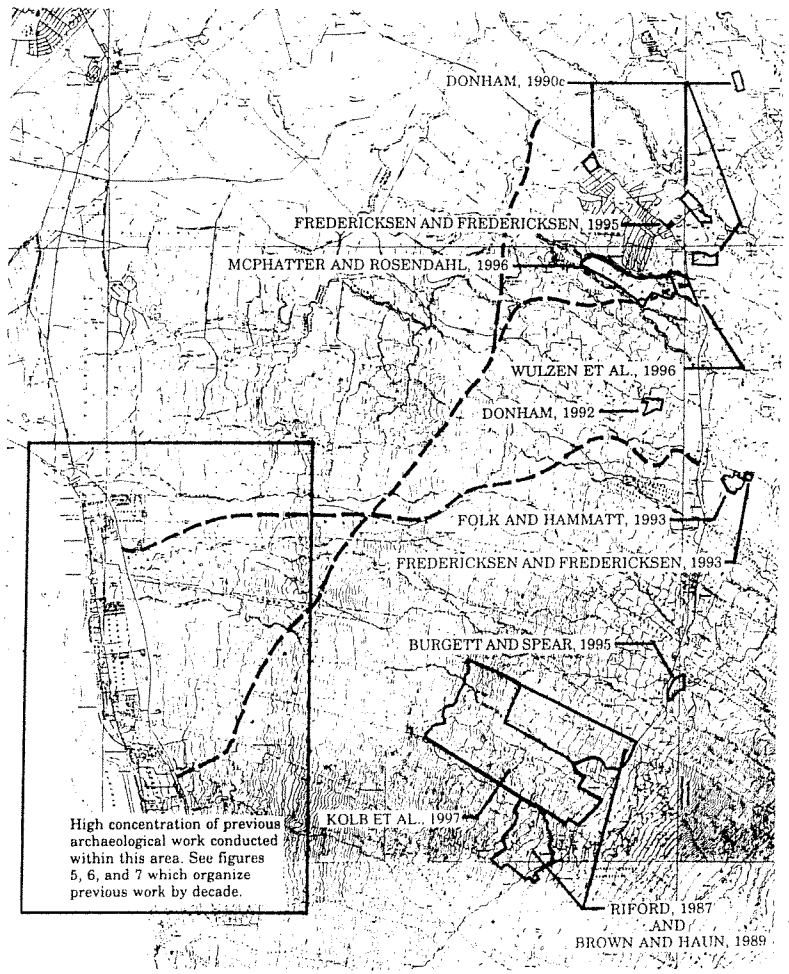

Figure 4 Previous archaeology conducted in upper portions of project area

IV. PREVIOUS ARCHAEOLOGICAL RESEARCH

Previous archaeological research in the Makawao District has been concentrated in the higher elevations (1000 ft. amsl and above) of upcountry Kula and the coastal Kīhei region. Research relevant to the study parcel is discussed below in terms of these two regions. Table 3 lists State sites in the corridor areas and the sites in or near the road corridors are shown on Figure 3.

Kula Region

The earliest archaeological studies on Maui begin with descriptive lists of religious sites by Thomas Thrum (1906-1918) and John Stokes (n.d.) in the early 1900s and culminate with the first island wide site survey by Winslow Walker (1931). Throughout the Kula region of Maui from Olinda and Makawao to Kanaio beyond `Ulupalakua, the sites recorded by Walker (all *heiau* - 33 total) are located in a continuous band between roughly 2000 ft. and 3000 ft. amsl.

From around 1930 to the 1970s only sporadic visits were made to Kula by archaeologists, primarily for the purpose of recording individual archaeological sites reported by local residents. In 1970 J. Halley Cox and Edward Stasack (1970) compiled a listing of identified petroglyph sites throughout Hawaii, including the Kula area. Two of these sites, MA-B22-2 (State site 50-50-10-1061, Kalialinui Gulch petroglyphs) and MA-B22-1 (identified as MA-B23-1 in Cox and Stasack; State site 50-50-10-1062, Kaluapulani Gulch petroglyphs), were relocated during the present project (designated CSH 1 and CSH 23, respectively).

Inez Ashdown (1899-1992) spent her lifetime collecting information about Maui. This information she collected was put together in the book *Ke Alaloa o Maui* (1971). Regarding Kula (including the current project area and areas nearby), she notes that the largest fields of *kī`i* were at Nu`u, and the next largest could be found throughout Honua`ula, "particularly around the ancient temple of Lono in Oama`opio [sic]. In Kamehameiki area and on across into Ka-ono-ulu many petroglyphs are known and new ones can be found" (*op. cit.*:48). She also remarks that in the Kēōkea and Waiakoa areas:

> are many structures, fields of petroglyphs and temples around the two temples called Pa`uhu and Ka-imu-pe`e-lua. Also in this area the temples of Mahea and Ka-umu-o-pahu (or Ka-unu-o-pahu) may still remain, along with Po`o-na-hoe-hoe and Mana` the latter now part of a modern cemetery. At Pūlehu stood the temple of Ni-ni-ni-wai, and at Kama`ole the two on the Mao land, one named Wailuku because of the battle there and the destruction during the time when Ka-lani-ku-pule ousted a brother of Pai`ea Kamehameha (*op.cit.* 57-58).

Three archaeological surveys conducted during the 1980s in the *ahupua`a* of Waiohuli and Kēōkea by Mary Riford (1987), Roderick Brown and Alan Haun (1989) and Kolk *et al.* (1997) have contributed the bulk of data on site patterning and land use prior to the 20th century in "up-country" Kula Maui. These studies, and a selection of others relevant to the

upcountry Kula area, are summarized below (Figure 4).

Riford's (1987) monitoring and reconnaissance survey for the Waiohuli and Kēōkea Subdivisions identified 113 sites with 252 features consisting of "agricultural terraces and mound features as well as a number of possible habitation- and religious-related stone, walled enclosures..." (*op. cit.*:55). Riford suggests that human occupation in the area extended from prehistoric times to the 1950s based on artifacts observed at the sites (*op. cit.*:56). This time frame is further documented by Brown and Haun (1989:18-21).

Brown and Haun (1989) conducted an inventory survey for the same study parcels in Waiohuli and Kēōkea, covering 1,025 acres of uncultivated pasture land located between 1,800 ft. and 3,000 ft. amsl. Within the survey area 159 sites with 274 features were identified, including agricultural, residential, and ceremonial complexes. Fifty-three of the sites had been identified during the Bishop Museum (Riford 1987) survey.

Hammatt and Shideler (1990) conducted an inventory survey of a plot of land on the Kīhei coast at Wailuku, Kama`ole, just *makai* of the proposed K2 shoreline terminus. There were 8 sites; ranch walls, 3 fishing shrines and midden scatter, a C-shape and an undetermined remmant.

In general Brown and Haun (1989:27) found that the Kēōkea division was intensively exploited in a variety of ways for at least two-thirds of the entirety of Hawaiian prehistory." They suggest similar land use and chronology but lesser density in the Waiohuli area, probably due to a greater amount of recent land clearing activities. Sixteen radiocarbon dates provided overlapping ranges from A.D. 1270 through A.D. 1955. One sample, with the earliest date, yielded three possible ranges between A.D. 680 and A.D. 1157. (*op. cit.*:19,20)

In January 1993 (Folk and Hammatt 1993), Cultural Surveys Hawaii conducted an inventory level survey of approximately 25 acres on the southern edge of Ōma`opio *ahupua`a*. This survey resulted in the relocation of several previously recorded sites, which in relation to the current study parcel are located east of terminus U3, between Kula Highway and Haleakalā Highway. These sites, already documented by Griffin and Donham, included a large enclosure (site 50-50-11-1349) and the Upper Pūlehu Gulch Petroglyphs (site 50-50-11-1268). Additional archaeological features consisting of a stacked boulder alignment and few low mounds were also located and collectively assigned site number 50-50-11-3121. Charcoal analysis of site 50-50-11-1349 suggests the site dates to be possibly as early as the 15th century A.D.

In 1995, Burgett and Spear (1995) of Scientific Consultant Services, Inc. conducted an inventory survey of a 22.5 acre parcel located in Ka`ono`ulu *ahupua`a*, Makawao District (to the south of the southeastern portion of the current study parcel). A total of six sites comprised of 29 features were identified during the survey. The identified features included the following formal types: terrace, wall, enclosure, cistern, mound, building and platform. It was determined that all sites are post-contact in age and associated with agriculture and habitation activities.

In February 1996 McPhatter and Rosendahl (1996) conducted an archaeological

reconnaissance survey of a 250-acre parcel located in the land of `A`apueo, Makawao District (TMK: 2-3-08: Por.5). Most of the project area consists primarily of former pineapple lands between Kaluapulani and Kalialinui Gulches. This survey resulted in the identification of two sites: (1) a site assigned the temporary number 1707-1 and described as a sailing canoe petroglyph, and (2) temporary site number 1717-2 described as a wall. In addition to these sites several land clearing piles associated with historic pineapple cultivation were also reported but were not assigned site numbers. It was determined that further data collection activities should take place at the wall site 1707-2, and that the petroglyph site 1707-1 be preserved with interpretive development.

Then in March 1996 Wulzen, *et al.* (1996) conducted an inventory survey of a 44-acre parcel that is the *mauka* portion of McPhatter and Rosendahl's February 1996 project area. The 44-acre parcel is also described by Wulzen as part of the 305-acre Pukalani Terrace Subdivision Unit III located in the land of `A`apueo, Makawao District (TMK: 2-3-08: Por.5). Wulzen's project area contained three previously recorded sites: (1) the Kalialinui petroglyph site 50-50-10-1061, (2) 50-50-10-4179, the "sailing canoe petroglyph site" recorded as temporary site number 1707-1 by McPhatter and Rosendahl (1996); the description of this site was upgraded to multiple petroglyphs, and (3) 50-50-10-4178, the wall recorded as temporary site number 1707-2 by McPhatter and Rosendahl (1996). One new site (Site 50-50-10-4181) was identified during Wulzen's survey; it consisted of four features including two agricultural clearing mounds and two stone alignments. Testing conducted at the stone alignments yielded historic artifacts associated with pineapple agriculture. The Kaluapulani petroglyph site 50-50-10-1062, originally described as being only on the north side of Kaluapulani gulch, was relocated by Wulzen although his project area boundary is on the south side of that gulch. They reported their concurrence with the original recorded data on the site, except they found the petroglyphs to extend farther *makai* than originally described.

Other research in the upcountry Kula area includes Donham (1990(c); 1992), Fredericksen and Fredericksen (1993; 1995) and Kolb *et al.* (1997)..

In the study of Hawaiian Homeland parcels in Waiohuli and Kēōkea, excavation data indicates that initial permanent habitation and land clearing for agricultural pursuits began *ca.* A.D. 1200 to 1400 (Kolb *et al.* 1997:300-304). The sequence of agricultural and habitation intensification was suggested by radiocarbon and pollen analysis and includes the A.D. 1200 to 1400 initial land clearing of forest, becoming mixed shrubs and grass lands by A.D. 1400-1500, with a corresponding "boom of habitations" and by the 1600s to 1700s the forests disappear and are replaced by expansive agricultural fields and continued increase in habitations. The increase of the 1600s to 1700s includes expansion into less favorable terrain both *makai* and *mauka* of the prime upland zone lands (*Ibid.*). The research also indicated, as it has elsewhere in Hawaii, that there was a "rapid depopulation and change" by the mid-1800s (*Ibid.*)

Coastal Kīhei Region

Numerous archaeological surveys were conducted along the south coast of the Makawao District, particularly in the Kīhei, WaiLea, and Mākena area and the from Kama`ole to Waiakoa as a result of the 1970s resort development.

From 1969 to 1971, Kirch (1971) conducted a survey and subsequent excavations at Palauea, south of K1 and K2 termini at Pi`ilani Highway. Through his analysis of coastal sites 50-50-10-1028 and 50-50-10-1029, Kirch concluded that settlement patterns in this area were characterized by transient coastal habitation involving the use of ocean resources with permanent settlements and agricultural activities in the upland region. (Donham 1990b: 4)

Donham (1990), in a report on Phase II of the Pi`ilani Residential Community in Kēōkea lists numerous reconnaissance and testing projects conducted in the WaiLea and Mākena area from the early 1970s to the late 1980s. These studies, as stated by Donham, include: Barrere 1974, Clark 1974, Cleghorn 1974 and 1975, Barrere 1975, Hommon 1975, Cordy 1978, Haun 1978, Sinoto 1978, Jourdane and Sinoto 1979, Bordner 1980, Schilt and Dobyns 1980, Bordner and Cox 1982, Walker, Rosendahl and Haun 1985, Dicks and Haun 1987, Dobyns 1988, Haun 1988, and Shapiro and Haun 1988. According to Donham, the findings from the Jourdane and Sinoto 1979 and Schilt and Dobyns 1980 studies also support Kirch's hypotheses regarding settlement and subsistence patterns involving the inland and coastal regions of Makawao.

Several projects were also conducted *makai* of the current project area in the coastal region of Kīhei extending from Kama`ole *ahupua`a* in the south to Waiakoa *ahupua`a* in the north (Figures 5, 6, and 7). These projects provide useful information about the coastal area of Kīhei and settlement patterns relating to the inland zone, as discussed by Kirch (1971). However, since these studies reiterate already mentioned information and are located outside of our current study parcel, they will not be discussed here. For the reader's reference, these projects include (but are not limited to) a flora and fauna survey by Austin, Smith & Assoc. Inc. in 1974 and the following archaeological studies: Cox 1976, Hirota 1979, Hommon 1981, Keau 1981, Miura 1982, Neller 1982, Mayberry and Haun 1988, Hammatt and Shideler 1989, Hammatt and Shideler 1990, Donham 1990(a&b), Hurst 1991, Kennedy 1991, Hammatt and Shideler 1992, Kennedy 1992, Sinoto and Pantaleo 1992, Fredericksen *et al.* 1993, and Fredericksen *et al.* 1994.

Predictive Model

Based on background studies the project area, consisting of the corridors from *Makai* termini K1 and K2 to *mauka* termini, U1, U2A, U2B and U3 - is situated within the traditional Hawaiian District of Kula, which has been characterized as having a zonal settlement pattern based on elevation and terrain type. The zones include coastal, intermediate, upland, and forest. The bulk of the project area is within the intermediate zone. The *makai* termini are just inland of the coastal zone and the *mauka* termini U2A, U2B and U3 are in the upland zone. The *mauka* terminus of U1 is at approximately 900 ft. amsl. within the upper limits of the intermediate zone.

The settlement pattern model suggests a low site density for the intermediate zone with like site types to include: trails, markers, agricultural features, temporary habitation, and petroglyphs in gulches. The pattern suggests a higher site density in the vicinity of the *mauka* termini as they are within the upland zone. Based on historic background data site types could include: permanent habitations, large ceremonial structures, evidence of extensive dryland agriculture, burials and petroglyphs. Research, however, indicates that historic commercial agriculture of pineapple and sugar cane, has extensively altered the landscape.

Modern mechanized commercial agriculture has altered the landscape to such a degree that few, if any, sites are anticipated in existing or fallow fields. Based on the above data, it is presumed that sites will exist within non-commercial agricultural terrain such as gullies and gulches or where no commercial agriculture occurred. Based on existing maps, commercial agricultural fields are located above the 750-1000 ft. amsl range.

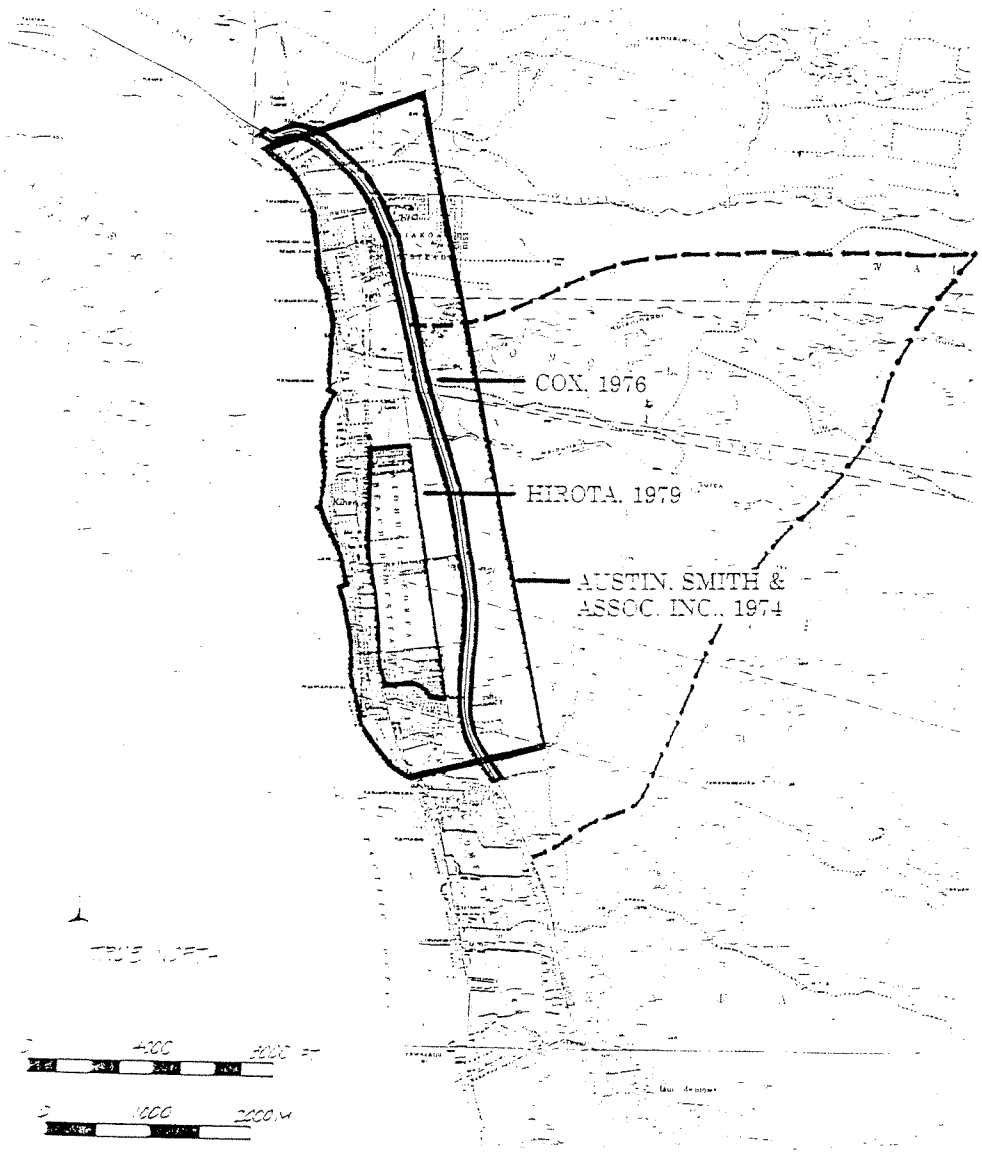

Figure 5 Previous archaeology conducted *makai* of the project area during the 1970s

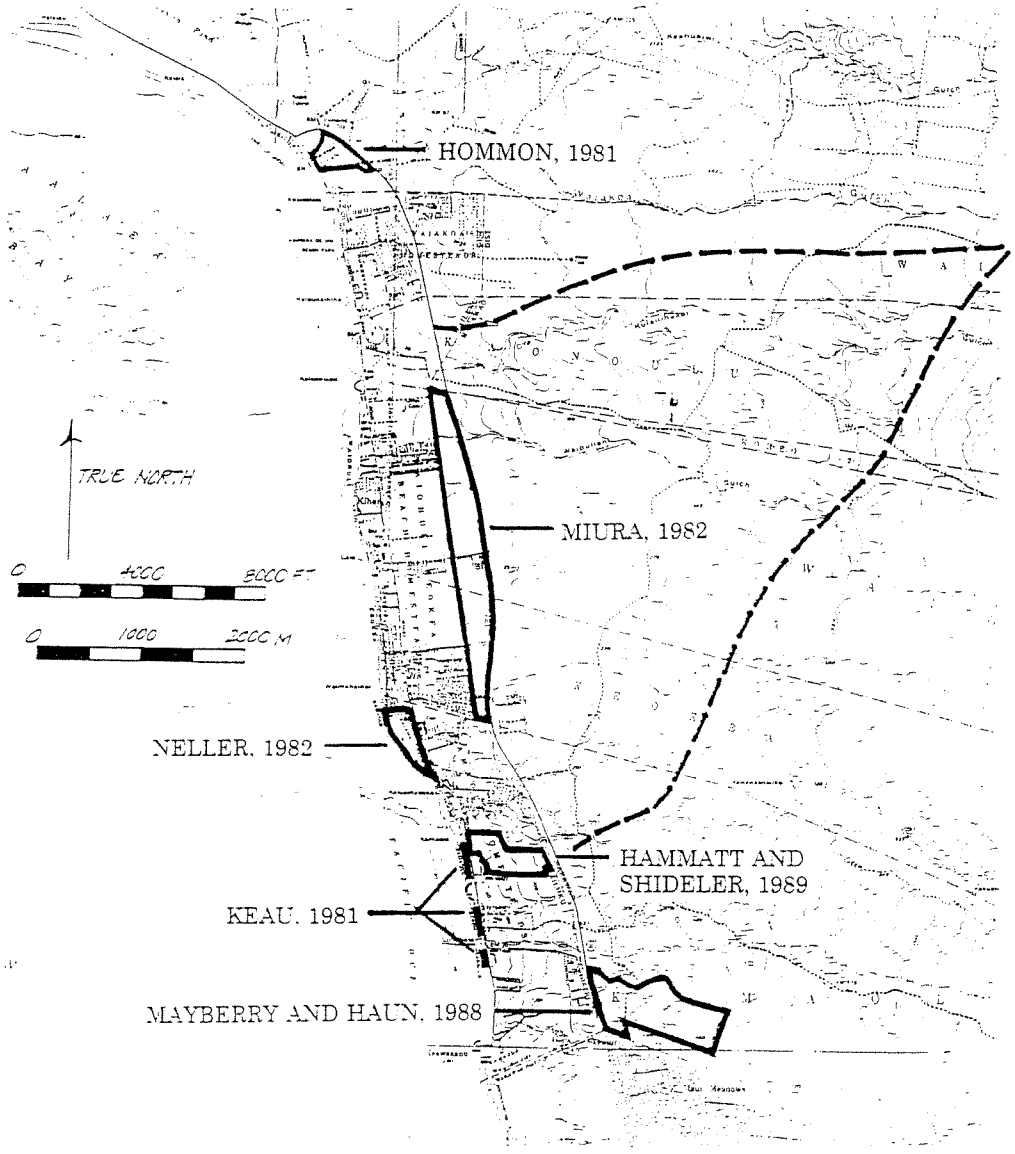

Figure 6 Previous archaeology conducted *makai* of the project area during the 1980s

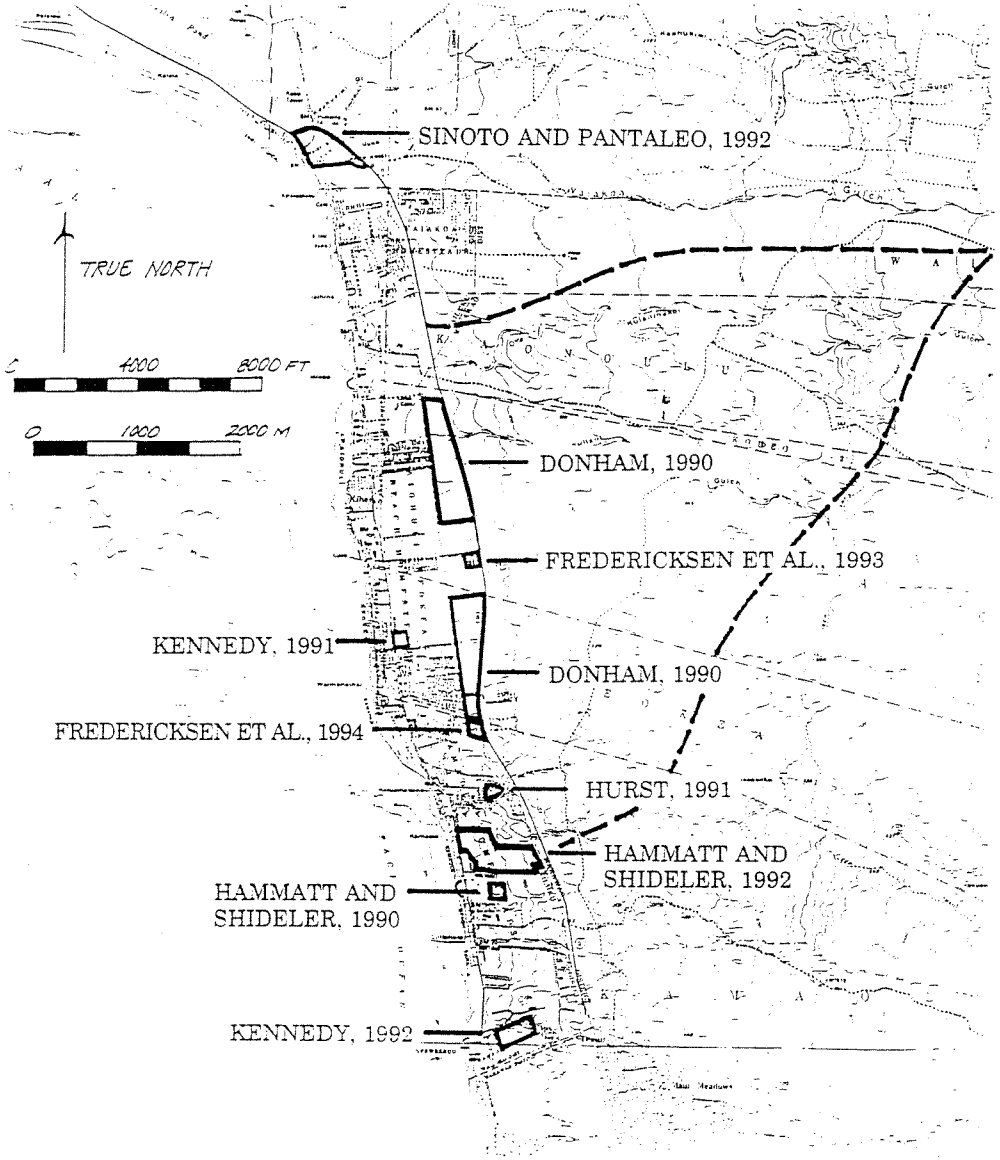

Figure 7 Previous archaeology conducted *makai* of the project area during the 1990s

V. SURVEY RESULTS

Twenty-five localities where historic properties, or sites, are present were identified during the archaeological reconnaissance survey (Table 2). In accord with the scope of work (see page 4) the survey was conducted at a reconnaissance level of site recording not that of an inventory survey. The types of features were noted, the general boundaries of the sites were recorded, and initial assessments of site significance were made based only on the reconnaissance data. Site function and significance will be refined or re-defined during the inventory survey level of work to follow in Phase II. State Inventory of Historic Places (SIHP) numbers are usually assigned during inventory survey.However, the State Historic Preservation Officer (SHPO) has requested that SIHP numbers be assigned here. SIHP numbers are, therefore, assigned to the features identified in the reconnaissance survey. This is potentially problematic because the age and function of some sites are difficult to determine without inventory survey level field testing. Some of the SIHP numbers may need to be retracted based on subsequent inventory survey findings.

A. Site Descriptions

State Site #:	50-50-10-1061, Kalialinui petroglyphs	CSH #1
Site Type:	Petroglyphs/overhang shelter	
Function:	Symbolic/habitation, recurrent	
Corridor:	Alternate U2	
Features (#):	2	

Description: The Kalialinui petroglyphs were first recorded by the Bishop Museum as site MA-B22-2, and later, assigned State Inventory of Historic Places number 50-50-10-1061. The site is comprised of extensive arrays of petroglyphs on both the north and south walls of Kalialinui gulch, and a cliff-overhang shelter located on the north wall beneath the petroglyphs. The land survey centerline stake number 1581 is in the gulch bottom in the vicinity of the petroglyphs. Vegetation at the site consists of various exotic grasses, lantana, a few relict *wiliwili* trees.

Feature A is a cluster of 7-10 pecked petroglyph figures located on a single 3.5 m. (11.5 ft.) wide by 3 m. (9.8 ft.) tall rock panel located at the bottom of the south side of the gulch, 23 m. (75.4 ft.) southwest of stake -1581. Petroglyph figures at Feature A range in size and consist of several anthropomorphic figures, circles, and an image which could be interpreted as avian. No midden or artifacts were observed. There are no sediment deposits associated with this petroglyph cluster.

Feature B consists of a cliff overhang shelter and several rock faces containing 50+ pecked and incised petroglyph figures. Feature B is located 52 m. (171 ft.) west of stake -1581 and 30 m. (100 ft.) *makai* of Feature A along the bottom of the north side of the gulch.

Table 2: Sites Located During Reconnaissance Survey

*SIHP #	Alignment Section	Location	Description	Comments
#50-50-10-1061	U2	North and south sides of Kalialinui Gulch, stake # 1581	overhang shelter and petroglyph friezes	2 features; 60+ petroglyph figures, previously recorded as State site 50-50-10-1061
#50-50-10-1062	U2B	Kaluapulani Gulch	petroglyph (50+) freize, fire pit & wall	+/- 15 figures, including canoes; previously recorded State site 50-50-10-1062
#50-50-10-4178	U2	South fork of Kaluapulani Gulch, stake #-1592	Petroglyphs	
#50-50-10-4180	U2A	near Puu O Weli	Wall	identified by Wulzen (1996), related to pineapple cultivation cattle control
#50-50-10-4181	U2B	North face of Kalialinui Gulch, *mauka* of 50-50-10-1061	Complex of two agricultural clearing mounds; two stone alignments	Agriculture
#50-50-10-4760	U2	30 m. southeast of stake #-1578	Modified outcrop	Cattle trail bisects site
#50-50-10-4761	U2	At stake #-1582	Oval enclosure	Recurrent habitation
#50-50-10-4762	U2	*Mauka* of stake #-1582	Square enclosure	Permanent habitation

#50-50-10-4763	U3	Southern side of stake #-723 along ridge	Wall	Cattle wall
#50-50-10-4764	U3	North side of Pūlehu Gulch at stake #-578	Cliff overhang shelter with petroglyphs	15 pecked and incised figures
#50-50-10-4765	U1/U2	65 m. northwest of stake #-1189	Mounds, road berm, and irrigation ditch	3 features; ditch, clearing mounds, and berm segment
#50-50-10-4766	K2	Between stake #-907 and 911 both *mauka* and *makai* of centerline	Area of sites	+/- 30 associated features (enclosures, alignments, and mounds)
#50-50-10-4767	K2	On centerline between stake #-913 and -915	Circular enclosure	Agriculture
#50-50-10-4768	K2	On centerline between stake #-916 & -920	Wall	- Cattle wall?
#50-50-10-4769	K2	45 m. east of stake #-920	Wall and cairn	2 features; wall and *ahu*
#50-50-10-4770	K2	At stake #-923	Enclosure and cairn	2 features; enclosure and *ahu*
#50-50-10-4771	K2	300 m. *mauka* of Ke Ali'i Alanui Road & Pi'ilani Highway	Mound	clearing mound?
#50-50-10-4772	K2	Between stake #-928 & -929 along centerline	Boundary Wall	Site extends across entire corridor width

The overhang shelter measures 13.7 m. (45 ft.) wide, 3.1 m. (10.2 ft.) deep, with a maximum entrance height of 3.2 m. (10.5 ft.) tall. The petroglyph figures associated with the overhang shelter are found scattered above and inside the entrance area of the shelter. Petroglyph figures at the feature consist of partial and complete, incised and pecked stick and triangular human figures, 4 incised and pecked canoes, dog, bird, and several other incomplete shapes. Cultural material observed at the feature consisted of an egg-shaped coral manuport (worked). The floor of the shelter exhibits a sediment layer. Cultural material may be present in the sediments.

State Site #:	50-50-10-1062	CSH #101 & #102
Site Type:	Petroglyph friezes, fire pit and stone wall	
Function:	Symbolic/habitation, recurrent	
Corridor:	Alternate U2A	
Features (#):	50+	

Description: Two petroglyph friezes. The first one is over one hundred feet long. It may be considered a discontinuous extension of SIHP 50-50-10-1062 - the Kaluapulani petroglyphs. This 100 foot long frieze is located on the north side of Kaluapulani gulch (Figure 3 and 4) west of the previously recorded friezes. There are a miminum of 23 petroglyphs in this section. (The boundaries of the site as recorded in the SIHP will need to be amended.) The petroglyphs are on the vertical face of an aa flow exposed by the stream cut. The lava flow is nearly horizontal and is near the top of the gulch wall. The road corridor centerline stake #314 is situated at the edge of the gulch on the north side, directly above the *makai* end of the bedrock exposure.

The columnar or block, jointed lava of the aa flow exposure creates an overhang shelter area near the center of the frieze. Beneath the overhang is the remains of a small fire of grass and twigs about 20 centimeters in diameter. The remains of the fire was photographed, but was not otherwise disturbed (see Photographic Appendix).

Below the petroglyph frieze, the ground consists of a talus deposit sloping steeply down to the riverbed and is covered by tall grass, but otherwise open to full sun. At the bottom of the talus slope a discontinuous stacked stone wall is present along the edge of the riverbed. The wall is probably an old cattle fence, and thus, unrelated to the petroglyphs. The bedrock exposure on the north side of the gulch is bounded on each end by a single *Wiliwili* tree and there are others on the opposite side of the gulch. A major electrical power line runs in the gulch bottom and power pole (PP) #186 is located in the riverbed directly below the site.

Another frieze of petroglyphs was discovered in the road corridor on the south wall of Kaluapulani gulch, about 100 feet *mauka* of an unnumbered, corridor centerline stake. The stake is at the south edge of the gulch, and is about 85 feet north of centerline stake #317, thus, its number should be #316.15 (stake #316 + 15 feet)(see Figure 3). (Stake numbers on the Alternate U2A corridor increase from north to south.). This frieze of petroglyphs, like the other on the north side of the gulch, is located on a vertical exposure of blocky, jointed

#50-50-10-4773	K1 & K2	5 m. east of stake #-390; Both sides of centerline between stake #-1118 & 1120	Complex of 2 Enclosures and 7 Enclosures	contain live small arms ammunition
#50-50-10-4174	U3	Bisects numbered stake #-545 along northern side of Waiakoa Gulch	Wall	Cattle
#50-50-10-4775	U3	On southern edge of Kolaloa Gulch between stake #-567 & 568	Wall	Cattle
#50-50-10-4776	K1	East side of Kulanihakoi Gulch between stake #-3000 & -3001	Midden and lithic scatter, and mound	Previous test units observed in surrounding area (association undetermined)
#50-50-10-4777	U1	East edge of Kalialinui Gulch	Wall	Cattle; above power line at bottom of gulch
#50-50-10-4778	U1/U2	south edge of Waiakoa gulch at stake #1135	Enclosure	Undetermined
#50-50-10-4779	U2A	in Kalialinui gulch	Shelter Cave	recurrent habitation

* State Inventory of Historic Places

lava of an aa flow. There are a minimum of twenty-six pecked and incised anthropomorphic figures of stick and triangular types in this frieze. The exposed bedrock is approximately 150 to 200 ft. in length and ranges in height from 10 to 30 ft., forming a semi-circular niche in the south ridge of the gulch. At the back of the niche is a dry waterfall course roughly 8 ft. Wide and 30 ft. High. All the petroglyphs in this frieze are situated on the rock faces which are *mauka* of the waterfall at the back of the niche. None were observed *makai* of the waterfall although the lava exposure continues there. A re-alignment of a short section of this corridor 400 feet to *makai* in Kaluapulani gulch would not impact other historical properties and would avoid the two new friezes of 50-50-10-1062.

At the base of the waterfall are plunge pools indicating a significant volume of water when there is a flow. The waterfall forms the confluence of the primary stream in Kaluapulani gulch and this secondary unnamed tributary stream draining Pu`uoweli and the ridge to the south.

Large trees (of unknown classification) of perhaps 60 feet in height provide the niche with cool shade. Christmasberry trees and exotic grasses were also present. One plant observed in the sparse understory may be Mamake.

State Site #: 50-50-10-4178 CSH #23
Site Type: Petroglyphs
Function: Symbolic
Corridor: Alternate U2
Features (#): 1

Description: #50-50-10-4178 comprises 15+/- petroglyphs located on the north side of the south fork of Kaluapulani Gulch. Previously recorded as Bishop Museum site MA-B23-1 (Cox and Stasack 1988:92) the SIHP site number is 50-50-10-1062. The petroglyphs consist of anthropomorphic figures and images that could be interpreted as canoe. They are located on the vertical basalt faces of an aa lava flow exposed in the north wall of the gulch covering an area 5 m. (16.4 ft.) long and 3 m. (9.8 ft.) high. Vegetation at the site consists of exotic shrubs and grasses. No associated features or cultural material was observed in the area.

State Site #: 50-50-10-4180 CSH #5
Site Type: Enclosure
Function: Animal control
Corridor: Alternate U2
Features (#): 1

Description: Site 50-50-10-4180 (also known as site 1707-2 (McPhatter and Rosendahl 1996) is a wall of small basalt boulders located on the steep, rocky, northern face of Kalialinui Gulch, *mauka* of the Kalialinui Petroglyphs (#50-50-10-1062)CSH 1). A segment of the wall about 12 m. (39.4 ft.) long, with a maximum height of 1 m. (3.3 ft.) and

maximum width of 2.5 m. (8.2 ft.), was observed in the U2 corridor. The wall extends between two vertical rock faces of the gulch. The site is in poor condition with substantial collapsing toward the gulch bottom. No cultural material was observed and it is unlikely that sediments in the vicinity of the wall would yield important information relative to its age or function. It is probable that the wall was used recently for control of grazing animals - to keep them in the gulch and out of the pineapple fields. Some rocks on this north edge of Kalialinui gulch may also have been raked from the pineapple fields and dumped over the edge of the gulch. Vegetation at the site on the gulch slope consists of exotic shrubs and grasses.

State Site #: 50-50-10-4181 Wulzen site
Site Type: Rock walls and rock piles
Function: Historic agriculture
Corridor: U2B
Features (#): 4

Description: The site is described in Wulzen *et al.* 1996:6-9 as consisting of: (1) two "alignments forming terraces in a small swale between former pineapple fields" (features A and B) and, (2) two "land-clearing piles of rock, associated with pineapple cultivation." (features C and D). Features A and B were tested by archaeological excavation, the results of which indicated a recent age (mid-twentieth century) for the site.

State Site #: 50-50-10-4760 CSH #2
Site Type: Modified Outcrop
Function: Undetermined
Corridor: Alternate U2
Features (#): 1

Description: State site #50-50-10-4760 is a modified outcrop located on the west side of gently sloping bedrock approximately 30 m. (98 ft.) southeast of stake number -1578. The modified area is constructed of small to medium boulders and measures 4 m. (13.1 ft.) in length with a maximum height of 1.4 m. (4.6 ft.). The modified section has an uneven bedrock and cobble surface and is not well faced. A 1 1/2 inch water pipe and a cattle trail run along the top of the modified outcrop, and blocks of cement are east of the outcrop along the waterline. Immediately around the site is close cropped pasture with water trough and jeep road. *Wiliwili* trees are present at the site, and *panini* cactus is also present east of site #50-50-10-4760 in the adjacent property - separated by a fence line - where sites 50-50-10-4761 and 50-50-10-4762 are located. No cultural middens were observed at the site. Based on the observations a cultural deposit exists within the overhang shelter.

State Site #: 50-50-10-4761 CSH #3
Site Type: Enclosure

Function: Habitation, recurrent
Corridor: Alternate U2
Features (#): 1

Description: State site #50-50-10-4761 is an enclosure located near centerline stake 1582 on a gentle *aa* slope, surrounded by *panini* cactus, tall pasture grass and *ekoa* trees that are probably a decade or more old. The enclosure, roughly oval in shape and approximately 20 $m.^2$ (14.8 ft.) E-W by 4.5 m. (14.8 ft.) N-S, is constructed of small basalt boulders stacked 0.3 to 0.6 m. high. The structure is in fair condition with some collapsing of the walls in the site interior. No cultural material was observed at the site, but the grass cover suggests sediments suitable for cultural material. Downslope to the east is State site #50-50-10-4762 and to the west is State site #50-50-10-4760 over the fence line in the adjacent pasture.

State Site #: 50-50-10-4762 CSH #4
Site Type: Enclosure
Function: Habitation, permanent
Corridor: Alternate U2
Features (#): 1

Description: State site #50-50-10-4762 is an enclosure located near centerline stake 1582 on a gentle *a'a* slope surrounded by *panini* cactus, tall pasture grass and *ekoa* trees that are probably a decade or more old. The enclosure is roughly square in shape, approximately 20 m^2 (5 m. x 4 m. or 16.4 ft. by 13.1 ft.) EW/NS, and constructed of small angular basalt boulders stacked 0.5 to 0.8 m. high. An apparent entrance is located in the center of the west side of the enclosure. Site -4762 is in good condition. No cultural material was observed at the site, but a cultural deposit is anticipated. The tall grass suggests that deep sediments may be present which may contain cultural material. Site -4761 is located up-slope to the west and beyond -4761 is site -4760, across the fence line in the adjoining pasture.

State Site #: 50-50-10-4763 CSH #6
Site Type: Enclosure
Function: Animal control
Corridor: Alternate U3
Features (#): 1

Description: State site #50-50-10-4763 is a cattle paddock with 3 sides being barbed wire fencing and the northern side is dry masonry, stacked, basalt boulder wall. The wall is oriented *mauka / makai* along the ridge line on the south edge of Pūlehu gulch near center line stake number 723 approximately one thousand feet *makai* of the Kula Highway. The wall is 0.7 m. (2.3 ft.) wide and ranges in height from 0.7 to 1.6 m. (2.3 to 5.3 ft.) with a total length of 55 m. (180.4 ft.). The other three sides of the paddock are constructed of barbed fence wire strung between wooden posts with the south fence separating the pine

fields and paddock. If the wall has always functioned as part of the enclosure it may be related to cattle ranching. The wall then could date to the nineteenth century when ranching was even more widespread than today. Vegetation at the site consists of *panini*, lantana, and exotic shrubs and grasses. The wall is in good condition. No cultural material was observed. Sediments are gravelly, the terrace may be an old gravel bar of the stream.

State Site #: 50-50-10-4764 CSH #7
Site Type: Petroglyphs and overhang shelter
Function: Symbolic/habitation, recurrent
Corridor: Alternate U3
Features (#): 2

Description: 50-50-10-4764 consists of several rock faces containing a minimum of fifteen pecked and incised petroglyph figures and a cliff-overhang shelter. Located on the north wall of Pūlehu Gulch just *makai* of center line stake number 578 and about halfway between the top and bottom of the gulch, the bedrock exposure comprising the site is the dense center of a nearly horizontal aa lava flow. The overhang shelter is beneath the flow's dense layer and measures 6.5 m. (21.3 ft.) wide and 3.5 m. (11.5 ft.) deep, with a maximum height at the entrance of 1.7 m. (5.6 ft.). The petroglyph figures associated with the overhang shelter are found scattered above and inside the entrance area of the shelter. Petroglyph figures at the site consist of partial and complete, incised and pecked, stick and triangular anthropomorphic figures, animal forms that appear dog, bird, or fish-like, and several other nondescript shapes. Vegetation at the site consists of *koa haole* and various exotic grasses of up to eight feet in height. The site is in excellent condition. Cultural material observed at the feature consists of a large, cobble-sized, basalt core and several large wood pieces. Sediments are present in the shelter and may contain cultural deposits.

State Site #: 50-50-10-4765 CSH #8
Site Type: Mounds, road berm and irrigation ditch
Function: Agriculture (Sugarcane cultivation)
Corridor: Alternate U1/U2
Features (#): 3

Description: State site 50-50-10-4765 consists of features derived from sugarcane cultivation on this parcel of land between Pūlehu Road and Ōma'opio Road, which has since been converted to pasture. Feature A is a historic irrigation ditch, Feature B consists of several agricultural clearing mounds, and Feature C is a small road segment. These features are located in gently sloping pasture land approximately 65 m. (213 ft.) northwest of center line stake number 1189. Vegetation in this section of the corridor consists of *panini* cactus, few monkeypod trees, *koa haole*, and exotic grasses grazed short which allowed for an un-obscured view of the ground.

Feature A is an agricultural irrigation ditch. It passes through the Alternate U1/U2 corridor from *mauka* to *makai* where it is primarily earthen in construction. Beyond the corridor boundaries there are remnants of mortar and small basalt boulders used in the ditch's construction. Although it is in disuse the ditch was traced to a small reservoir that is now part of a newer, active ditch system *makai* of the U1/U2 road corridor, at the edge of

fields cultivated in sugarcane. Feature A has a maximum width of 2.3 m. (7.5 ft.) and maximum depth of 1.3 m. (4.3 ft.). The ditch is certainly part of an older irrigation system for sugarcane cultivation.

Feature B includes nine agricultural clearing mounds distributed along a shallow gully crossing the U1/U2 corridor just north of the 50-50-10-4765 feature A ditch. The mounds vary in size from a few meters in diameter, to 10 to 15 m. (32 to 49 ft.) long by 10 m. (32 ft.) wide and 2 to 5 m. (6.5 to 16.4 ft.) high. They consist of small to large boulders pushed up into piles on the high points of the ground along the gully and elsewhere leaving the low ground relatively free of stones. No cultural material was observed. There were no sediments observed in these boulder piles.

Feature C is a short (7.5 m. or 24.6 ft.) segment of road, or bridge-like berm, that extends across the shallow gully north of feature A and surrounded by five of the mounds of feature B. The berm is constructed of small basalt boulders which are exposed as a facing on the west, or *makai*, side of the berm. The berm is approximately 3 m. (9.8 ft.) wide 1.3 m. (4.3 ft.) high at the midpoint, or highest point. The feature is in good condition. No cultural material was observed. There is some sedimentary material trapped among the boulders. However, any material in these sediments will likely be historic in age or out of context if of prehistoric age. Construction detail of the road berm is intact.

State Site #:	50-50-10-4766	CSH #9
Site Type:	Complex of C-shapes, enclosures, mounds, alignments	
Function:	Agriculture/habitation, temporary	
Corridor:	Alternate K2	
Features (#):	+/-30	

Description: State site #50-50-10-4766 is a comples of +/-30 archaeological features that probably functioned as agricultural and habitation sites. The features include multiple C-shaped (2-3 m. diameter) and rectangular enclosures (approximately 3 features with 2-4 m. interior width), alignments, and mounds constructed of small basalt boulders. They are distributed along the top of a low, *mauka / makai*, or east-west oriented ridge line between centerline stakes 907 to 911. Multiple features are located on both sides of the staked center line. At the time of the survey the grass ground cover was dense and about two feet high precluding an accurate count of the features. The sites are in fair condition in land used as pasture for cattle for many years. No cultural material was observed in the sites probably because of the dense grass. The ground within the site cluster is very old aa lava. This normally produces a substantial surface sediment layer. The thick growth of grass also indicates a good soil layer where archaeological deposits may be present. The predominant tree is *kiawe*, however, *koa haole*, and occasionally *wiliwili* are also present.

State Site #:	50-50-10-4767	CSH #10
Site Type:	Enclosure	
Function:	Agriculture	
Corridor:	Alternate K2	
Features (#):	1	

Description: State site #50-50-10-4767, a small, roughly circular enclosure approximately 3 m. (9.8 ft.) in diameter located on the north bank of a ravine between centerline stakes 912 and 913, is constructed of small boulders stacked 1 to 3 courses high for a maximum height of 0.5 m. (1.6 ft.). *Kiawe* and uncropped pasture grass predominate with sparse *koa haole*, and occasional *wiliwili*. The site is in fair condition; no cultural material was observed. The site is believe to be part of a large agricultural complex, extending east and north of this single enclosure. Other features may be beyond the project area boundaries to the west also, probably joining with the features of site 50-50-10-4766. These other sites were not investigated because they are outside the project area. Sediments are almost surely present on this old aa lava surface, but are obscured by the grass cover. Archaeological materials may be buried in the sediments.

State Site #:	50-50-10-4768	CSH #11
Site Type:	Wall	
Function:	Animal control	
Corridor:	Alternate K2	
Features (#):	1	

Description: State site #50-50-10-4768 is a meandering wall segment. The wall is located on the road centerline between centerline stakes 916 and 919. It is built along the perimeter of a natural depression in the terrain; the area may have served as a corral or pen to include or exclude animals. The wall is constructed of small to medium boulders in combination with sections of natural bedrock and is approximately 150 m. (500 ft.) long and 0.3 to 0.6 m. (1 to 2 ft.) wide, with a maximum height of approximately 1.3 m. (4.3 ft.). The depression is predominantly grass filled; surrounding areas are savannah of *kiawe* and unidentified pasture grasses. The wall is in fair condition. No cultural material was observed. There may be sufficient sediment associated with the foundation of the wall in some places to establish a date of construction.

State Site #:	50-50-10-4769	CSH #12
Site Type:	Wall and cairn	
Function:	Animal control/Boundary marker	
Corridor:	Alternate K2	
Features (#):	2	

Description: State site #50-50-10-4769 consists of a wall segment (feature A) and an *ahu* (feature B). These features are located approximately 45 m. (150 ft.) east of centerline stake 920 on the bank of a steep *aa* flow. Vegetation at the site consists of *wiliwili*, *kiawe*, and various grasses.

Feature A is a wall segment constructed of small boulders stacked 1-4 courses high. The wall segment is approximately 0.5 m. (1.6 ft.) wide, with a maximum height of 1.2 m. (3.9 ft.). The total length of the wall feature is not known because it extends beyond the four hundred foot wide survey corridor. The feature is in fair condition. No cultural

material was observed, however, there may archaeological material associated with the wall foundation to establish a date of construction.

Feature B is an *ahu* feature constructed of small boulders stacked 3-4 courses high. The *ahu* is approximately 0.9 m. (3 ft.) wide and 0.7 m. (2.3 ft.) tall. The feature is in fair condition. No cultural material was observed, however, there may archaeological material associated with the *ahu* foundation to establish a date of construction.

State Site #:	50-50-10-4770	CSH #13
Site Type:	Enclosure and cairn	
Function:	Habitation, temporary/trail or boundary marker	
Corridor:	Alternate K2	
Features (#):	2	

Description: State site #50-50-10-4770 consists of an enclosure (feature A) and an *ahu* (feature B) located at centerline stake 923 on an aa lava flow at the edge of a *kipuka*. The savannah persists on the aa and in the *kipuka*.

Feature A is a roughly circular enclosure located in gently sloping aa. It is constructed of small boulders stacked 1 to 3 courses high for a wall construction height of 0.5 m. (1.6 ft.) and an average diameter 4.5 m. (about 15 ft.). The feature is in poor condition. No cultural material was observed., however, there may archaeological material associated with the wall foundation to establish a date of construction. The absence of other features in the vicinity of this structure detracts from the possibility the feature is related to agriculture. The presence of the nearby *ahu*, which may be a trail marker, could be used to argue for the site being a temporary habitation site. Test excavations during the inventory survey could aid in the interpretation of the site by determining if archaeological deposits are present. If present the deposits could provide material to further assess site function, and for age determination.

Feature B is an *ahu* feature constructed of small boulders stacked 3 to 4 courses high with a maximum height of 0.6 m. (2 ft.) and width of 2 m. (6.6 ft.). The feature is in fair condition. No cultural material was observed and it is unlikely that there is archaeological material associated with the wall foundation that would be useful in establishing a date of construction.

State Site #:	50-50-10-4771	CSH #14
Site Type:	Mound	
Function:	Undetermined	
Corridor:	Alternate K2	
Features (#):	1	

Description: State site #50-50-10-4771 is a mound located about 300 m. (980 ft.) *mauka* of Pi`ilani Highway at Ke Ali`i Alanui Road, in the midst of an area of recent, heavy

bulldozing. It appears the bulldozer operator recognized and purposefully avoided the site while clearing the surrounding area. The bulldozing has obliterated the former landscape and other features, if present, around the mound. Thus, the context and estimated age of the mound is indeterminate. The bulldozed ground surface was inspected for archaeological remains of disturbed deposits, but no cultural material was seen. The mound is constructed of small boulders stacked 3 to 5 courses high measuring 0.9 m. (3 ft.) wide with a maximum height of 0.7 m. (2.3 ft.). The site is in fair condition. No cultural material was observed. If this corridor is selected the mound should be excavated to test for archaeological material.

State Site #:	50-50-10-4772	CSH #15
Site Type:	Wall	
Function:	Ahupua`a boundary	
Corridor:	Alternate K2	
Features (#):	1	

Description: State site #50-50-10-4772 is a dry masonry stone wall, running generally *mauka / makai*, located between centerline stakes 928 and 929, along the boundary of two lava flows of different ages. The wall is constructed of small and few medium boulders and cobbles stacked 5 to 7 courses high. Areas of barbed wire fencing were also observed along some sections of the wall which is 0.5 to 0.7 m. (1.6 to 2.3 ft.) wide and 1.4 to 1.7 m. (4.6 to 5.6 ft.) high. The total length of the wall was undetermined in the survey. It extends across the 400 ft. wide project area corridor and beyond its limits both to the east and the west. The wall is shown on the USGS topographic map as the boundary between Kama`ole and Kēōkea *ahupua`a*. This could be used to argue the wall probably dates to the late nineteenth century. The savannah persists on either side of the wall in spite of the difference in age of the lava flows on either side, and *panini* cactus makes an appearance at this elevation. The site is in excellent condition and appears to still be in use as a fence. No cultural material was observed. The sediments associated with the wall foundation could provide archaeological material for dating the structure especially if earlier wall structures are buried beneath the present one.

State Site #:	50-50-10-4773	CSH #16 & #17
Site Type:	Enclosures, square (2), Enclosures, U-shaped (7)	
Function:	Temporary military command post and rifle positions	
Corridor:	Alternate K1	
Features (#):	9	

Description: State site #50-50-10-4773 consists of two complexes of enclosures. The first two enclosures are roughly square, located adjacent to a jeep road, and 5 m. (16.4 ft.) east of centerline stake 390. The enclosures are similar in size, being approximately 2.5 m. (8.2 ft.) square, and are constructed of small boulders stacked 1 to 4 courses high with a maximum height of 0.5 m. (1.6 ft.). *Kiawe* trees are growing in the sites, and the surrounding area is open savannah with *kiawe* trees and *klu* being common. The

enclosures of the site are in fair condition. Historic cultural material observed at the site consisted of live, small arms ammunition and other assorted metal fragments including shrapnel and communications wire. These features are in an area with widespread bulldozing and abundant remains of military activities related to personnel training. These activities probably took place during WWII based on the abundance of .30 cal. ammunition and Springfield ammo clips, but no written evidence of this was found. No pre-contact or other early historic cultural material was observed. No other cultural material was observed. There are sediments within the enclosures, however, they appear to be predominantly decomposed bedrock, or C-horizon sediments. Test excavations during inventory survey of the route will show if these features were present prior to the twentieth century.

The second set of 7 U-shaped enclosures consists of a minimum of seven U-shape enclosures located between centerline stakes 1118 and 1120 in level, soil-covered terrain in open savannah. Signs of bulldozing are present in the area. The enclosures are uniform in construction style and size, measuring approximately 2 m. (6.6 ft.) in length and 1.5 m. wide, and constructed of small boulders stacked 1 to 3 courses high. A few are nearly circular, but also have the opening on one side. Small depressions are found in the interior of each of the U-shaped features. Historic cultural material observed within the interior of the enclosures and in the general site area include live, small arms ammunition, spent shell casings, tin food containers, shrapnel and other assorted metal fragments. These features are in an area with widespread bulldozing and abundant remains of military activities related to personnel training. These activities probably took place during WWII based on the abundance of .30 cal. ammunition, but no written evidence of this was found. No pre-contact or other early historic cultural material was observed. There are sediments within these features, however, the evidence of bulldozing suggests cultural deposits are unlikely.

State Site #:	50-50-10-4774	CSH #18
Site Type:	Wall	
Function:	Animal control	
Corridor:	Alternate U3	
Features (#):	1	

Description: State site 50-50-10-4774 is a dry masonry wall crossing the road corridor diagonally at centerline stake 545. The wall extends along the slope contour (generally north-south) on the north side of Waiakoa gulch. This section of wall appears to be still in use as new barbed wire fencing is used as patch material where short sections of the wall have collapsed. The wall is constructed of small boulders stacked 3 to 6 courses high to a maximum of 1.3 (4.3 ft.) to 1.6 m. (5.3 ft.), with a maximum width of 0.8 m. (2.6 ft.). The cooler temperatures at the higher elevation of this site has created a nearly closed canopy forest of *kiawe* with large stands of *panini* and at the time of the survey the uncropped grass was about three feet high. The site is in good condition. No archaeological middens were observed. However, there may be archaeological material associated with the wall foundation that would be useful to establish a date of construction.

State Site #:	50-50-10-4775	CSH #19
Site Type:	Wall	
Function:	Animal control	
Corridor:	Alternate U3	
Features (#):	1	

Description: State site #50-50-10-4775 is a dry masonry wall within Kolaloa gulch on the southern edge of the streambed between the corridor centerline stakes 567 and 568. The wall is constructed of small to medium boulders and incorporates sections of natural bedrock where the bedrock presents a wall-like drop that restricts cattle from passing. Constructed portions of the wall are generally 1 m. (3.3 ft.) high and 0.8 m. (2.6 ft.) wide. The barrier to animal crossing can be considerably higher where the bedrock is exposed and where gulch walls are vertical. The wall is still in use as a fence, evidenced by patches of new barbed wire in the wall where collapsing has occurred recently. The *kiawe* forest is semi-closed on the land south of Kolaloa gulch with an understory of pasture grasses. On the north side of the gulch the ridge is cultivated in pineapple. The wall is in good condition. No archaeological middens were observed. However, there may be archaeological material associated with the wall foundation that would be useful to establish a date of construction.

State Site #:	50-50-10-4776	CSH #20
Site Type:	Midden and lithic scatter/ mound	
Function:	Habitation, recurrent/agriculture	
Corridor:	Alternate K1	
Features (#):	1	

Description: State site #50-50-10-4776 is a surface scatter of marine shell midden, coral, and lithic tools and detritus including a hammer-stone. A low mound of cobbles and small boulders is also included within the bounds of the site. The site is located between centerline stakes 3000 and 3001 along the east side of Kūlanihāko`i Gulch at Pi`ilani Highway. The area in which the mound, scattered cultural middens, and artifacts were observed measures approximately 37 m. (about 120 ft.) in diameter. A previously dug pit within the mound at the site appears to be one meter square, as would be expected for archaeological test excavation units. This probability is augmented by the presence, nearby the mound, of two back-dirt piles from the mound excavation - one of sifted dirt and the other of neatly stacked rocks. Nevertheless, a search of previous archaeological studies conducted in the area and consultation with the Department of Land and Natural Resources, Historic Preservation Division staff did not determine the origin of the excavations. Intact archaeological deposits at the site appear unlikely. Deflation of a former soil deposit may have created the site as we see it today, or the site may have originally been only a surface scatter. Flora at the site is consistent with most of the low land survey area - open savannah, the predominant tree is *kiawe*.

State Site #:	50-50-10-4777	CSH #21
Site Type:	Wall	
Function:	Animal control/Field boundary	
Corridor:	Alternate U1	
Features (#):	1	

Description: State site #50-50-10-4777 is a wall located along the top edge of the north side of Kalialinui Gulch where it intersects the U1 corridor *makai* of Pukalani town. The constructed portions of the wall are discontinuous sections connecting exposures of blocky, vertical bedrock. A typical wall section has a height of over 1 m. (between 3 and 4 ft.) and is constructed of small to medium, slab-shaped boulders and cobbles. Wood fence posts and wire fencing are currently being used to repair collapsed sections of the wall indicating its former use as a fence. The gulch is surrounded by cultivated sugarcane, but within the gulch there are various exotic grasses used for pasture and relict *kukui* and *wiliwili* persist. No other cultural material was observed. However, there may be archaeological material associated with the wall foundation that could be useful to establish a date of construction.

State Site #:	50-50-10-4778	CSH #22
Site Type:	Enclosure, L-shaped	
Function:	Habitation, temporary	
Corridor:	Alternate U1/U2	
Features (#):	1	

Description: State site #50-50-10-4778 is a L-shaped enclosure located upon a flat soil surface on the southern edge of Waiakoa Gulch at centerline stake 1135. The L-shaped enclosure measures 1.5 m. (4.9 ft.) east-west by 1.5 m. (4.9 ft.) north-south, and is constructed of small boulders stacked 1 to 3 courses high to a maximum height of 0.5 m. (1.6 ft.). The open savannah of *kiawe* trees and pasture grass at the site is consistent with the central project area as a whole. No cultural material was observed at the site. Grasses in the enclosure indicate some sediments there, but the site is in rocky terrain near the edge of the gulch which suggests these sediments are shallow.

State Site #:	50-50-10-4779	CSH #103
Site Type:	Shelter-cave	
Function:	Habitation, temporary	
Corridor:	Alternate U2A	
Features (#):	1	

Description: State site #50-50-10-4779 consists of a shelter-cave located in Kalialinui gulch (see Figure 2 and the Photographic Appendix). The shelter-cave is excavated into an aa clinker layer in the south wall of the gulch about 1.2 m. (4 ft.) above the gulch floor. The cave measures 2.1 m. (7 ft). deep by 4 m.(13 ft.) long, with a ceiling height of 1.7 m. (5.5 ft.). Five boulders placed along the front edge of the cave floor are the only signs on the surface

of human use of the site. No midden or artifacts were observed, but the shelter floor appears to be a of loose sediment that may contain intact archaeological deposits.

B. Summary of Results

Archaeological sites were recorded at twenty-five locations within the eight proposed alternate road segments during the reconnaissance survey. The sites fall into two general categories: 1) prehistoric sites including traditional sites in use in the early post-contact period, and 2) post-contact sites including historic and recent archaeological remains.

The prehistoric archaeological remains include simple shelter structures - which could have been used for temporary or recurrent shelter or sheltered planting areas - and three areas of extensive petroglyphs. The prehistoric habitation and agricultural sites occur in the *makai* and *mauka* extremes of the project area which were permanently occupied in prehistoric times. The petroglyphs occur only in the *mauka* sections of the corridors, in Kula.

The post-contact sites include: (1) stone walls for ranch fencing and corrals throughout the alternate corridors from Kīhei to Kula, (2) irrigation ditches, rock-clearing mounds and a road berm for sugarcane cultivation occur at the edge of still active sugarcane fields at the edge of Kula, (3) and enclosures for military bivouac and troop maneuvers which occur in the middle section of the area of study.

The cave-shelter at the base of the south wall of Kalialinui gulch - State Site 50-50-10-4779 - was probably used for temporary habitation, and it has potential to provide additional information on area history and prehistory. The site lies on, or very near, the west edge of corridor U2A where the corridor crosses Kalialinui gulch. Its location could only be approximated because of the steep walls of the gulch. The site could be subjected to archaeological mitigation such as data recovery if necessary.

The sites will potentially be impacted because of their proximity to Alternate U2A, but they are present only in the two prominent gulches - Kaluapulani and Kalialinui - and complete avoidance of the sites is possible by adjustment of the gulch crossing locations. There also are no historic properties in Alternate U2A westward from Kalialinui to its intersection with Alternate U2B, nor to their combined *makai* termination point. Re-alignment of the U2A corridor to the east *(mauka)* within the limits of the reconnaissance as described here would not impact any historic properties.

The present reconnaissance of the Alternate U2B corridor from the north edge of Kalialinui gulch westward to its terminus in the cane fields of Ōma'opio, did not locate any historic properties. The corridor passes through primarily cultivated fields of pineapple on the ridges. It crosses Kalialinui gulch about six hundred feet east, or *mauka*, of a shelter-cave (field # CSH 103) identified in another surveyed corridor Alternate U2A, and over one thousand feet west, or *makai*, of the well known Kalialinui Petroglyphs - 50-50-10-1061. We found the Kalialinui gulch walls to be nearly vertical from top to bottom in the vicinity

of the Alternate U2B and U2A crossings. Because of these conditions we inspected the entire section of the gulch from two hundred feet west, or *makai*, of corridor U2A (where State site 50-50-10-4779 is found) to two hundred feet east, or *mauka*, of corridor U2B. We climbed the talus on both sides of the gulch to inspect all of the accessible bedrock exposures. No historic properties were observed (other than 50-50-10-4779 on the west edge of U2A) in either corridor, or between them, within Kalialinui gulch.

At it's *mauka* end the proposed Alternate U2B road would entail cutting into the west and north sides of Pu`u O Weli, a cinder cone of Pleistocene age derived from the Kula volcanic series of Haleakalā. Our present research has not revealed a legendary history for Pu`u O Weli, nevertheless, it must certainly have been a prominent feature on the Kula landscape in prehistoric times. Its literal meaning, "hill of fear" (Pukui *et al.* 1974: 205), in the context of the petroglyphs to the north, west and south allows us to infer cultural significance. Furthermore, during the modern development of Kula the Pu`u O Weli cinder cone was used as a borrow pit, or quarry. Depending on the age of the quarry and its role in the development of Kula, Maui's road systems, or other formative events, the use of Pu`u O Weli as a quarry should also establish the pu`u as an historic property.

Finally, the construction of Alternate U2B has the potential to indirectly impact the friezes of petroglyphs in Kaluapulani gulch. The frieze identified as field #50-50-10-1062 will require protective measures where the Alternate U2B road must cross the secondary stream west of Pu`u O Weli, along the south edge of Kaluapulani gulch. Further *mauka* on the north side of Pu`u O Weli the Kaluapulani petroglyphs, which are also known by the SIHP # 50-50-10-1062, will potentially be impacted by construction of the U2B road. The petroglyphs are reportedly all on the north wall of Kaluapulani gulch, but cutting and buttressing of the road could easily create a negative impact on these historic properties.

VI. SIGNIFICANCE OF THE HISTORIC PROPERTIES

Historic properties, or sites, are normally evaluated for significance on a preliminary basis during an archaeological inventory survey, according to broad criteria established for the National and Hawaii State Registers of Historic Places. However, the scope of work for this study asked for significance evaluation of the sites during the reconnaissance survey of the alternate Kīhei to Kula road corridor segments. Five criteria designations are used for site evaluation; the first four (A through D) are National Register criterion and the fifth (E) is unique to the Hawaii State Register. The meanings attached to the five criteria of significance are summarized as follows:

Criterion	A	is used for a site that reflects major trends or events in the history of the state or nation.
Criterion	B	is used for a site that is associated with the lives of persons significant in our past.
Criterion	C	is used for a site that is an excellent example of a site type.
Criterion	D	is used for a site that may be likely to yield information important in prehistory or history. And
Criterion	E	is used for a site that has cultural significance, such as religious structures (shrines, heiau), or human burial locations.

The significance criteria assigned to each site is presented in Table 3, and is provided here in text.

All twenty-five sites identified during the reconnaissance survey are significant historic properties based on their potential to contain subsurface cultural deposits, and to provide comparative data on site architecture relative to site function and site distribution to settlement pattern.

Six sites meet multiple significance criteria: (1) State sites 50-50-50-1061, 50-50-10-1062, 50-50-10-4178 and 50-50-10-4764 are considered significant under Criterion C, D, and E, because they are likely to yield information important in history and prehistory, they represent excellent examples of site types, and the sites have cultural significance because of the presence of the petroglyphs. (2) State sites 50-50-10-4762 and 50-50-10-4779 are considered significant under Criterion C and D because the sites are likely to yield information important in history and prehistory and it is an excellent example of the site type (enclosure and shelter cave). The shelter-cave may yield varying types of scientific data which may include some or all of the following categories: a) subsurface cultural deposits; b) site architecture and function analysis; and c) site distribution and settlement patterns of inland land use.

The nineteen remaining sites are considered likely to yield information important to

Table 3: Significance of Sites Located During Reconnaissance Survey

Site #	Location	Site Type	Function	Probable Age	Significance/ Criteria
#50-50-10-1061	North and south sides of Kalialinui Gulch, stake #-1581	Complex of Petroglyphs/overhang shelter	Recurrent habitation/ Petroglyphs	P	C,D,E
#50-50-10-1062	U2B stake #1581 & 85 ft/ north of stake #317 (316.15)	Kaluapulani Gulch petroglyphs	Symbolic	P	C,D,E
#50-50-10-4178	north side of the south fork of Kaluapulani Gulch	Petroglyphs (canoe)	Symbolic	P	C,D,E
#50-50-10-4180	North face of Kalialinui Gulch, *mauka* of 50-50-10-1061	Historic Wall	Animal control	H	D
#50-50-10-4181	in swale between 2 pineapple fields	Complex of two mounds, two alignments	Agriculture (pineapple cultivation)	H	D
#50-50-10-4760	30 m. southeast of stake #-1578	Modified Outcrop	Undetermined	P	D
#50-50-10-4761	At stake #-1582	Enclosure	Recurrent habitation	P	D
#50-50-10-4762	*Mauka* of stake #-1582	Enclosure	Permanent habitation	P	C,D
#50-50-10-4763	Southern side of stake #-723 along ridge	Wall (enclosure segment)	Animal control	H	D

prehistory and history (Criterion D)

The preferred route to minimize impact to the archaeological sites is K1-Segment C to approximately the 750 ft. amsl, where Segment D veers to the NE crossing Pulehu Road (P1) to Omaopio Road (O1), and then goes to the U1 terminus.

There is potential that Pu`uoweli will be recognized later as an historic site. Should this occur Alternate U2B would pose an impact to Pu`uoweli, and any realignment of the *mauka* portion of the corridor to the south side of the *pu`u* would impact other archaeological sites in the vicinity. The potential of Pu`uoweli to be recognized as an historic property in the course of planning the final Kihei to Kula road corridor necessitates anticipating what significance criteria it would be assessed as follows:

(1) In the context of Hawaiian history the site would probably be assigned criterion "E" for its inferred association with the friezes of the Kaluapulani Petroglyphs 50-50-10-1062, that of 50-50-10-4179 south of Pu`uoweli, and CSH 101 and CSH 102 west of Pu`uoweli. These sites are significant under Criteria C, D, and E, of the National and State Historic Registers.

(2) In the context of the quarry being recognized as having historic significance Pu`u O Weli would probably be assigned criterion A for its part in Maui's growth. Evidence of the quarrying activity is still extant in the remains of the cinder *pu`u*, and comparison of this and other contemporary cinder quarries on Maui could qualify Pu`uoweli as a good example of the cinder quarry site-type. This could translate into assigning it significance criterion C also.

Recognition of Pu`u O Weli as an historic property would not be easily mitigated because Alternate U2B is designed to cut into the north side of the *pu`u* which would significantly alter its present condition.

Site #	Location	Site Type	Function	Probable Age	Significance/ Criteria
#50-50-10-4764	North side of Pūlehu Gulch at stake #-578	Shelter/ Petroglyphs	Recurrent habitation/ symbolic	P	C,D,E
#50-50-10-4765	65 m. northwest of stake #-1189	Complex of mounds, road berm, and irrigation ditch	Agriculture	H	D
#50-50-10-4766	Between stake #-907 and 911 both *mauka* and *makai* of centerline	Complex of enclosures, alignments, mounds, C-shapes & enclosures	Agriculture/ habitation, temporary	P	D
#50-50-10-4767	On centerline between stake #-913 & -915	Enclosure, circular	Agriculture	P	D
#50-50-10-4768	On centerline between stake #-916 & -920	Wall	Animal control	H	D
#50-50-10-4769	45 m. east of stake #-920	Complex of wall & cairn	Animal control /Boundary marker	P	D
#50-50-10-4770	At stake #-923	Complex of enclosure & cairn	Habitation, temporary/ trail or boundary marker	P	D
#50-50-10-4771	300 m. *mauka* of Ke Ali'i Alanui Road & Pi'ilani Highway	Mound	Undetermined field clearing?	H	D
#50-50-10-4772	Between stake #-928 & -929 along corridor centerline	Wall	Ahupua`a Boundary	P	D

Site #	Location	Site Type	Function	Probable Age	Significance/ Criteria
#50-50-10-4773	5 m. east of stake #-390 & Both sides of centerline between stake #-1118 & 1120	Complex of enclosures	Military rifle practice	H	D
#50-50-10-4774	Bisects numbered stake #-545 along northern side of Waiakoa gulch	Wall	Animal control	H	D
#50-50-10-4775	On southern edge of Kolaloa gulch between stake #-567 & 568	Wall	Animal control	H	D
#50-50-10-4776	East side of Kulanihakoi gulch between stake #-3000 & -3001	Midden and lithic scatter	Recurrent habitation	P/H	D
#50-50-10-4777	Eastern edge of Kalialinui Gulch, *makai* of Pukalani	Wall	Animal control	H	D
#50-50-10-4778	Southern edge of Waiakoa Gulch at stake #-1135	Enclosure, L-shaped	Habitation, temporary	P?	D
#50-50-10-4779	west edge of corridor U2A where the corridor crosses Kalialinui gulch	Shelter Cave	Recurrent Habitation	P	C, D

VII. CONCLUSIONS AND RECOMMENDED TREATMENT

Conclusions

This report is meant to aid in planning the proposed Kīhei to Kula Upcountry Highway. The report is not meant to satisfy County, State or Federal standards for an archaeological inventory survey of the proposed highway.

There are twenty-five archaeological sites within the Alternate roadway alignments. All of the identified sites are evaluated as significant archaeological resources (refer to Table 3). These sites and associated features are present throughout all the proposed alignments and complete avoidance of them by road alignments is not possible (refer to Figure 3).

Traditional and historical activities affecting the project area include the following instances. Kula, traditionally an agricultural area, provided a major source of produce for Hawaii in the 1970s; the area still produces vegetables and flowers for the Hawaiian market. Haleakala, Ulupalakua, and Kaonoulu Ranches continue to operate at this time. All of the proposed corridors pass through these ranch lands. Hawaii Commercial and Sugar Company and Maui Land and Pineapple Company, founded in the late 1800s and early 1900s, continue their operations within the study parcel. Military training use of specific lands within the project area is evidenced by live arms munitions present at and around sites 50-50-10-4773. The *makai* Alternates K1 and K2 will tie into Pi`ilani Highway, originally constructed to ease the congested Kīhei traffic.

Recommended Treatment

Mitigation of impact to historic properties could be addressed by realignment of the Alternate route. If realignment to avoid sites in a particular area is not an option then mitigation at specific sites would be recommended on a preliminary basis as follows:

State sites 50-50-10-4180, -4760, -4761, -4763, and -4765 through -4778, significant under National Register of Historic Places criterion D because they are likely to yield information important to history and prehistory, should be recorded to archaeological inventory survey level followed by data recovery at each site.

State site 50-50-10-4762, significant under National Registers of Historic Places criteria C and D because they may be likely to yield information important to history and prehistory and are considered excellent site types, should be recorded to archaeological inventory survey level followed by preservation or data recovery.

State sites 50-50-10-1061, -1062, -4178, -4764 and -4779 are significant under National Register criteria C and D because they may be likely to yield information important to history and prehistory and are considered excellent site types, and under Hawaii Historic Preservation draft administrative rules criterion E because they are culturally significant. The historic properties should be recorded to archaeological inventory survey level and ultimately preserved. Mitigation to avoid adverse impact to these sites may entail realignment of the alternate to avoid the sites.

The military site's (50-50-10-4773) significance is limited to our knowledge of its

presence at this location which would be completed during archaeological inventory level survey. However, it would seem appropriate that an assessment of ordnance remaining and ordnance clearing be conducted.

If Alternate U2B is to be seriously considered for the final road corridor the Hawaii State Historic Preservation Officer (SHPO) should be asked for a decision on consigning Pu`uoweli to historic properties status. If such status is to be conferred required mitigation may involve abandonment of the *mauka* portion of Alternate U2B for another alternative.

B. Summary of Results

The twenty-five archaeological sites recorded during the reconnaissance survey of the eight proposed alternate road segments fall into two general categories: 1) prehistoric sites including traditional sites in use in the early post-contact period, and 2) post-contact sites including historic and recent archaeological remains.

The prehistoric archaeological remains include simple shelter structures - which could have been used for temporary shelter or sheltered planting areas - and three areas of extensive petroglyphs. The prehistoric habitation and agricultural sites occur in the *makai* and *mauka* extremes of the project area which were permanently occupied in prehistoric times. The petroglyphs occur only in the *mauka* sections of the corridors, in Kula.

The post-contact sites include: (1) stone walls for ranch fencing and corrals throughout the alternate corridors from Kīhei to Kula, (2) irrigation ditches, rock-clearing mounds and a road berm for sugarcane cultivation occur at the edge of still active sugarcane fields at the edge of Kula, (3) and enclosures for military bivouac and troop maneuvers which occur in the middle section of the area of study.

Part of State site 50-50-10-1062 is physically within the east, or *makai* side of corridor U2A, adjacent to centerline stake #314. The other part of -1062 is close to the corridor's eastern edge. Because of this we expanded the reconnaissance area in Kaluapulani gulch four hundred feet to the west of the center line. No archaeological sites were found in the expanded search area. Therefore, re-alignment of a short section of this corridor to *makai* in Kaluapulani gulch would not impact other historical properties and would avoid State site 50-50-10-1062.

The cave-shelter at the base of the south wall of Kalialinui gulch -State site 50-50-10-4779 was probably used for temporary habitation, and it has potential to provide additional information on area history and prehistory. The site lies on, or very near, the west edge of corridor U2A where the corridor crosses Kalialinui gulch. Its location could only be approximated because of the steep walls of the gulch. The site could be subjected to archaeological mitigation such as data recovery if necessary.

About four hundred feet east, or *mauka*, of the U2A corridor another four hundred foot wide alternative corridor - Alternate U2B - crosses Kalialinui gulch. Thus, the limits of the two corridors U2A and U2B nearly overlap here. In the field we found the walls of Kalialinui gulch to be nearly vertical from top to bottom in the vicinity of the two alternate crossings. Because of these conditions we inspected the entire section of the gulch from two hundred feet west, or *makai*, of corridor U2A (where State site 50-50-10-4779 is found) to two hundred feet east, or *mauka*, of corridor U2B. There are no historic properties other than this site in either corridor, or between them, within Kalialinui gulch.

The sites will potentially be impacted because of their proximity to Alternate U2A, but they are present only in the two prominent gulches - Kaluapulani and Kalialinui - and complete avoidance of the sites is possible by adjustment of the gulch crossing locations.

There also are no historic properties in Alternate U2A westward from Kalialinui to its intersection with Alternate U2B, nor to their combined *makai* termination point. Re-alignment of the U2A corridor to the east (*mauka)* within the limits of the reconnaissance as described here would not impact any historic properties.

During the survey of the Alternate U2B corridor, from the north edge of Kalialinui gulch westward to its terminus in the cane fields of Ōma`opio, we did not locate any historic properties. The corridor passes through primarily cultivated fields of pineapple on the ridges. It crosses Kalialinui gulch about six hundred feet east, or *mauka*, of a shelter-cave (field #State site 50-50-10-4779) identified previously in corridor Alternate U2A, and over one thousand feet west, or *makai*, of the well known Kalialinui Petroglyphs - 50-50-10-1061.

At it's *mauka* end the proposed Alternate U2B road would entail cutting into the west and north sides of Pu`uoweli, a cinder cone of Pleistocene age derived from the Kula volcanic series of Haleakalā. Our present research has not revealed a legendary history for Pu`uoweli, nevertheless, it must certainly have been a prominent feature on the Kula landscape in prehistoric times. Its literal meaning, "hill of fear" (Pukui *et al.* 1974: 205), in the context of the petroglyphs to the north, west and south allows us to infer cultural significance. Furthermore, during the modern development of Kula the Pu`uoweli cinder cone was used as a borrow pit, or quarry. Depending on the age of the quarry and its role in the development of Kula, Maui's road systems, or other formative events, the use of Pu`uoweli as a quarry should also establish the pu`u as an historic property.

Finally, the construction of Alternate U2B has the potential to indirectly impact the friezes of petroglyphs in Kaluapulani gulch. The frieze identified as State site 50-50-10-1062 in the Alternate U2A will require protective measures where the Alternate U2B road must cross the secondary stream west of Pu`uoweli along the south edge of Kaluapulani gulch. Further *mauka* on the north side of Pu`uoweli the Kaluapulani petroglyphs, which are also known by the SIHP # 50-50-10-1062, will potentially be impacted by construction of the U2B road. The petroglyphs are reportedly all on the north wall of Kaluapulani gulch, but cutting and buttressing of the road could easily create a negative impact on these historic properties.

In summary, we once again note that the preferred route to minimize impact to the archaeological sites would be the K1-Segment C to approximately the 750 ft. amsl, where Segment D veers to the NE crossing Pulehu Road (P1) to Omaopio Road (O1), and then goes to the U1 terminus.

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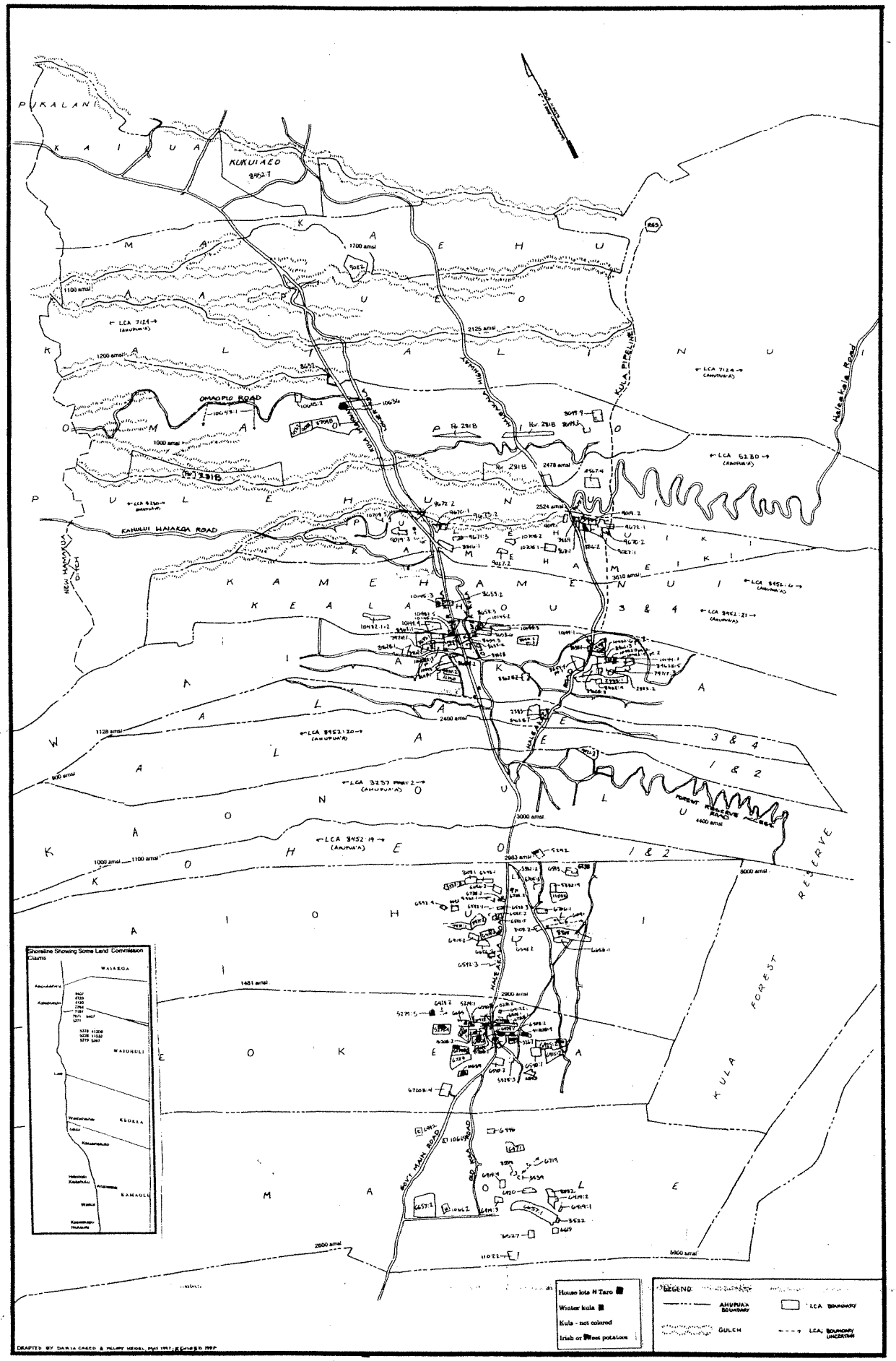
PUKALANI
KAIUA
KUKUIAEO
MAKAEHU
ALAAPUEO
KALIAALINUI
OMAOPLO ROAD
KULA PIPELINE
Kaleakala Road
PULEHUNUI
KAHULUI WAIAKOA ROAD
NEW HAMAKUA DITCH
KAMEHAMEHA IKI
KEALAHOU
WAALAE
KAONOHI
KOKEE
KULA FOREST RESERVE
KULA FOREST RESERVE ROAD
KOKI MAIN ROAD
HALE A
LCA 7124 (AHUPUA'A)
LCA 8452:120 (AHUPUA'A)
LCA 3257 PART 2 (AHUPUA'A)
LCA 8452:19 (AHUPUA'A)
LCA 8452:21 (AHUPUA'A)
LCA 8452:6 (AHUPUA'A)
LCA 6280 (AHUPUA'A)
Shoreline Showing Some Land Commission Claims
WAIAKOA
WAIOHULI
KEOKEA
KAMAOLE
House lots H Taro
Winter kula
Kula - not colored
Irish or Sweet potatoes
LEGEND
AHUPUAA BOUNDARY
LCA BOUNDARY
GULCH
LCA BOUNDARY UNCERTAIN
DRAFTED BY DARIA CASEY & MELODY HERGEL, MAY 1997; REVISED 1998

APPENDIX A: PHOTOGRAPHIC APPENDIX

The photographs selected for this appendix are representative of the site types present within the project area. For this reason, photographs of every site and/or feature are not included.

Figure 9 Overview of cliff overhang shelter with petroglyphs, view to north, State site 50-50-10-1061

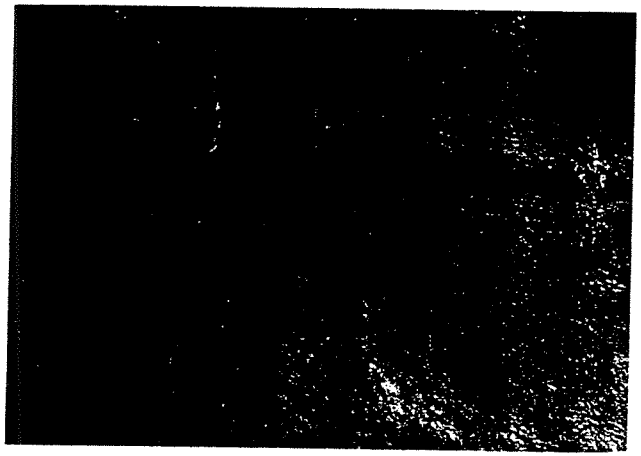

Figure 10 Closeup of petroglyph: single human figure with spear, pecked on north face of overhang State site 50-50-10-1061

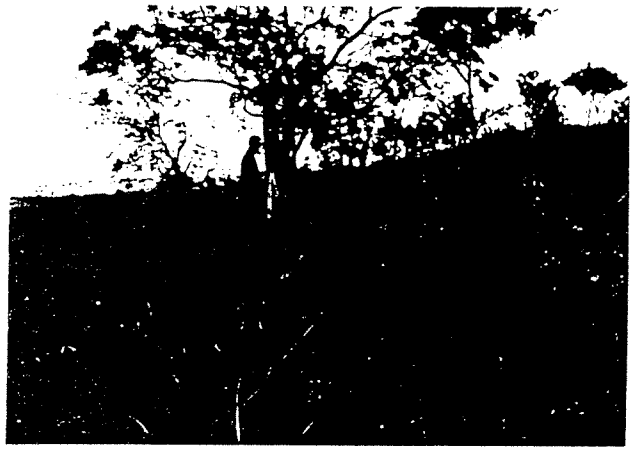

Figure 11 Modified outcrop, view to northeast, State site 50-50-10-4760

Figure 12 Enclosure, view to south, State site 50-50-10-4761

Figure 13 Enclosure, view to south, State site 50-50-10-4762

Figure 14 Terrace, view to east, State site 50-50-10-4180

Figure 15 Wall, view to east, State site 50-10-10-4763

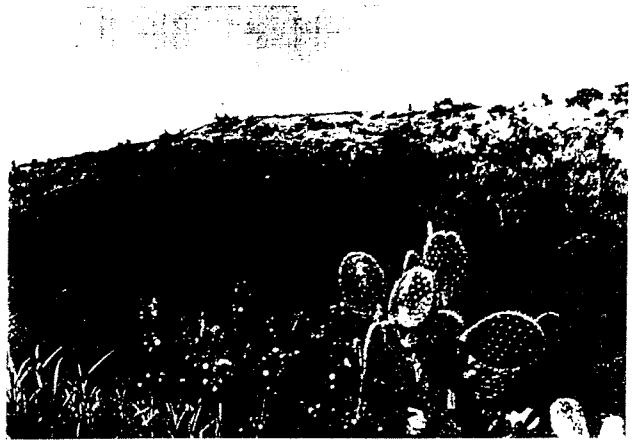

Figure 16 Cliff overhang shelter with petroglyphs located on Pūlehu Gulch wall (in upper left corner of photo), view to north, State site 50-50-10-4764

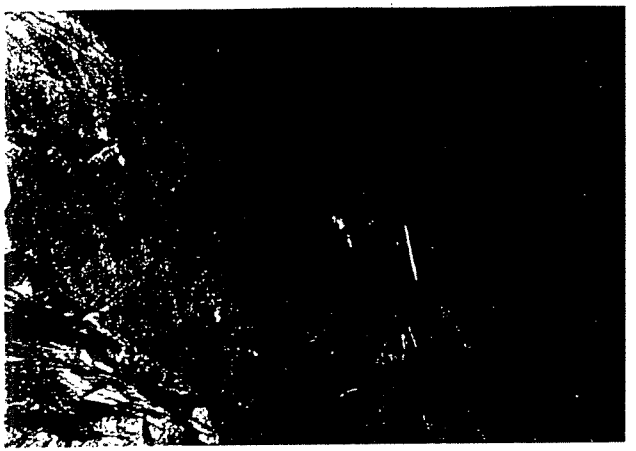

Figure 17 Overhang wall showing numerous pecked human petroglyph figures, view to north, State site 50-50-10-4764

Figure 18 Man with dog petroglyph, pecked, view to northeast, State site 50-50-10-4764

Figure 19 Historic agricultural complex, showing berm segment with *panini*-covered clearing mound at left, view to southeast. State site 50-50-10-4765

Figure 20 Historic agricultural complex, showing clearing mound, view to northwest. State site 50-50-10-4765

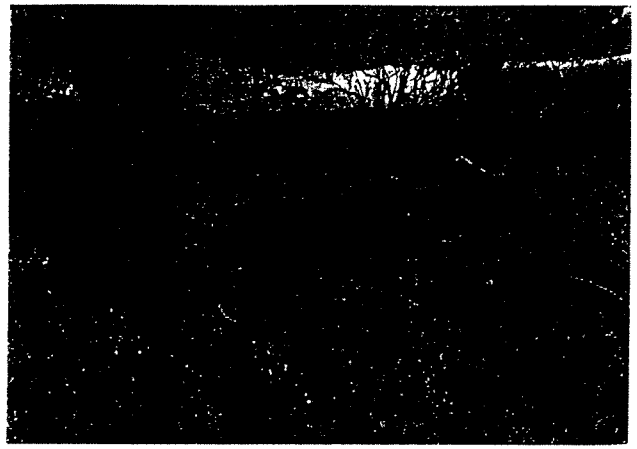

Figure 21 Wall and *ahu*, view to west. State site 50-50-10-4769

Figure 22 *Ahu* and enclosure, view to west. State site 50-50-10-4770

Figure 23 Enclosure (square), view to east. State site 50-50-10-4773

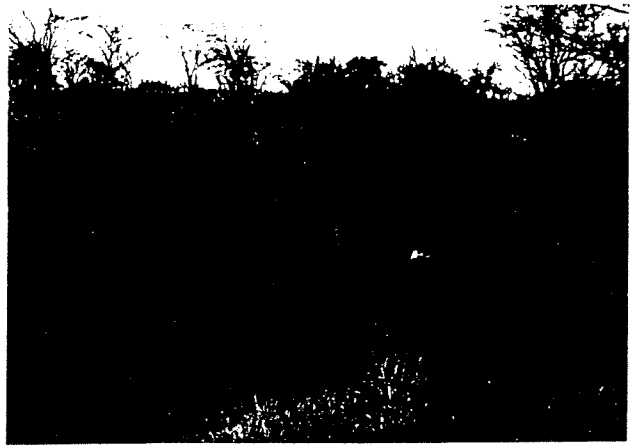

Figure 24 Wall, view to south. State site 50-50-10-4774

Figure 25 Wall, on southern edge of Kolaloa Gulch. State site 50-50-10-4775

Figure 26 Midden and lithic scatter, view to southwest. State site 50-50-10-4776

Figure 27 Midden and lithic scatter, view to northeast, State site 50-50-10-4776

Figure 28 Wall, along eastern ridge of Kalialinui Gulch, view to north, State site 50-50-10-4777

Figure 29 L-shaped enclosure, view to east, State site 50-50-10-4778

Figure 30 Petroglyph site, north wall of south fork of Kaluapulani Gulch, view northwest, State site 50-50-10-4178

Figure 31 Canoe (with sail) petroglyphs on wall panel, view north. State site 50-50-10-4178

Figure 32 View of the north wall of Kaluapulani gulch from the south side. The center of the photo is aligned with the centerline of Alternate U2A. State site State site 50-50-10-1062, first panel is on the north wall right of center line; State site State site 50-50-10-1062, second panel is out of the photo to the right.

Figure 33 Lava Bedrock exposure bearing the State site State site 50-50-10-1062, petroglyph frieze; the view is to *mauka*, or east.

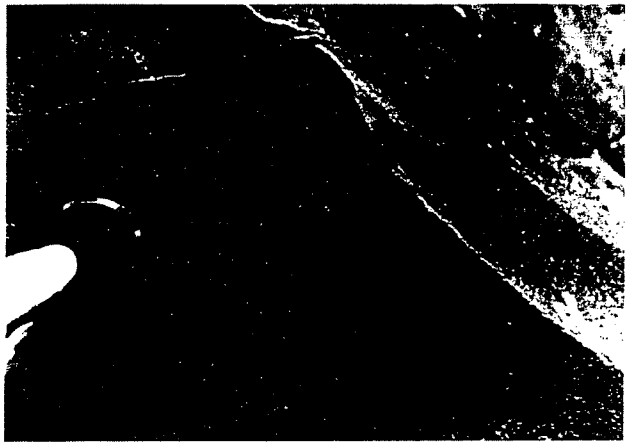

Figure 34 Examples of the petroglyphs at State site State site 50-50-10-1062. The 35 mm camera lens cap is included to show scale.

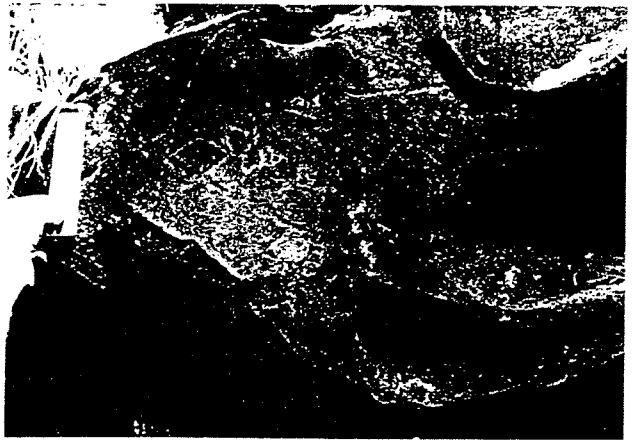

Figure 35 Example of petroglyph groupings at State site State site 50-50-10-1062.. Ruler used for scale is six inches long. Petroglyphs exhibit an unusual triangular pattern.

Figure 36 Example of another petroglyph grouping at State site State site 50-50-10-1062, note the canoe-like petroglyph at top center of photo.

Figure 37 Close-up of canoe-like figure in petroglyph grouping shown in Figure 31.

Figure 38 The overhang shelter at State site 50-50-10-1062, beneath the petroglyph frieze.

Figure 39 Remains of a small fire in the overhang shelter beneath the State site 50-50-10-1062 frieze.

Figure 40 The niche, or alcove, at State site 50-50-10-1062, second panel. The petroglyph frieze is to the upper left, the plunge pool at the upper center obscured by the understory. Possible *mamake* plants are at the lower left backed by the large boulder.

Figure 41 Shelter-cave site State site 50-50-10-4779 in the south wall of Kalialinui gulch. The front edge of the cave floor has five small boulders that level the floor of the shelter. View is to the west from near the streambed.

Figure 42 General view of the project area near 5 + 00, view to north, with pineapple plants visible in foreground

Figure 43 General view of the project area in the vicinity of 30 + 00, view to north

Figure 44 General view of State site # 50-50-10-2701, *heiau*, view to the east, showing structure surface

Figure 45 General view of State site # 50-50-10-2701, *heiau*, view to the northeast, showing SW *heiau* facing

Figure 46 General view of State site # 50-50-10-2701, *heiau*, view to the northeast

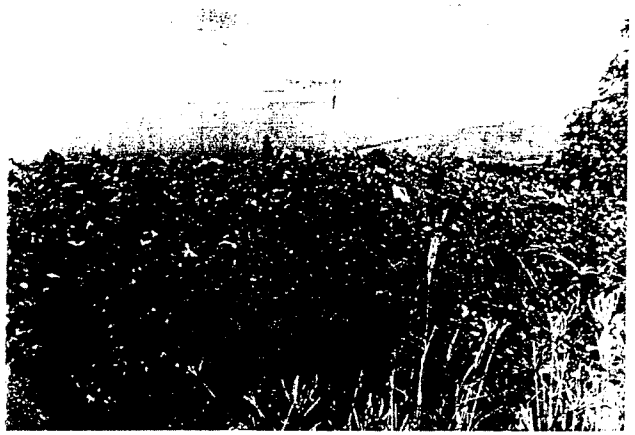

Figure 47 View of State site # 50-50-10-2701, *heiau*, view to the southwest, showing the surface of the north end of the structure

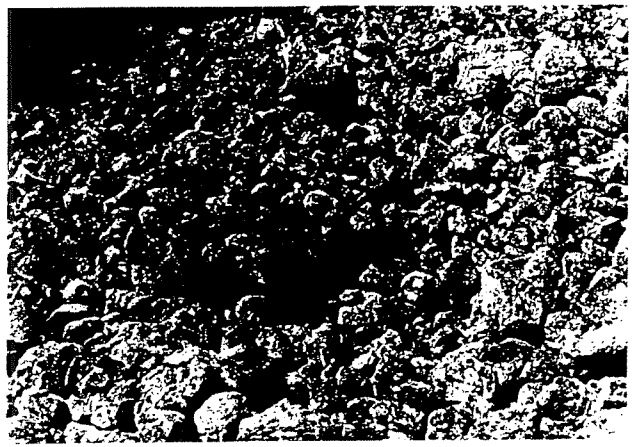

Figure 48 State site # 50-50-10-2701, *heiau*, view of a typical constructed pit in the structure surface at the northeast end.

Figure 49 Downslope view from State site # 50-50-10-2701, *heiau*, view to the southwest, showing the view plane from the structure

Ahupua`a of Kula along the Potential Kihei Road Corridors with Land Commission Claims

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Aapueo	ahupua`a, aw		Keohokalole, A	8452	ahupua`a	TMK 2-3-05 R.M. 913
Aapueo	Koloakapeelua / Kolokapelena, aw Kauhiuhi Kahanumaule, Kailikoa Papawahanui, aw	house lot, kula kula kula kula	Koolau	8630	1 ap. 7.3 Acs. 1 ap. 11.6 Acs.	
Aapueo	Piliakaula, aw	kula	Kekahuna	9022	1 ap. 22 Acs.	TMK 2-3-58; R.M. 913
Aapueo	Waieli, aw	Irish potatoes	Kikina / Kikiaua	9024	1 ap.11.75 Acs.	
Aapueo	Waieli Apopo, aw	kula, 8 moo kula, 3 moo?,	Kama	9025	 2 ap. 11.25 Acs.	
Aapueo I Aapueo II	Ohiamukumuku / Kamukumuku, aw Kailikoa	kula, 2 sw. potatoes, 5 Ir. potatoes kula, sw. potatoes	Kaaipohuehue	9026	1 ap. 6.08 Acs	
Aapueo I	Kuiaha / Kuaiaha Kaaiape	kula kula	Kaai	9030	na	
Aapueo	Aapueo	claim	Kuapuunui	10708	na	
Alae 3	ahupua`a, aw	none given	Keohokalole	8452	1 ap. ahupuaa, apana 20	TMK 2-2-6
Alae 3 & 4	not claimed, but appears on TMK map		Kaauwai	2383		TMK 2-2-12 shows 7± Acs
Alaenui			Kukauhaula	no number		

APPENDIX B: LAND COMMISSION AWARDS TABLE

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Alae	Alae	1 potato mala	Alihi	2651	na	
Alae	Alae	2 pasture ilis	Kaili	3759B	na	
Alae	not Kula!, Hamakua, listed in location index under Kula		Kauaua	5267B	1 ap. 2.18 Acs	mistake, awarded in Alae Hamakua, not Kula
Alae	Alae 1 Kulau Alae 2 Makaula	2 kula lands 1 kula land	Kailio	5299	na	
Alae 1	Kualau	pasture	Kanana	5303	na	
Alae	Alae	Ir. potatoes [N.T. small sw. potatoes]	Kapuaa	5335	na	
Alae	Alae	ili pasture	Puha	5349	na	
Alae 1	Alae 1	1 mala sw. potatoes	Kamailio	5437	na	
Alae	Alae	see 5335	Kapuaa	6407	na	same as 5335
Alae	Hala	see 5349	Puha	6550	na	same as 5349?
Alae	Puukoa Hala Makaula	6 cultivated places 5 cultivated places 5 cultivated places	Kawelo	7952	na	
Alae	Alae 1, Kualau Alae 4	1 Ir. potatoes, 1 sw. potatoes house site, cultivated plot	Akii / Aki	8041	na	
Alae	Kaulaula, aw	2 kihapai	Kailinianu	8462B	1 ap. 5.21 Acs	TMK 2-2-12, Ap. 7

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kalialinui	ahupua`a		Kamaikaaloa	4460	na, See Award 7124	
Kalialinui	Kalialianui	Ir. potatoes	Kaauwai, Z.	2383	na	
Kalialinui	ahupua`a	ahupua`a	Kamaikaaloa	7124	1 ap. 19.838 Acs.	TMK 2-3-08, 2-3-05; R.M. 913
Kalialinui	Makoleiki	kula (N.R. 4 claims)	Koolau	8630	na	
Kalialinui	Laukapalili Kukuiokolowai, aw /Kukuiohowao same? Pipio Kepa Hulaku Kealaakaieie, aw	kula kula kula kula kula kula	Kuaihulu	8550	1 ap. 8.40 Acs. 1 ap. 8.25 Acs.	
Kalialinui	Olupoke (`ili?) Pipio Kaimapahu	mala of Ir. potatoes wauke kula kula	Kaiwi	8602	na	
Kalialinui	Kalialianui	mala Ir. potatoes	Kealakane	8649	na	
Kalialinui	Kalialianui	mala Ir. potatoes, another cultivated place	Kahele	8652	na	
Kalialinui	Koakaauili Kapuna, aw Alelekaula, aw Kepa Pahoa, aw	12 lo`i, 2 house lots 2 kula kula	Kaholopapa	8845	 1 ap. 21 Acs 1 ap. 5.25 Acs 1 ap. 4.5 Acs	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kalialinui		moku mau`u, sw. potatoes & Ir. potatoes	Kaulahea	8846	na	
Kalialinui	Pahoa, aw Kamakahi, aw Hulaka, aw Haleuka, aw Kuiaha	kula, winter kula, boggy place Ir. pot. & house kula sw. potatoes	Kikina	9024	1 ap. 4 Acs. 1 ap. 12 Acs. 1 ap. 6.25 Ac. 1 ap. 5.35 Ac	
Kalialinui	Kumukahi Kumuwiliwili Kaluaokamaiki	3 kula 1 kula 1 kula	Makaikuhia	10143	1 ap. 10 Acs	
Kalialinui	Kalialianui	winter kula makai, mala of bananas, mala of sw. potato tubers, mala of Ir. potatoes mauka	Naipuala	10480	na	
Kalialinui	Kalialianui	2 house lots [N.R. 3 claims]	Poepoe	10636	1 ap. 8.71 Acs	TMK 2-3-3
Kalialinui	Kukuikolowai, aw	moku mau`u	Piliwale	10643	1 ap.	TMK 2-3-3, portion 2
Kamaole	Kamaole	3 potato mala	Haawahine	491	na	
Kamaole	See 8558	potato ground	Kapehana	2416	na	
Kamaole	Kamaole aw	2 potato grounds	Kaili	3107	1 ap. 1.75 Acs	
Kamaole	Kamaole	sweet potato mala	Naanaa	3337	na	
Kamaole	Kamaole, aw	potato lot	Niheu	3343	1 ap. (loc. index)	amount not located
Kamaole	Kamaole, aw	potato mala	Kawana	3522	1 ap. .5 Ac.	TMK 2-2-01
Kamaole	Kamaole, aw	potato mala	Kamohai	3527	1 ap. 2 Acs	TMK 2-2-01

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kamaole	Pahalona Kamaole, aw	potato mala	Kapule	3539	1 ap. .5 Ac.	TMK 2-2-01, appears to be 1+ acre
Kamaole	Kamaole	6 potato mala	Kanalua	3547	na	
Kamaole	Kamaole	some mala of Ir. potatoes	Kauhiahiwa	5267	na	
Kamaole	Kolea Kanenui Kaneiki		Nailiili	5404B	na	no. not listed in index
Kamaole	Luanui	house, pig enclosure, 3 mala sw. potatoes	Kupapa	6418	na	
Kamaole	Haola, aw	6 mala Ir. potatoes	Kanakaloa	6419	1 ap. 8.7 Acs.	TMK 2-2-01, Ap. 1,2,4, & [3] not numbered (4 apana = 8.7+
Kamaole	Kamaole, aw. Keahuaiea Kaukeakea Molaolao	Ir. potatoes	Kikau	6420	1 ap. 3.5 Acs	TMK 2-2-01
Kamaole	Kamaole?	mala Ir. potatoes	Keawe	6421	na	
Kamaole	Kapapa, aw Koleanui	4 mala Ir. potatoes, house lot an `ili	Kekahuna	6442	1 ap. 7 Ac.	
Kamaole	aw. [which `ili? or all?] Pama Keahuaiea Kaooa	5 mala Ir. potatoes kula kula kula	Kamoa	6445	1 ap. 13.3 Acs.	
Kamaole	Kiao	moku mau`u	Kanakaole	6446	1 ap. 3 Acs.	TMK 2-2-01

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kamaole	Kamaole (aw?)	5 mala Ir. potatoes, house lot	Kaili	6471	na	TMK 2-2-01, 9 Ac±
Kamaole	Kamaole	moku mau`u moku mau`u of Ir. potatoes	Kalama	6479	na	
Kamaole	which/both apana? Keawekapu Kaiku	house lot house lot	Paupau	6596	1 ap. 23 Acs	
Kamaole	which/all apana? Kolea Puunui Kaiku	 kula 2 mala Ir. potatoes & house lot moku mau`u	Panikaua	6597	1 ap. 5.5 Acs.	
Kamaole	Molaloa Pahalona Kaiku Kaluaihakoko	moku mau`u moku mau`u moku mau`u, 3 mala potatoes, house lot moku mau`u	Nahuina	6619	na	
Kamaole	Papalona	moku mau`u	Ukukua	6654!	na	wrong no., correct number unknown
Kamaole	Kapalakaia, aw Kaiku, aw	moku mau`u moku mau`u	Mahoe	6657	2 ap. 57 Acs	TMK 2-2-01, ap. 1 23 Acs; ap. 2 33.798 Acs

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kamaole	Kamaole, aw [N.R.] Mooiki Pahalona Popohoa [N.T.] Palaha, Mookahi, Kahapapa, Haleokane, Malanui and Pahoa, Kukuiopiikea	2 mala Ir. potatoes houses & house makai moku mau`u moku mau`u	Opunui	6703	1 ap. 9.5 Acs	
Kamaole	Maoaloa / Molaolao, aw	5 mala sw. potatoes, 2 mala bananas, 4 mala Ir. potatoes, 1 house lot	Malailua	6719	1 ap. 10 Acs	TMK 2-2-01
Kamaole	Kolea	kula	Kekahuna	6721C	na, See Award 6642	
Kamaole	Palakai Kahapapa	kula kula	Mahoe	6721D	na	
Kamaole	Mamaki	kula	Papa	6721E	na, See 10662	
Kamaole	Kamaole	2 mala Ir. potatoes	Kahulukaai	7971	na	
Kamaole	Award [which, all?] Kaukeakea Moaeloa Palakai	 Ir. potato Ir. potato Ir. potato	Ili	7971D	1 ap. 49.87 Acs.	
Kamaole	Kukuiopiikea Makaoio Halepili Laie	kula kula kula kula	Ahulau	7971G	na, See 8038	
Kamaole	Kiao / Kiaokio	kula	Kanakaloa	7971H	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kamaole	Kukuiopiikea Makaoio Halepili Laie, aw [?]	kula kula kula 6 mala sw. potatoes, 1 house lot	Ahulau	8038	1 ap. 6.5 Acs.	
Kamaole	Kamaole, aw	1 potato mo`o	Kapahana	8558	1 ap. 2.2 Acs.	TMK 2-2-01
Kamaole	Kamaole	2 potato patches	Kekeleiaiku	8808	na	
Kamaole	Kamaole	mala Ir. potatoes	Konohia	8873	na	See 3108`
Kamaole	Kamaole	4 potato kula, 2 moo kalo	Kanaina	8875	na, See 8875B	
Kamaole	Kamaole, aw	4 sw. potato kula 2 mo`o dry kalo 1 mo`o sugar cane	Kanaina for Luukia	8875B	1 ap. 18 Acs	
Kamaole	Kaukeakea / Kauhakapa aw.	house lot, 2 kula, 1 kula taro	Kalawao	8881	1 ap. 47.5 Acs	
Kamaole	Kaikeakea	kula, kalo, house lot	Kealoha	8881B	1 ap. 3 Acs	
Kamaole	Kamaole, aw	moku mau`u, mala of Ir. potatoes	Kekua	8882	1 ap. 2 Acs	TMK 2-2-01
Kamaole	Kaukeakea Keahuaiea Kaoao	4 moku mau`u 2 moku mau`u 1 moku mau`u in kula are 6 moku mau`u, 3 mala of Ir. potatoes	Ohilani	10578	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kamaole	Kamaole, aw Aikaua Kaooa Kaolulo Kaukeakea	moku mau`u, 6 mala Ir. potatoes, 2 house lots kula kula kula kula	Papa	10662	1 ap. 12.2 Acs	
Kamaole	Hauola Piliwale	2 mala Ir. potatoes, house lot	Pipio	10665	na	
Kamaole	Kamaole, aw Kahiaihakoko	mala Ir. potatoes house lot	Naihe	10890	1 ap. 8.5 Acs	
Kamaole	Kamaole, aw Pahalona Kaukeakea	kula Ir. potatoes & mala of kalo house lot	Holani	10891	1 ap. 16 Acs	
Kamaole	Kamaole	potato mala	Wahinealii	11022	1 ap. 6.8 Acs	TMK 2-2-01
Kamehame	ahupua`a, aw		Keohokalole	8452	1 ap. ahupua`a part 2, por 6	TMK 2-3-53, R.P. 913 TMK 2-3-01 apana 6
Kamehame 2 Kamehame 1	Peeluakolo, aw Kamehameiki or Pulehuiki?	Ho`oilo [winter kula], pa`a, naele [bog], kilau [bracken] ho`oilo, pa`a, Ir. potatoes	Kaulaula	8816	2 ap. 8.35 Acs	TMK 2-3-53 TMK 2-3-01 apana 1 (Kamehameiki)
Kamehame	Kukuiokapio	kula	Kamakea	8862	na	
Kamehame 2	Halelani	not given	Helehua, (aw?)	9019	na	Ap. 3 on map in Kamehameiki TMK 2-5-53
Kamehame	Helani, aw Kamehame or Pulehuiki?	2 jump moo claims	Kuapuu	9027	1 ap.	not located, not listed in location index

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kamehame 1	Kamehame 1	5 claims, a winter cultivation, a bog	Kaala	9670	na	TMK 2-3-53 por 1
Kamehame	Kamehame, or Pulehuiki?	a place	Kekahuna	9671	na	TMK 2-3-53; TMK 2-3-01 apana 2 Kamehameiki
Kamehame	Kamehame, or Pulehuiki?	Ir. potatoes	Lonoaea	9673	na	TMK 2-3-53 ap 3; TMI 2-1-01 ap 2
Kamehame	appears to be wrong number, listed on TMK map, claim appears to be for Island of Hawaii		Kaienalu	9679	na	TMK 2-3-53, por 2 2.14 Acs, wrong claim number?
Kaonoulu	ahupuaa		Hewahewa	3237	1 ap. 5715 Acs	TMK 2-2-06; R.M. 913
Kaonoulu	Kaonoulu	potato mala	Alihi	2651	na	
Kaonoulu	Kupulaia	Ir. potato mala(s)	Nahiona	2764	na	
Kaonoulu			Konohia	3108		
Kaonoulu	Kaonoulu	2 loi	Kaumiumi	5066	na	
Kaonoulu	Kapukahawai, aw Kupalaia, aw Kaonoulu	1 potato patch potato patch & land house lot	Kuihelani	5228	1 ap. 28 Acs 1 ap. 1.8 Acs	
Kaonoulu			Kauhiahiwa	5267		
Kaonoulu	Kaukaulua, aw	[no significant text?]	Kauaua	5267B	1 ap. 4.5 Acs	
Kaonoulu			Kahulukaai	5271		na
Kaonoulu	Kailua	winter kula	Konui	5293	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kaonoulu	Kailua, aw	2 kula, 2 kalo [N.R. 1 mala Ir. potatoes, 1 bank of a stream, 2 mala Ir. potatoes, winter kula]	Koi	5294	1 ap. 3.3 Acs	
Kaonoulu	Kaakaulua Kaonoulu	3 claims, 1 Ir. potatoes winter kula	Kauaua II	5298	na	
Kaonoulu	Puuokahulu, aw Kaakaulua	22 claims, 7 kula	Kailio / Kalio	5299	1 ap. 1.40 Ac	
Kaonoulu	Kailua Kaluaolaie	1 mala Ir. potatoes 1 mala Ir. potatoes winter kula	Kuaio	5301	na	
Kaonoulu	Kaonoulu	3 claims, 1 mala Ir. potatoes	Kapahi	5302	na	
Kaonoulu	Kaakaulua Kaakaulua II Alaekahi Kailua	3 kula, 5 claims 4 claims 2 claims 1 claim	Kauaua	5303	na	
Kaonoulu	Makailio (Koheo?] Kamalaawa Kailua	kula kula 2 kula	Kaneula	5304	na	
Kaonoulu	Kailua Kapakahawai	3 kula 1 kula	Kaauka	5305	na	
Kaonoulu	Konaohaumea Kapakahawai	1 kula 4 kula	Koolau	5306	na	
Kaonoulu	Kupalaia, aw Puuokuhihewa, aw	kula, 2 mala Ir. potatoes kula	Pupuka	5328	1 ap. 2.04 Acs 1 ap. 5.14 Acs	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kaonoulu	Kakalaia	1 mala Ir. potatoes	Pala	5330	na	
Kaonoulu	Kaonoulu	Ir. potato patch	Kapuaa	5335	na	
Kaonoulu	Kailua	winter kula	Poohina	5347	na	
Kaonoulu	Kaakaulua Kaonoulu Kaalae	3 claims, kula 1 claim, kula 1 claim, kula	Puha	5349	na	
Kaonoulu	Kalepolepo, aw Kaonoulu, aw	house lot kula	Lono	5376	1 ap. .022 Acs 1 ap. 2.17 Acs	
Kaonoulu	Kailua, aw	12 loi, 2 kula, 1 mala Ir. potatoes	Kaoiwi	5397	1 ap. 3.7 Acs	
Kaonoulu	Kaonoulu, aw Kalepolepo Kupalaia	 small house lot on kuapa 3 Ir. potatoes	Mahiai	5407	2 ap. 3.491 Acs	
Kaonoulu	Kailua, aw	3 claims, 1 Ir. potatoes (4 kula)	Makakahi	5465	3 ap. 10.25 Ac.	
Kaonoulu	Kupalaia	1 mala Ir. potatoes, 1 winter kula, kula	Makakahiko	5466	na	
Kaonoulu	Kailua	4 claims, 1 Ir. potatoes	Leo	5475	na	
Kaonoulu	Malaawa, aw Kapukahawai, aw	4 claims, 6 claims on bank of stream, 1 mala Ir. potatoes, 1 winter kula	Lapaku	5476	1 ap. 3.46 Acs 1 ap. 1.67 Acs	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kaonoulu	Puukuihewa Kaakaulua	7 claims, 1 mala Ir. potatoes small claim, winter kula makai	Umauma	5480	na	
Kaonoulu	Hoonaulu Hai	Ir. potatoes	Kapuaa	6407	na, See 5335	
Kaonoulu	Kapalaia	Ir. potato ili	Kawelo	7952	na	
Kaonoulu	Kapukahawai, aw Kailua	2 kula kalo	Kalia wahine	7971K	1 ap. 2.10 Acs	
Kaonoulu	Kaonoulu ahupuaa	see 3237	Hewahewa	8109	na, See 3237	
Kaonoulu	Kaonoulu	1 claim	Koolau	8630	na	
Kaonoulu	Kapukahawaii, aw Kupalaia, aw	kalo potato kula	Kamai	9021	1 ap. .5 Ac. 1 ap. 5.54 Acs	TMK 2-2-06, ap 2
Kealahou 3 & 4	ahupua`a		Keohokalole	8452	1 ap. Ahupua`a, Ap. 21; 8452:6	TMK 2-3-01
Kealahou	Kealahou Aipuaa Kealahou 4	3 kihapai 4 kihapai	Kamailio	5437	na	
Kealahou 3 & 4	Kealahou 3 Aipuaa Kealahou 4 Kaulaula	4 sw. potato & 1 Ir. potato 1 kihapai 2 kihapai	Pii	5449	na	
Kealahou	Pawila Aipuaa	2 kula lands, 1 Ir. potato kula	Pii	5488	na	
Kealahou	Aipuaa	kula	Kamailio	7971C	na	
Kealahou 1	Aipuaa	2 kula lands	Aki	8041	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kealahou 1 Kealahou 4	Ahanamuli Keahuaui	2 kula, 1 kihapai kula 1 kihapai	Kawaalau	8462	na	TMK 2-2-14 apana 1 & 2
Kealahou	Kealahou, aw Aipuaa Kaulaula, aw Kaopupololu, aw Hanamuli, aw	kula 2 kula 2 kula kula kula	Kekapai	8653	6 ap. 10.25 Acs 1 ap. 2.6 Ac. 1 ap. .58 Ac. 1 ap. .69 Ac.	2-3-02, apana 2 2.426 Acs
Kealahou	Kaulauala, aw Pawali	? 3 pastures	Kapaole	8654	1 ap. 2.11 Acs	
Kealahou	Hanamuli	kula	Kahoopaki	8655	na	
Kealahou	Poolapehu Kaopupololu	2 kula kula	Kamakea	8862	na	
Kealahou 4	Kealahou 4	winter lot	Helehua	9019	na	
Kealahou	Kealahou	winter claim	Kaala	9670	na	
Kealahou	Kealahou	a place	Kekahuna	9671	na	
Kealahou	Kealahou	1 claim	Poko	9672	na	
Kealahou	Kealahou	1 claim	Lonoaea	9673	na	
Kealahou 2	Hanamulei, aw Kunanaualii, aw Paliku, aw Halepele (aw?)	pasture ili pasture ili pasture ili pasture ili	Makahiki	10144	1 ap. 2.87 Acs 1 ap. .84 Acs. 1 ap. 6.71 Acs Ap. 4 5.777 acs	TMK 2-2-14 apana 4; 2-2-11: apana 3
Kealahou 1, Kealahou 2 Kealahou 3 Kealahou 4	Aipuaa Hanamulei, aw Pawili	5 claims 2 claims 1 claim 1 claim	Manaole	10145	1 ap. 2.2 Acs	TMK 2-3-02 apana 1, 2 3 & 4; TMK 2-2-21 apana 5

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kealahou	Aipuaa Kaulaula Kaopupolou Noni	Ir. potatoes	Naipuala	10480	na	
Kealahou	Hanamulei, aw Hanamulei, aw Hanamulei	kula kula	Naha	10482	1 ap. 4.78 Acs. 1 ap. 2.6 Acs.	TMK 2-3-02, shows Ap. 1 & 2 6.19 Acs, & Ap. 5 unknown acreage
Kealahou	Pauili	pasture	Pahuaina	10883	na	
Kealahou	Hanamulei	3 kula	Ikiiki	11043	na	
Keokea	Pualoa	pasture	Nalopi	No number	na	
Keokea	Hookia	sw. potato kula	Kuamu	2225	na	
Keokea	Paluka [?] Koapuupuna [?]	kalo kula	Hiona/Nahiona	2764	na	
Keokea	Wailuku Molokai Maunakilowaa, aw Piimoo, aw Pualoa Kalepolepo, aw [Puuokeokeo], aw	pasture pasture taro taro 2 pastures house site [not given]	Kapohaku	4120B	 1 ap. 2.9 Acs 1 ap. 11.7 Acs 1 ap. .25 Ac. 1 ap. 3.04 Acs	TMK 2-2-03 ap. 4 TMK 2-2-03 ap. 1 ap. 3 ap. 2? 3.003 acs
Keokea	Alanoho [Kamakoa] aw	1 kula 1 kalo [This he got in exchange with konohiki]	Kauhiahiwa	5267	 1 ap. 3 1/8 Acs	TMK 2-2-03

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Keokea	Puukeokea Paliku Koapuupuu [N.R. no `ili given]	kalo kalo & kula kula 1 moku mau`u & 2 mala Ir. potatoes	Kaai	5269	na	
Keokea	Kupuni	2 kulas of Ir. potatoes	Kahulukaeiopio	5271	na	
Keokea	Kalepolepo, aw Paliku, aw Wailuku, aw (2 ap.) Piimoo Pualoa	house site taro taro pasture	Kapelekai / Palekai	5279	1 ap. .08 Ac. 1 ap. 10.4 Acs 2 ap. 2.75 Acs	TMK 2-2-03 ap. 1, 2 TMK 2-2-04 ap. 4 ap. 1 1± Ac. ap. 2 1.44 Acs TMK 2-2-02 Ap. 5 5± Acs
Keokea	Kaamana, aw	moku mau`u taro	Pupuka	5328	1 ap. 1 Ac.	TMK 2-2-03 ap. 1 2.16 Acs, ap. 3 2.5± Acs.
Keokea			Pala	5330		
Keokea	Wailuku Kaluaohoana	moku mau`u moku mau`u & 2 mala Ir. potatoes	Nalehu	5357	na	
Keokea	[Maunakilowaa] aw [Pilimoo], aw	[no text?]	Kalama	6179B	1 ap. 3.22 Acs 1 ap. 8.11 Acs	TMK 2-2-04 ap. 2
Keokea	Kaluahoana, aw Paliku, aw Maunakilowaa Hauola Koapuupuu	kalo kalo & house lot potato kula & banana & kalo potato kula	Kekua	6415	1 ap. 11.33 Acs 1 ap. 7.56 Acs, Ap. 1	TMK 2-2-04, ap. 2 TMK 2-2-03, ap. 1
Keokea	Alanoho	1 mala taro	Kuaana	6416	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Keokea	Kaamana, aw Wailuku Punokeokeo/ Puukeokeo?	2 taro lands potatoes pasture	Kaeo / Kaio	6417	2 ap. 3.55 Acs	TMK 2-2-03 ap. 1 2.94 Acs.; ap. 2 .41 Ac.
Keokea	Nakiao II	some moku mau`u	Kanakaole	6419	na	
Keokea	Ahulua Pahaloa	some moku mau`u some moku mau`u	Keawe	6421	na	
Keokea	[Kaopuupuu], aw Puuokeokeo, aw Alanoho Kaamana	[ili not given; 1 mala sw. potatoes, taro, bananas, house lot] kalo & kula 1 kalo, 1 kula kalo	Kaehukulani wahine	6425	1 ap. 11.95 Acs, Ap. 2 1 ap. 5.54 Acs	TMK 2-2-04, ap. 2 TMK 2-2-03, Ap. 1
Keokea	Kaamana, aw Wailuku, aw Maunakilowaa Ahulua	kula [N.R. ili not given; 7 mala sw. potatoes, 8 mala taro, 1 mala bananas, house lot 3 mala Ir. potatoes kula kula	Kaiwialii	6429	1 ap. 7.28 Acs 1 ap. .82 Ac 1 ap. 1.1 Acs	TMK 2-2-03, ap. 3 9.671 Acs., ap. 2 1.1 Ac TMK 2-2-03, Ap. 2
Keokea	Keokea & Waiohuli	sw. potatoes, taro & house lot	Kaaha	6431	na	
Keokea	Kaamana	1 mala taro, 4 mala Ir. potatoes	Kekua II	6434	na	
Keokea	Keokea	1 mala taro	Kuekaa	6436	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Keokea	Keokea	1 mala Ir. potatoes and 2 small houses	Kamoa	6445	na	
Keokea	Kaamana Keapuupuu (2 apana) Maunakilowaa Kamakoa	kula kula, taro taro taro	Kini	6447	na	
Keokea	Pualoa Palea Paliku Maunakilowaa Puukeokeo Alenoho	moku mau`u [ili not given 7 mala Ir. potatoes, 3 house lots, fishing rights]	Kapohaku	6453	na, See 4120B	
Keokea	Elimakole Unauna Kuhau Maunakilowaa Piimoo Alenoho	moku mau`u house lot moku mau`u kalo kalo kula, sw. potatoes	Kalama	6479	Awarded but location index lists only ahupuaa, not ili nor apana #s	TMK 2-2-03, Ap. 1 3.17 Acs
Keokea	Keokea	6 sw. potatoes, 4 mala taro, 1 mala bananas, 2 mala Ir. potatoes, 1 house lot	Kukae	6492	na	
Keokea	Keokea	2 mala sw. potatoes, 2 mala taro, 2 mala Ir. potatoes	Kaahu	6493	na	
Keokea			Kaaikau	6494		na

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Keokea	Maunakilowaa, aw Koapupuu	2 kula, 1 kalo [N.R. no location] 4 mala sw. potatoes, 5 mala taro, 5 mala Ir. potatoes, 2 mala sugar cane] kula, house lot	Apiki	6503	2 ap. 3.17 Acs	TMK 2-2-03, Ap. 2 .9 Ac. Ap. 1 2.48 Acs
Keokea	Wailuku, aw Koapuupuu, aw Kaluahona, aw Kaamana	house lot & taro sw. potato & Ir. potato Ir. potatoes [N.R. no ili given 3 mala sw. potatoes, 3 mala taro, 3 mala Ir. potatoes, 1 house lot]	Halekahi	6540	1 ap. 1.7 Acs., ap. 3 1 ap. 4.85 Acs 1 ap. 3.37 Acs	TMK 2-2-03, ap. 2 & 3 TMK 2-2-04, ap. 1 Ap. 2 2.75 Acs. Roman Catholic church
Keokea	Keokea	1 mala taro	Pelapela	6593	na	
Keokea	Keokea	moku mau`u	Paupau	6596	na	
Keokea	Keokea	4 mala sw. potatoes, 2 mala taro, 1 mala bananas, 1 house lot	Palea	6607	na	
Keokea	Maili Mololoa Pahalona Kaiku	moku mau`u moku mau`u moku mau`u moku mau`u, 3 mala potatoes	Nahuina	6619	na	
Keokea	Keokea	1 mala taro	Nakanaka	6622	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Keokea	Kanupa & Maili Papalona	3 mala Ir. potatoes, house on kula & house a shore moku mau`u	Ukukua	6654!	na	Wrong number
Keokea	Kaamana, aw Wailuku Paliku Puaweoweo	kalo potato kula potato kula potato kula	Uilani	6655	1 ap. 4.13 Acs	TMK 2-2-03
Keokea			Uli	6656		
Keokea			Ohule	6704		
Keokea			Ohai	6705		
Keokea	Kamakoa Maunakilowaa	[N.R. no ili given 3 mahina sw. potatoes, 3 mala taro, 1 mala Ir. potatoes, 1 house lot]	Maikakai	6720	na	
Keokea	Pualoa, aw Kaluahoano Wailuku, aw	pasture pasture kalo	Nahelu	6720B	2 ap. 16.58 Acs 1 ap. 3.6 Acs.	TMK 2-2-02; Ap. 4 5± TMK 2-2-03, ap. 1 4± Acs
Keokea	Ahuloa Maunakilowaa Alenoho Wailuku	kula kula 3 kula (1 Ir. potatoes), 3 kalo kula	Maiola	6721	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Keokea	Kuaokaaloa Kikaniho Piimoo, aw Koapuupuu	pasture pasture 2 ap. Ir. potatoes, 1 kalo house lot	Makahakulai	6724	 1 ap. 11.4 Acs	TMK 2-2-04
Keokea	Puukawakea	4 mala sw. potatoes, 5 mala taro, 1 mala Ir. potatoes, 1 house lot	Umauma	6762	na	
Keokea	Maunakilowaa Pukoo	moku mau`u kalo	Kahulukaai	7971	na	
Keokea	Keokea	3 small sw. potato mala, 1 mala taro	Keohokalole, A.	8452	na	
Keokea	Maili	2 kula, 2 kalo, house lot (3 apana)	Kealoha	8881B	na	
Keokea	Keokea, aw	sw. potato kihapai	Pa	10639	1 ap. 1.9 Ac.	TMK 2-2-04
Keokea	Keokea	Ir. potatoes	George Shaw	11032	na	
Koheo	ahupuaa		Keohokalole	8452	1 ap. Ahupua`a (Ap. 19)	TMK 2-2-06
Koheo	Kamakailio	Ir. potatoes	Hewahewa	4507	na	
Koheo	Paholui	kalo	Kuakahela / Kahinu	5291	na	
Koheo	Kaula / Koula Kamako Pahole	2 taro sections, 1 Ir. potatoes [N.R. 8 claims, winter kula]	Kahinu / Kekini	5292	3 ap. 8.05 Acs 1 ap. 6.59 Acs	TMK 2-2-06, 6.92 Acs

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Koheo	Kamakailio	4 kula lands	Kalio	5299	na	
Koheo	Kamakailio	1 pasture section	Kuaio	5301	na	
Koheo	Kamakailio	ili kula	Kaneula	5304	na	
Koheo	Kamakailio	ili kula	Kaaukai	5305	na	
Koheo	Kamakailio	2 kula lands, 2 Ir. potato lands (4 apana)	Kaoiwi	5397	na	
Koheo	Kaluaolaie	1 mala Ir. potatoes	Makahaki	5465	na	
Koheo	Makailio	2 mala Ir. potatoes kula hooilo [Koheo or Kaonoulu?]	Leo	5475	na	
Kukuiaea	ahupua`a		Keohokalole	8452	1 ap. Kamehamenui & Kealahou 3,4 5067 Acres	TMK 2-3-07, 150± Acs; Apana 7
Makaeha	Kukui	kula	Kekahuna	9022	na	
Omaopio	Omaopio	Ir. potatoes, sw. potatoes	Kaauwai, Z.	2383	na	
Omaopio			Kauila	5502		
Omaopio	Kaohai, aw Kapalaninikila, aw	See Omaopio 8 & 9	Piliwale	10643	1 ap. 67.5 Acs. Ap. 1 1 ap. 1.64 Acs Ap. 2	TMK 2-3-03 apana 1 & 2; R.M. 913
Omaopio			Kaili	9015		
Omaopio 1			Moha	10300		
Omaopio 1,2,3,4	ahupua`a	sugar cane	Ali	281B	1 ap. 1052.72 Acs. Ahupuaa	TMK 2-3-03; R.M. 913

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Omaopio 2 & 6			Napapa	10467		
Omaopio 1 & 3			Kumoa	8864		
Omaopio 4, 6 & 7			Moeona	10166		
Omaopio 5	ahupua`a		Keohokalole, A	8452	na	
Omaopio 5	Omaopio 5, aw Kuapohaku, aw	kula	Kaili	3759B	1 ap. 21.5 Acs 1 ap. 20 ac.	TMK 2-3-03 13.883 Acs 10.228 Acs; R.M. 913
Omaopio 5	Pauula 1 Kapaa Kuhelehele 2	winter claim claim 4 mala Ir. potatoes	Kaeha	9023	na	TMK 3-3-03
Omaopio 5?	Omaopio		Kekee / Kekii	9028	na	
Omaopio?	Halemano Opuhaka Lamaliinui	3 loi 7 loi 10 loi	Kamaka	4456	na	Grant 1908 173 Acs
Omaopio 6	Kaawiha, aw	2 kula	Wahine	4567	1 ap. 7.75 Acs.	TMK 2-3-3; Ap. 1
Omaopio 7	Omaopio 7	Ir. potatoes	Kuaihulu	8550	na	
Omaopio 7	Omaopio 7	Ir. potatoes mauka	Kealakane	8649	na	
Omaopio 7	Kamapouli, aw Kuapohaku, aw	kula kula	Keku / Kekee	9028	1 ap. 12.96 Acs	TMK 2-3-03; R.M. 913
Omaopio 8	Halelau Kahoalii, aw	kula	Kaiwi	8602	1 ap. .9 Ac.	
Omaopio 8	Omaopio 8, aw	Ir. potatoes, winter kula	Poepoe	10636	1 ap. 8.71 Acs	TMK 2-3-03 & 2-3-04

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Omaopio 8	Nahaleokaawahia	kula	Kealakane	8649	na	
Omaopio 8	Kihimoa Nahaleokaawahia	kula 2 kula	Piliwale	10643	na	
Omaopio 9	Halelu, aw Kahoalii, aw Nahaleokaohia, aw Naipilopili, aw	kula kula kula kula [N.R. some moo and a house lot, wauke stream]	Kealakane	8649	1 ap. 3.5 Acs 1 ap. 1.05 Acs 1 ap. 7 Acs, Ap. 4 1 ap. 1.5 Acs Ap. 3	TMK 2-3-04, apana 3 & 4
Omaopio 9	Nahaleokaawahia	2 mala potatoes	Kuaihulu	8550	na	
Omaopio 9	Kahooalii, aw Hauhipuili Nahalekaawahia	kula kula	Kaiwi	8602	1 ap. .9 Ac.	
Omaopio 9	Waipilapila/Naipilopilo Kahoalii, aw Halilu / Halelau, aw Nahaleokaohia, aw	kula some mo`o & house lot, wauke, 3 kula [not given]	Kealakane	8649	1 ap. 1.5 Acs 1 ap. 1.05 Ac 1 ap. 3.5 Acs. 1 ap. 7 Acs	
Omaopio 9	Elialii/ Kailiili Halelau Oleole Keahaihale Kaluanui Kawainekaawe / Kawahinekaawe Puukoa Kaimuilio	winter kula Permanent plot	Kaulahea	8846	na	
Omaopio 9			Kamai	9020		

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Omaopio 9	Puukoa Kapahuahi Kikiahulua	kula kula kula	Piliwale	10643	na	
Omaopio 10	Pipio, aw Puakulanui, aw.	kula kula	Kaiwi	8602	1 ap. 3.93 Acs. 1 ap. .9 Ac.	
Omaopio 10	Halilau	kula	Kealakane	8649	na	
Omaopio 10	Halelau/ Halelu, aw	kalo land	Kahele	8652	1 ap. 6 Ac.	R.M. 913
Pulehu	Halekane Keaku Kukuineenee Kaluanui	kula 2 kula 2 kula 2 kula	Kaili	3759B	na	relinquished for 20 acres in Omaopio
Pulehu	Aiolua, aw Kawiha, aw Keaku, aw Keeakai, aw Kukuineenee, aw	pasture ili pasture ili pasture ili pasture ili pasture ili [N.R. 3 sw. potatoes, 1 Ir. potatoes, other plots]	Poonui	4672	1 ap. .66 Ac. Ap. 2 1 ap. 1.47 Acs. Ap. 5 1 ap. 2.38 Acs. Ap. 3 1 ap. .98 Ac. Ap. 4 2 ap. 1.88 Acs. Ap. 1,6	
Pulehu			Kamakea	8862		
Pulehu	Haleokane, 2 aw Kawiha, aw Kukuinaenae, aw	pasture pasture pasture	Kaniho	8866	2 ap. 3.9 Acs Ap. 2,4 1 ap. 8.9 Acs. Ap. 3 1 ap. 4 Acs. Ap. 1	
Pulehu			Kaili	9015		
Pulehuiki	not claimed	aw?	Paele	3829	[1 ap]	TMK 2-3-40

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Pulehuiki	Haleokane, aw Keaka, aw Keaku, 2 aw Kukuineenee, aw Kaawiha	pasture ili 5 kula [N.R.] 10 places in sw. potatoes not all together; 3 plantings of Ir. potatoes] kula 2 kula	Wahine	4567	1 ap. 4 Acs Ap. 2 1 ap. 5.58 Acs. Ap. 4 1 ap. 1 Ac. Ap. 3 1 ap. 6.15 Acs Ap. 1 1 ap. 3.8 Acs, Ap. 5	TMK 3-3-03 TMK 2-3-13 shows apana 4 in Pulehunui
Pulehuiki	Keaku, 2 aw [Location index; not awarded according to numerical index]	at Kula some scattered potato mala	Paele	6613	2 ap. 1.97 Acs. Ap 1-2	
Pulehuiki	Kanau, claimed in Pulehunui	a claim	Kalalaula	8816	na	TMK 2-3-46: apana 1; TMI 2-3-40 apana 2
Pulehuiki	Kalihi	3 kula lands	Helehua	9019	3 ap. 9.08 Acs. 1-3	TMK 2-3-59 apana 1 2± Acs TMK 2-3-40 apana 2; TMK 2-3-60 apana 3
Pulehuiki	Kalihi, aw Helani, aw	[N.R.] pigs & Ir. potatoes (which claim?)	Kuapuu	9027	1 ap. 6.65 Acs. ap. 1 1 ap. 2.48 Acs. ap. 2	TMK 2-3-01 apana 2 TMK 2-3-01 apana 1
Pulehuiki	Kalihi, aw Kamamania, aw	kula kula [N.R. winter kula, a bog, 3 places]	Kaala	9670	1 ap. 3.92 Acs Ap. 1 1 ap. 2.27 Acs Ap. 2	TMK 2-3-53 apana 1; TMK 2-3-40 apana 2
Pulehuiki			Kekahuna	9671	See Kamehameiki	Award is given in Kamehameiki & Pulehu

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Pulehuiki	Kalihi, 2 aw	kula [N.R. 3 winter claims for Ir. potatoes	Napoho	9672	2 ap. 12.56 Acs. Ap. 1-2	TMK 2-3-40 apana 1 TMK 2-3-62 apana 2
Pulehuiki	Kalihi, aw	5 permanent winter claims	Lonoaea	9673	2 ap. 4.06 Acs. Ap. 1-2	TMK 2-3-40 apana 1 TMK 2-3-46 apana 2 TMK 2-2-01 no number
Pulehuiki	Kalihi, aw Kipalana, aw Pauili, aw	kula kula kula	Kuapuunui / Kapauila	10708	1 ap. 6.14 Acs. Ap.1 1 ap. 1.3 Acs. Ap. 3 1 ap. 6.24 Acs Ap. 2	TMK 2-3-01 apana 1 TMK 2-3-02, apana 3 TMK 2-3-01 apana 2
Pulehunui	ahupua`a		Keaweamahi	5230	1 ap. 16,678.78 Acs.	TMK 2-3-05
Pulehunui			Kauhaule	4956		
Pulehunui			Hoeu	8073		
Pulehunui	Pulehunui	3 claims	Koolau	8630	na	
Pulehunui	Keaku	many plantings of sw. potatoes, 3 springs, 3 kihapai of Ir. potatoes	Anakalea	5513	na	
Pulehunui			Kapono, D.	9018		
Pulehunui	Kapalaoa	kula, 5 sw. potatoes	Kuuapuunui	10708	na	
Waiakoa	Waiakoa	2 claims & cultivated plot	Aki	8041	na	
Waiakoa	Waiakoa, aw Maalae, aw	Ir. potatoes 10 ac. [not in claim]	Kaauwai, Z.	2383	2 ap. 19 Acs, Ap.1-2 1 ap. 6.8 Acs	TMK 2-2-10, ap. 1 7.5 or 20.7 Acs TMK 2-2-12

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiakoa	Moonui, aw Kalihi	kula kula	Maia	4750	1 ap. 9.8 Acs.	TMK 2-2-13, R.M. 913 Grant 1210 2 ap. 9.13 Acs
Waiakoa	Moomoolea	kula kula kula	Kawelo	7952	na	
Waiakoa	claim relinquished, wished to enlarge lands		Maia	7971B	na, See 4750	
Waiakoa	Moonui, 2 aw Kalihi, aw	2 kula kula	Nauliuli	7971F	2 ap. 12.2 Acs 1 ap. 3.4 Acs	TMK 2-2-13, Ap. 1 TMK 2-2-10 Ap. 2 7.369 Acs, other 2.835 Acs.
Waiakoa	Kalihi, 3 aw Moonui, aw	7 kihapai sw. potatoes, 2 mala Ir. potatoes {N.T. 5 ili pastures}	Kawaalau	8462	3 ap. 11.25 Acs 1 ap. 1.25 Acs	TMK 2-2-13, Ap. 1 2.613 Acs; 2-2-14 Ap. 2 5.5± Acs
Waiakoa	Kalihi, aw Pakaka Moonui, 3 aw Moomuku	kula 2 kula 2 kula kula	Kailianu	8462B	1 ap. 3.45 Acs. (Ap. 1) 3 ap. 16.31 Acs	TMK 2-2-14 apana 1 & 8462B no apana #; TMK 2-2-12 apana 2; Apana 2-2-10 apana 3, 5, 7
Waiakoa	Kalihi	mala Ir. potatoes mauka	Kekapai	8653	1 ap. .93 Ac.	TMK 2-2-11 apana 3 & 6
Waiakoa	Moanui, aw Kalihi, aw Pakaka	 5 kula 6 kula	Kapaole	8654	1 ap. 3.9 Acs 1 ap. 7.58 Acs & 3 ap. 14.7 Acs	TMK 2-2-13 apana 1; TMK 2-2-11 apana 2 pt 2 & 6 TMK 2-3-14 apana 3
Waiakoa	Kalihi, 2 aw Moonui	5 claims for kula 2 kula	Kahoopaki / Kahoopai	8655	2 ap. 16.99 Acs; Ap. 1-2	TMK 2-2-14 apana 1 & 2

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiakoa	Kalihi, aw Pakaka/Paliku, aw	kula kula	Makahiki	10144	1 ap. 1 Ac. 1 ap. 1.7 Ac	TMK 2-2-10 apana 1 & 2; TMK 2-2-11 apana 3; TMK 2-2-13 apana 4
Waiakoa	Kalihi, aw Kealahou, 3 aw	kula	Manaole	10145	1 ap. 6.5 Acs. 3 ap. 7.01 Acs,Ap. 1-3	TMK 2-2-13 apana 1; TMK 2-2-11 apana 2 pt 2
Waiakoa	Kalihi	Ir. potatoes	Naipuala	10480	na	
Waiakoa	Kalihi, aw Kalilio, aw Pakaka, aw	kalo, 5 kula, 2 Ir. potatoes, house lot	Naha	10482	4 ap. 18.54 Acs 1 ap. 3.21 Acs 1 ap. 1.4 Acs	TMK 2-2-14 apana 1 pt 2 & apana 3 pt 1; TMK 2-2-10 apana 2, 3 pt 2, 4 pt 2 & 6 pt 2
Waiakoa	Kalihi, aw Pakaka Moonui	3 kula kula kula	Pahuaina	10883	1 ap. 4.5 Ac.	TMK 2-2-13
Waiakoa	Kalihi Moonui	kula kula	Ikiiki	11043	na	
Waiohuli	Waieli, aw Pueo, aw	2 potato kula house lot & potato kula	Konohia	3108	1 ap. 2.7 Acs 1 ap. 4.3 Acs	TMK 2-2-05 apana 1; TMK 2-2-16 apana 2
Waiohuli			Kauhiahiwa	5267		
Waiohuli			Palekai	5279		
Waiohuli			Kuakahela	5291		na
Waiohuli			Pala	5330		

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli	Kahelepo, aw Papaanaiwi, aw Pueo, aw Pueokoohalei Kukuihanau Laie	2 moku mau`u 2 moku mau`u 2 kula lands kula kula house lot & 1 moku N.R. 4 mala Ir. potatoes	Paele	5332	1 ap. 3.8 Acs 1 ap. 1.9 Acs 1 ap. 8.2 Acs	TMK 2-2-02 apana 1; TMK 2-2-16 apana 2; TMK 2-2-05 apana 3 & 4 and another with no number
Waiohuli			Nalehu	5357		na
Waiohuli			Liaukai	5374		na
Waiohuli			Lono	5376		na
Waiohuli			Mahiai	5407		na
Waiohuli	Waieli, aw	potato ground	Eeka	6041	1 ap. 12.8 Acs	TMK 2-2-05
Waiohuli	Luakini & Puuala /Puuaha/Punalau Kahinaoaina Paapaanaiwi Kohelua	7 mala sw. potatoes, 1 mala bananas, 2 mala Ir. potatoes, 1 house lot	Keawe	6414	2 ap. 11.28 Acs	TMK 2-2-05 apana 1 & 2
Waiohuli			Kuaana	6416		na
Waiohuli			Kekau	6427		na
Waiohuli	Ahulua, aw	kula land	Kaiwialii	6429	1 ap. 1.10 Acs	names Keokea ahupuaa but 3 ili names correspond to Waiohuli; Ahulua is one of them

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli			Kaana	6431		na
Waiohuli			Kekua II	6434		na
Waiohuli			Kuekaa	6436		na
Waiohuli	Waiohuli	6 mala sw. potatoes, 2 mala taro, 2 mala bananas, 6 mala Ir. potatoes, 1 house lot	Kalei	6444	na	
Waiohuli	Pohakuolauouli	foreign potato	Kini / Kiai	6447	na	
Waiohuli	Waiohuli	six mahina sw. potatoes, 1 mala sugar cane, 1 mala taro, 1 mala bananas, 3 mala Ir. potatoes, 1 house lot	Kauanoe	6451	na	
Waiohuli	Waiohuli	3 moku mau`u of sw. potatoes, 1 mala Ir. potatoes, 1 house site	Kaluli	6452	na	
Waiohuli	Waiohuli	3 mala sw. potatoes, 2 mala taro, 1 mala Ir. potatoes, 1 house lot	Kekaka	6470	na	
Waiohuli	Waiohuli	moku mau`u small potatoes	Kalama	6479	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli	Mahana	5 mala sw. potatoes, 1 mala bananas, 1 house lot, 1 mala Ir. potatoes	Kawaa	6490	na	
Waiohuli	Paapaanaui (4 ap.) Kaulu	2 mala bananas, 3 mala Ir. potatoes, 1 house lot 9 mala potatoes	Kekua	6491	na	
Waiohuli	Ohia Pueo Mailepo Laie	kalo & kula kula 2 kula 2 kula of haole potato	Kaaikau	6494	na	
Waiohuli	Waiohuli	1 mala Ir. potatoes	Helekahi	6540	na	
Waiohuli	Hiipali, aw Kahelepo, aw Kukuihanau, aw Paaiki, aw Waieli, aw Kapahu	2 kula, house lot kula kula kula kula [N.R. 12 mahina sw. potatoes, 1 mala bananas, 2 mala Ir. potatoes & house lot]	Koopiopio	6543	1 ap. 1.9 Acs 1 ap. 3.7 Acs 1 ap. 2.16 Acs 1 ap. 3 Acs 1 ap. 1.3 Acs	TMK 2-2-05 apana 1 & 3; TMK 2-2-16 apana 2; TMK 2-2-05 apana; TMK 2-2-16 another one 3.04 Acs
Waiohuli	Waiohuli	3 moku mau`u sw. potatoes, 2 moku mau`u taro, 1 moku Ir. potatoes	Hainaka	6550	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli	Kukuihanau, aw Pahakiloa, aw Pueo, aw Pahilikoa Luakini Puuala & Luakini	kula land kula kula & kalo kula kalo & kula foreign potato kula foreign potato N.R. 6 mala sw. potatoes, 1 mala bananas, 4 mala Ir. potatoes & 1 house lot	Puana	6592	3 ap. 2.41 Acs 1 ap. 1.5 Acs 1 ap. 1.06 Acs	TMK 2-2-02 apana 1, 3, 4, & 5
Waiohuli	Waiohuli	1 mala taro, 2 mala Ir. potatoes	Pelapela	6593	na	
Waiohuli	Mokanui Luakini & Puuala Koholua Laie Paapaanaiwi	kula house lot & kula kula kula foreign potato kula N.R. 5 mala sw. potatoes, 1 mala taro, 2 mala bananas, 4 mala Ir. potatoes, 1 house lot	Pae / Poe	6598	na	
Waiohuli	Koholua Kahilinanaenae Laie Ohia Pohakuolaauli	house lot, potatoes taro 2 foreign potato kula sw. potatoes 2 kula sw. potatoes	Puhau	6599	na	

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli	Kuululu Pohakuolaauli Puaweoweo	2 kula & kalo kalo & kula kalo & kula N.R. 6 mala sw. potatoes, 2 mala taro, 2 mala bananas, 1 mala sugar cane, 6 mala sw. potatoes & 1 house lot	Nakanaka	6622	na	
Waiohuli	Puaweoweo	kula land	Uilani	6655	na	
Waiohuli	Laie, aw Waieli, aw Waikalua, aw Paapaanaiwi	kula foreign potatoes 2 kula kula foreign potatoes N.R. 3 mala sw. potatoes, 1 mala bananas, 3 mala Ir. potatoes & 1 house lot	Uli	6656	1 ap. 3.18 Acs. 1 ap. 3.2 Acs 1 ap. 3.06 Acs	TMK 2-2-17 apana 1; TMK 2-2-05 apana 2 & 3
Waiohuli			Ohule	6704		na
Waiohuli	Luakini, 2 aw Pahelekoa Paaiki Laie Pulehu	house lot & haole potatoes kalo kalo kula kula N.R. 2 mala sw. potatoes, 3 mala taro & 1 house lot	Ohai	6705	1 ap. 2.63 Acs 1 ap. 2.93 Acs	TMK 2-2-16 apana 2 & 3; TMK 2-2-05 3 Acs

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli	Paapaanaiwi (award?) Kauweheiwa Ohia Nakooku Puuaniani	kula sw. potato kula sw. potato kula small potato kalo house lot N.R. 4 mahina sw. potatoes, 1 mala Ir. potatoes, 1 house lot	Oio	6706	na	TMK 2-2-05 apana 1 3± Acs
Waiohuli	Waiohuli	9 mala sw. potatoes, 1 mala taro, 1 mala bananas, 1 mala Ir. potatoes, 1 house lot	Ohule	6707	na	
Waiohuli	Kahuihanau Kahilinananaenae	kula kula	Nahelu	6720B	na	
Waiohuli	Waiohuli	6 mala sw. potatoes, 1 mala bananas, 1 mala Ir. potatoes, 1 house lot	Makuaikai	6726	na	
Waiohuli	Kahihinaenae, aw Pueo, aw Laie	house lot kula kula N.R. 7 mala sw. potatoes, 2 mala Ir. potatoes	Luheluhe	6738	1 ap. 1 Ac. 1 ap. 2.25 Acs	TMK 2-2-02 apana 2

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Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Waiohuli	Kaulii/Kaulu Punopaio/Puukaio Lapoalapaiki Ohia Kuuhelu Ahulua	kalo potato kula potato kula small potatoes small potatoes small potatoes N.R. 1 mala sw. potatoes 1 mala Ir. potatoes	Umauma	6762	na	
Waiohuli	Ohia, aw Pulehupapaa Waieli Pukoohale Laie	2 kula kalo kula kula house lot	Kahulukaai	7971	2 ap. 15.2 Acs	TMK 2-2-05 apana 1 & 2
Waiohuli	Kaluu Puuweoweo Paapaanaiwi	kula kalo kula	Kakae	7971E	na	
Waiohuli	Laie & Kawilaaha, aw	2 potato grounds	Kekeleiaiku	8808	1 ap. 20 Acs	TMK 2-2-05
Waiohuli	Waiohuli	2 mala potatoes, fallow section & house lot	Konohia	8873	na	
Waiohuli	Waiohuli	2 potato grounds	Kanaina	8875	na	
Waiohuli	Pukoohale	kula of potatoes	Kamai	9021	na	
Waiohuli	Waiohuli	sw. potatoes, Ir. potatoes	Kaaipohuehue	9026	na	
Waiohuli	Waiohuli	Ir. potatoes	Kaai	9030	na	
Waiohuli	Waiohuli	houselot	Namauu	10474	na	
Waiohuli	Pueo, aw	mala of potatoes	Wahinealii	11022	1 ap. 4.5 Acs	TMK 2-2-05 8.3 Acs

ARCHAEOLOGICAL INVENTORY SURVEY OF THE PROPOSED KĪHEI TO KULA ROAD CORRIDOR, KAILUA TO KA`ONO`ULU *AHUPUA`A* (TMK 2-05-001: por. 001, 002, 003, 009 2-05-002: por. 001, 002, 005, 015, 016 and 3-09-001: por. 016), MAKAWAO AND WAILUKU DISTRICTS, ISLAND OF MAUI

by

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prepared for
Parsons, Brinkerhoff, Quade, and Douglas, Inc.

Cultural Surveys Hawai`i, Inc.
December 2000

ABSTRACT

An archaeological inventory survey with limited subsurface testing was conducted by Cultural Surveys Hawai`i (CSH), Inc. for the proposed Kīhei-Upcountry Maui Highway on the island of Maui, TMK 2-05-001: por. 001, 002, 003, 009, 2-05-002: por. 001, 002, 005, 015, 016 and 3-09-001: por. 016 . The road corridor extends 9.8 miles (15.8 kilometers) from the Haleakalā Highway/Hailimaile Road Intersection, at approximately 850-foot elevation, to the intersection of Ka`ono`ulu Street and Pi`ilani Highway at approximately the 40-foot elevation. The study corridor is 300 ft (91.5 m) wide and encompasses approximately 360 acres. The proposed highway, which is on the western slopes of Haleakalā, extends from Kailua *Ahupua`a* in the northeast through Keāhua, Kalialinui, Ōma`opio, Pūlehu nui, Waiakoa A*hupua`a*, to Ka`ono`ulu *Ahupua`a* to the southeast. The study corridor was identified as the preferred alternative by the State of Hawai`i Department of Transportation among eight alternative alignments considered in the projects Draft Environmental Impact Statement. CSH conducted reconnaissance surveys of the eight alternative alignments.

The survey and testing were conducted between August 28, 2000 and October 3, 2000 by a crew that ranged from two to four archaeologists. A total of eleven days were spent in the field for a total of 36 person days. Crew members included Ka`ohulani McGuire, B.A., Mary Perzinski, B.A., Lokelani Aipa, B.A., Thomas Devereux, B.A., Tony Bush, B.Ed., and Ian Masterson with Brian Colin, B.A., acting as field director and Dr. Hal Hammatt as the principal investigator.

A total of 126 structural and nonstructural features were identified. The archaeological features were organized into seventeen distinct sites that were evaluated as significant in accordance with the criteria of the National and Hawai`i Register of Historic Places. These sites are associated with a variety of functions, including traditional Hawaiian temporary habitation (3742, 3743, 3745, 5032, 5033, 5034, and 5035), agriculture (3727 and 3728) symbolic art (petroglyphs)(5029 and 5031), historic agriculture (4765), animal husbandry (5030) and historic military training activities (4773, 4776 and 4778). Six of the sites, 3727, 3728, 3729, 3742, 3743, and 3745 were initially recorded by Xamanek Researches (Fredericksen *et al.* 1994c). Three of the sites, 3742, 3743, and 3745 were surface scatters in which the majority of cultural material was collected (*Ibid.*). Limited subsurface testing was conducted at six sites (4773, 4776, 5032, 5033, 5034 and 5035) to determine the presence or absence of subsurface deposits.

The results of the inventory survey reflect the broad range of land use varying from traditional Hawaiian temporary habitation and petroglyphs, to historic military, ranching and agricultural activities. Temporary habitation sites were encountered between 45 to 460 ft. a.m.s.l. along the lower portion (see project area description) of the corridor above Kīhei. A large historic military site was encountered in a cluster between 500 and 740 ft. a.m.s.l. also above Kīhei. Petroglyphs were encountered in both Waiakoa and Kalialinui Gulches. Remnants of historic sugar cane cultivation were observed and recorded in the section of the corridor between Pūlehu and Ōma`opio Roads. Sections of cattle walls were encountered along the north side of Waiakoa Gulch.

Of the seventeen sites recorded, both petroglyph sites (5029 and 5031) are recommended for preservation, data recovery is recommended for three temporary

habitation sites (5032, 5033, and 5035) and no further work is recommended for the military sites (4773, 4776 and 4778), the agricultural sites (3727, 3728, and 4765), the stone cairn marker (3729), the four temporary habitation surface scatters (3742, 3743, 3745 and 5034) and the cattle wall site (5030).

The two petroglyph sites (5029 and 5031), which are both recommended for preservation, are both located outside of corridor. Site 5029 is located on the north side of Kalialinui Gulch approximately 200 ft to the east of the study corridor centerline. Site 5031 is located on the south side of Waiakoa Gulch approximately 200 ft to the west of the study corridor centerline. Site 5031 was originally located near the center of the study corridor (50 ft west of centerline) but the alignment was modified (moved 150 ft to the east at Waiakoa Gulch) to avoid any impact to the site.

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I. INTRODUCTION

At the request of Parsons, Brinkerhoff, Quade and Douglas Inc., Cultural Surveys Hawai`i, Inc. conducted an archaeological inventory survey with limited subsurface testing for the proposed Kīhei-Upcountry Maui Highway on the island of Maui, TMK 2-05-001: por. 001, 002, 003, 009, 2-05-002: por. 001, 002, 005, 015, 016 and 3-09-001: por. 016.

Project Area Description

The proposed highway (Figure 1) extends 9.8 miles (15.8 kilometers) from the Haleakalā Highway/Hailimaile Road Intersection, at approximately 850-foot elevation, to the intersection of Ka`ono`ulu Street and Pi`ilani Highway at approximately the 40-foot elevation. The study corridor is 300 ft (91.5 m) wide, 150 ft on either side of a staked centerline corridor chosen based on previous research (Folk *et al.* 1997) and encompasses approximately 360 acres. The proposed highway, which is on the western slopes of Haleakalā, extends from Kailua *Ahupua`a* in the northeast through Keāhua, Kalialinui, Ōma`opio, Pūlehu nui, Waiakoa A*hupua`a*, to Ka`ono`ulu *Ahupua`a* to the southeast. The route is divided into three segments, Segments A, D and E. The segment designations are carried over from the reconnaissance survey of the area in which six different segments were analyzed.

1. Segment A is approximately 20,800 ft long. It begins at Haleakalā Highway at the intersection Hāli`imaile Road, at 850 ft. amsl and then proceeds south through cultivated fields of sugarcane, crosses Kalialinui gulch, to Ōma`opio Road. Segment A then continues south from Ōma`opio Road across old cane lands that have been converted to pasture. It then crosses Pūlehu gulch to end at Pūlehu Road at approximately 1000 feet above sea level. Segment A crosses TMK 2-5-01:02, and :09 in addition to TMK 2-5-02:01, 02, 04, and 05. Segment A is owned by Alexander and Baldwin, Inc.

2. Segment D is approximately 10,000 ft long. It begins at Pūlehu Road and extends southwest across active pineapple fields and pastureland to its end at Waiakoa Gulch at approximately 810 ft amsl. Segment D crosses TMK 2-5-01:03 which is owned by Haleakala Ranch Company and leased by Maui Land & Pinapple Company, Inc.

3. Segment E is approximately 20,600 ft long and extends in a westerly direction to the end of the corridor at the intersection of Pi`ilani Highway at Ka`ono`ulu Street at the approximate elevation of 40 ft amsl. The segment traverses gently sloping pastureland. Segment E crosses TMK 2-2-02:016 owned by Haleakala Ranch and TMK 2-2-02:15 and 3-9-01:016 owned by Kaonoulu Ranch.

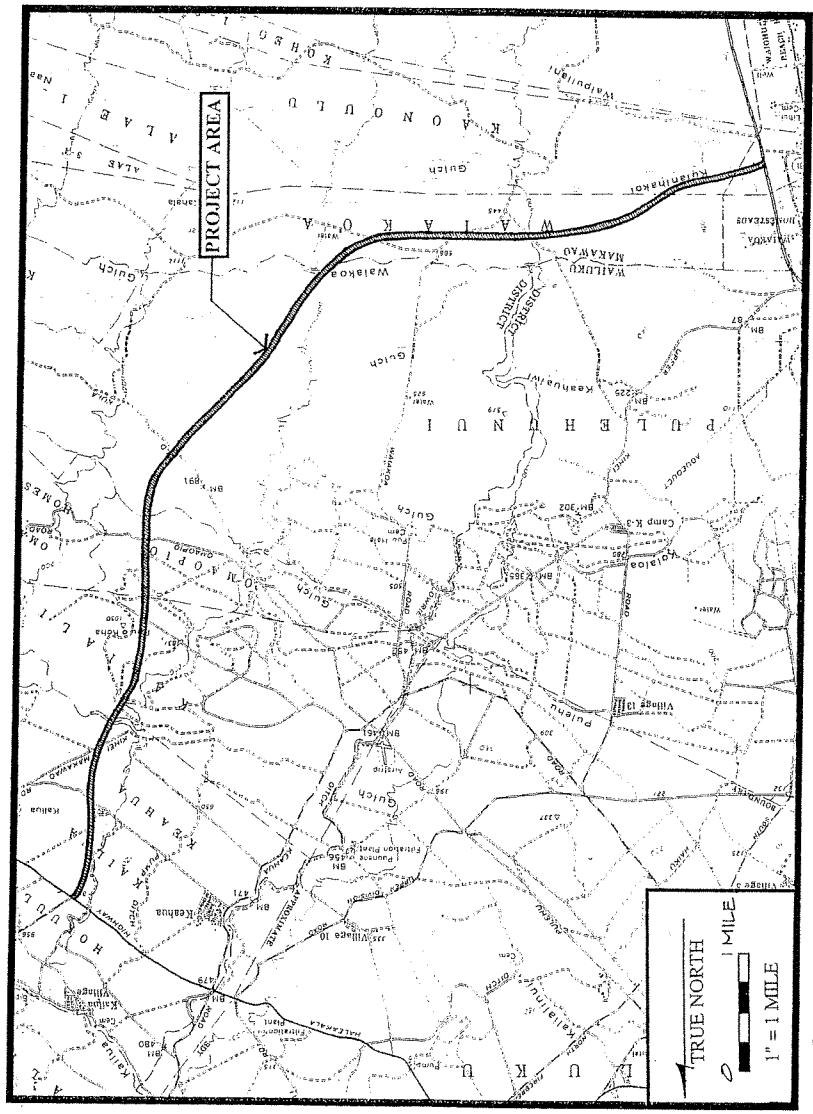

Figure 1 Project area map based on USGS 7.5 minute series topographical maps of the Pu'u O Kali and Paia quadrangles, displaying corridor.

The following Scope of Work is based on Title 13, subtitle 13, Chapter 276; Rules Governing Standards for Archaeological Inventory Survey and Report, was utilized for the present project:

1. A complete ground survey of the entire project area for the purpose of site inventory. All sites were located, described, and mapped with evaluation of function, interrelationships, and significance. Documentation included photographs and scale drawings of selected sites and complexes. All sites will be assigned State site numbers.

2. Limited subsurface testing to determine location, boundaries, depth and quantity of cultural materials within archaeological sites and to obtain datable samples for chronological information for sites in the immediate area, if such data is not available from previous studies.

3. Research on historic and archaeological background, included a search of historic maps, written records, Land Commission awards, and Native Testimony. Research focused on the specific area with general background on the *ahupua`a* and district and will emphasize settlement patterns.

4. Preparation of a survey report which includes the following:

    a. A topographic map of the survey area showing all archaeological sites and site areas;

    b. Description of all archaeological sites with selected photographs, scale drawings, and discussions of function;

    c. Historical and archaeological background sections summarizing prehistoric and historic land use as they relate to the archaeological features;

    d. A summary of site categories and their significance in an archaeological and historic context;

    e. Recommendations based on all information generated which will specify what steps should be taken to mitigate impact of development on archaeological resources, such as data recovery (excavation) and preservation of specific areas. Recommendations will be developed in consultation with the landowner and State and County agencies.

II. NATURAL HISTORY

Geology

The project corridor traverses approximately 15.8 kilometers of the slightly dissected uplands in the traditional district of Kula on the western slope of Haleakalā Volcano, Island of Maui. Haleakalā is a shield volcano composed of pahoehoe and `a`a flows and associated pyroclastic materials.

Terrain In the project area is associated with the Kula Volcanic Series of the Pleistocene epoch (Macdonald *et al.* 1983). Lavas of the Kula Series consist mostly of *`a`a*; eruptions were explosive to the extent that many large cinder cones were formed and beds of ash are common. These cones are present mostly on the summit and northern slopes of the mountain but also occur on the western slope. One such cone, Pu`u Kahala, lies approximately one kilometer south of the central portion of the project area.

Soils of the Keahua soil series (including Keahua silty clay, Keahua cobbly silty clay, and Keahua very stony silty clay loam) dominate the north half of the project corridor north of Kolaloa Gulch. Soils of the Waiakoa soil series (including Waiakea very stony silty clay loam and Waiakoa extremely stony clay loam) dominate the area south of Kolaloa Gulch. All of these soils are well drained and developed in material weathered from basic igneous rock (Foote *et al.*) though the Waiakoa series differs in being influenced by volcanic ash.

Geography

The western slopes of Haleakalā are cut off from the northeast, tradewind pattern and typically receive scant rain owing to this rain shadow effect (Figure 2). The southern half of the project area receives approximately 400 mm. (15 inches) of rainfall annually with the northern end of the project area receiving approximately 800 mm (30 inches) (Giambelluca *et al.* 1986:112). Mean monthly rainfall records show the heaviest rainfall to occur between November and March, ranging from 50-100 mm. (from approximately 300 ft. to 2000 ft. amsl), with the months of April to October averaging between 5-25 mm. During the driest month, June, the area receives 5-10 mm. (Giambelluca *et al.* 1986:113-124). There are no perennial streams in *kula* district but flash floods of considerable volume periodically inundate the lowlands.

Typically, Kihei is sunny and dry with an average temperature of 77°F with occasional variations ranging from the low 60s to the high 80s.

Vegetation consists predominantly of *kiawe* and lowland shrubs and grasses, including *koa haole*, finger grass, *pili* grass, lantana, klu, *panini*, *ilima*, and Natal redtop grass. Wildlife consists mostly of upland game birds (Foote *et al.*:8).

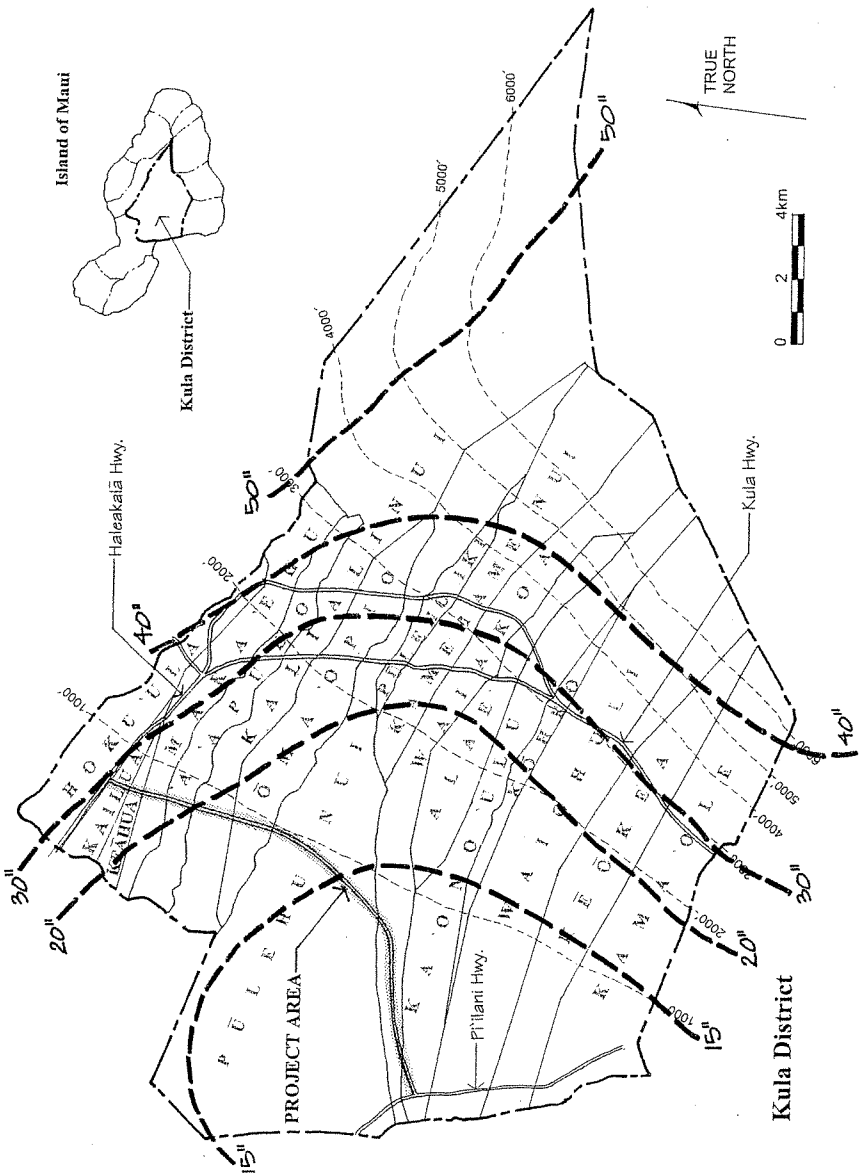

Figure 2 Rain Isohytes (in inches) in the Project Corridor and Kula Region

Environmental Zones

Based on archaeological and ethnographic studies in the Kula District three land use zones consisting of 1) coastal, 2) barren or transitional, and 3) inland have been postulated (Cordy 1977:3-5).

The coastal zone has been characterized as a quarter mile (400 m) wide band paralleling the shore. "The coastal zone is defined as the flat area near the sea with brackish marshlands at the mouth of gulches (behind the coastal dunes) and with associated raised dry areas." Cordy (2000:1) notes that this was a narrow zone along the shore with permanent habitations, *heiau*, some fishponds, fishing shrines and burials. Twelve of the seventeen *ahupua`a* of Kula District (not including the subdivisions, *i.e.* Ōma`opio 1-10) appear to have never extended to the coast and had no coastal zone. Seven of the nine *ahupua`a* traversed by the project area (Kailua, Keāhua, Maka`eha, `A`apueo, Kalialinui, Ōma`opio and Pūlehunui) have no coastal zone as they are cut off to the west (*makai*) by Wailuku District.

The intermediate or barren zone (Cordy 1977 prefers the latter designation as having greater meaning for social patterning) is the dry area of slopes back of the coast with less than 30 inches of annual rainfall. This zone of broad stoney grass land with gulches is about 16 kilometers (10 miles) wide in the southernmost *ahupua`a* of Kula District, and narrows down to 4 kilometers (2½ miles) wide in the north at Kailua. Cordy (2000:1-2) notes that this zone seemed to mainly have had trails and associated shelters leading to the uplands, but with some small dryland fields and associated field shelters near the shore. This zone is suggested (Cordy 2000:2) to have a very low density of sites. The entire present project area lies within this barren zone.

The inland or upland field zone is stipulated to begin 8- 11 kilometers (5-7 miles) inland and "essentially is characterized by lusher vegetation and the occurrence of agricultural fields."(Cordy 1977:3) The down- slope edge of the inland zone is suggested (Cordy 1977:5) to approximate the 30-inch rainfall isohyte which lies close to the alignment of Haleakalā Highway and Kula Highway (see Figure 2). This is suggested to be the approximate lower limit for large scale aboriginal agriculture. Cordy (2000:2) notes that this zone had continuous dryland fields, permanent houses, some burials, *heiau* of small-moderate size, and petroglyphs in many gulches. Cordy notes that a major trail passed through these fields just seaward of today's Kula Highway and that this is a high density site zone.

Cordy (2000:2) posits the existence of two additional zones further up slope: a forest zone and a zone above the tree-line. He notes that the historic site patterns of the forest zone are poorly known but that site density is expected to be low. The above the tree-line zone is associated with quarries, trails and shelters. The approximate boundaries of these environmental zones are shown on Figure 3.

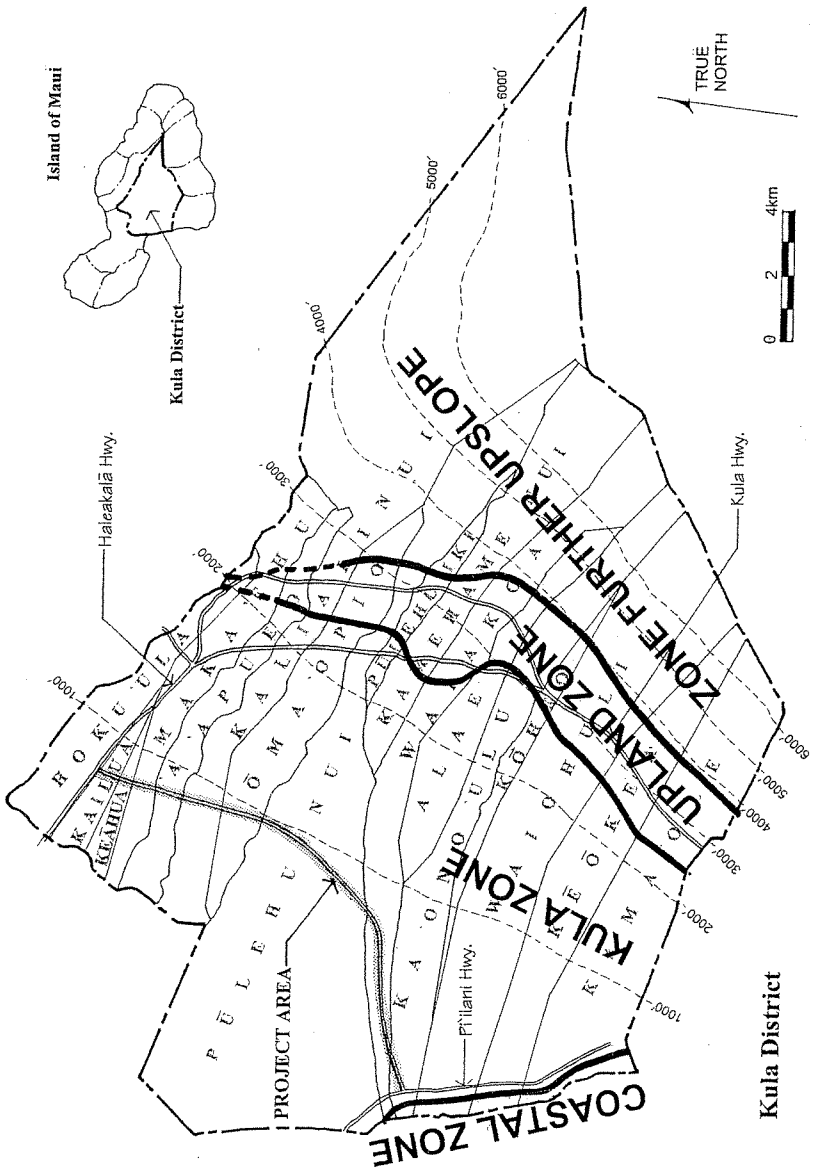

Figure 3 Map of Kula District Showing Relationship of Project Area to Environmental Zones

III. HISTORIC BACKGROUND

The project area lies entirely in the intermediate or barren zone, referred to by Hawaiians as the "*kula* or dryland plain zone", located between the narrow coastal zone and the "inland zone" which begins at approximately 2000 ft. amsl (Cordy 1977:4). Although the field work for this project developed no data pertinent to any other zones this historic background review seeks to develop data pertinent to other zones of Kula District to provide the basis for a settlement pattern model discussion and indicate the types of anticipated finds in the present project area.

A. Pre-Contact Period

Our knowledge of patterns of settlement in the pre-contact period comes from mythological and traditional accounts, archaeological studies, early explorer accounts and inferences drawn from patterns in the early historic period.

i. The Coastal Zone in the Pre-contact Period

Traditional accounts related to the upland district of Kula emphasize the lack of familiarity of the kula people with the sea. Perhaps most famous is the saying:

> "*Kula unahi pikapika he`e.*
> *"Kula people, scalers of the suckers on the tentacles of the octopus"*
> (Pukui 1983:#1911)

This proverb was said in fun of the people of Kula, Maui. The tradition is that a Kula chiefess who lived inland did not know what the suckers on an octopus were and tried to scale them as one scales fish.". That an adult Hawaiian would not be familiar with octopus would indeed be remarkable and the account suggests the remarkably terrestrial focus of the pre-contact Hawaiians of Kula District, Maui. Two other traditional sayings similarly deride the lack of maritime acumen of the Kula people.

> "*No Kula ia po`e ke hoe hewa nei.*
> *"To Kula belong the people who are such poor paddlers."*
> (Pukui 1983:#2339)

and

> *"O Kula i ka hoe hewa.*
> *"Kula of the ignorant canoe-paddlers."*
> (Pukui 1983:#2473)

Pukui offers an explanation: "Said of Kula, Maui, whose people did not know how to paddle canoes because they were uplanders.". The Kula people were proverbial as uplanders.

The historical settlement survey by Kolb *et al.* (1997:29) discusses the distribution of notable archaeological sites (fish ponds and *heiau*) based on Winslow Walker's 1931 survey augmented by Kolb's 1991 research (Figure 4). The only "notable" sites discussed

along the coast are the fish pond and two associated *heiau* at Kalepolepo Settlement in coastal Waiohuli *Ahupua`a*. This study notes "the surprising lack of coastal temples" and that in fact "these two coastal *heiau* represent only 7% of the districts total number of *heiau*" (Kolb *et al.* 1997:28). The authors of this settlement survey note the common assumption that typically *heiau* would be built in and around community settlements and that densely populated communities contain a large number of *heiau*. "If this model holds true for Kula, then a large number of upcountry *heiau* suggest that almost all settlement was concentrated there as well, rather than the coast." (Kolb *et al.* 1997:28) The authors of this settlement survey note that this pattern is anomalous not only for Hawai`i in general but is also atypical when compared to other leeward Maui Island districts such as Honua`ula and Kahikinui. Possible explanations suggested are "survey bias or early coastal development" or more likely the "extraordinary distance between habitable upcountry regions and the coast." (Kolb *et al.* 1997:30) Other prosaic explanations are the exceedingly low rainfall and paradoxically the propensity to flood. Coastal Kula receives less than 15" of rainfall a year and it is a long walk up to the 15" isohyte which lies above 1000' elevation (Figure 2). Hammatt and Shideler (2000:10-11) point out ten documented flooding events (due to tsunami, runoff inundation, and heavy surf) in the twentieth century and note that at a distance of 350 m from the coast in central Kīhei the elevation is typically only 1.4 -2.3 m amsl. The "coastal zone" lies within the Kihei flood plain and is remarkably prone to severe backwater flooding. Another factor discouraging coastal settlement would be "blasts of the Kaumuku wind which sweep the place [Kalepolepo] at times like a localized tornado" (Wilcox 1921:65).

Clearly there was however a focus of habitation and activity at Kalepolepo in precontact times with its Kalepolepo Fishpond and two *heiau* (Kalaihi and Kealalīpoa *Heiau*). Unfortunately, much of the archaeological record of coastal Kula district was removed by early resort development that took place before the implementation of the current historic preservation review process. As Kolb *(et al.* 1997:157) points out "the development proceeded without archeological work, and as a result little information is available, and many of the coastal Kula sites have been destroyed. Thus we know little yet about the coastal zone of Kula".

Recent work near David Malo`s stone church just south of Kūlanihāko`i Road (Pepalis and Kolb, in press; McDermott *et al.* 2000) has added greatly to our knowledge of the early pre-contact period at Kihei. Carbon dating and associated pollen analysis indicate direct human modification of the Kihei coastal environment in the period between 650 and 1050 A.D. with evidence of landscape change from Dry-Mesic forest to an environment characterized by disturbance-loving species beginning in that period and complete by the time-frame of 1380-1450 (McDermott *et al.* 2000:64).

The cultural sequence in Kula posited in the Kolb *et al.* (1997:281) settlement survey concludes there was very low intensity use of the coast and uplands, largely focused on exploitation of natural resources, prior to A.D. 1200. This settlement survey suggests

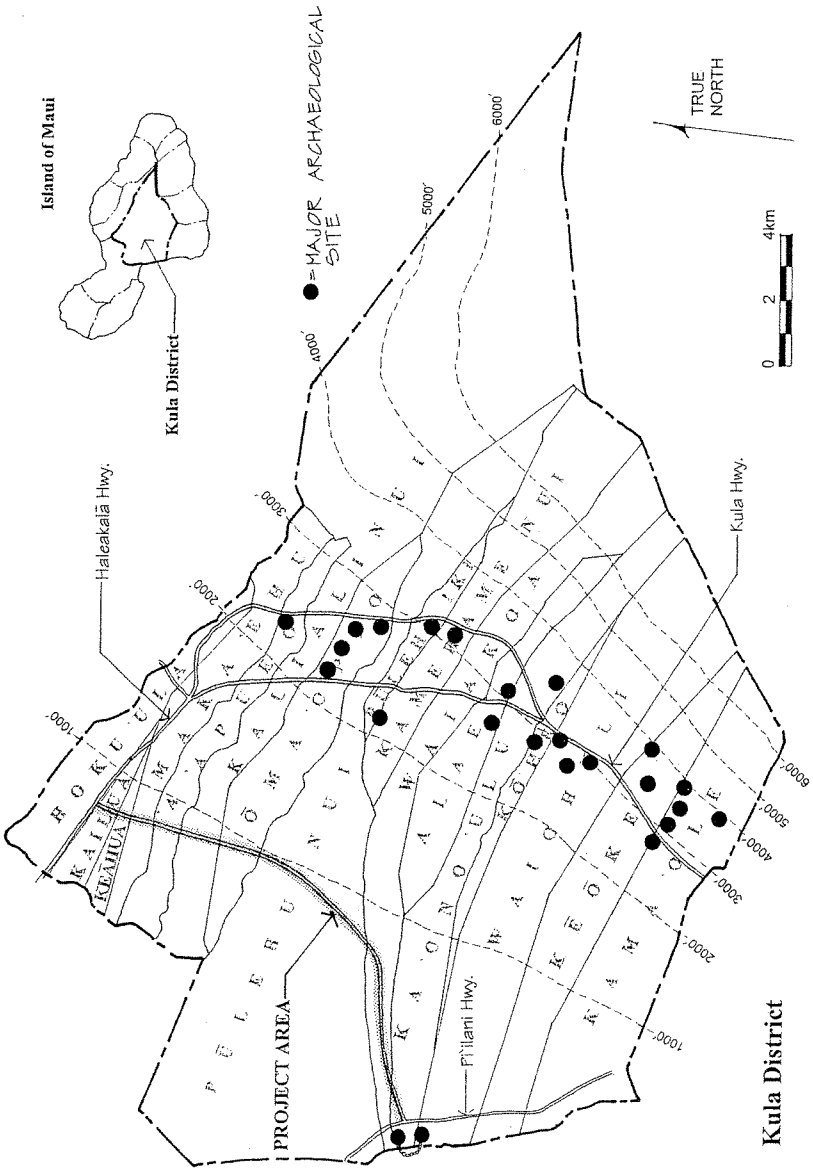

Figure 4 Map of Major Archaeological Sites in Kula District (Adapted from Kolb *et al.* 1997:29)

that initial permanent settlement of coastal Kula may have begun during A.D. 1200s-1400s and that "the presence of settlement both on the shore and in the uplands seems to mark the establishment of a dual settlement pattern (shore and uplands) from the very start of permanent occupation in Kula" (Kolb *et al.* 1997:281). The dating for the initial permanent settlement of coastal Kula appears to be a geographic extrapolation from two early dates from coastal sites in Honua`ula District (Kolb *et al.* 1997:189).

The few available radiocarbon dates from the general vicinity of the current project area are consistent in their rather broad, later prehistoric age determinations, most commonly post 1500 A.D.(Fredericksen and Fredericksen 1995b; Fredericksen 1994; Fredericksen *et al.* 1993). This fits with the model that the more intensive use of the Kīhei shoreline was a later prehistoric development that corresponded with the expansion of upland permanent habitation, ceremonial constructions, and agricultural clearing after 1400-1500 A.D. (Kolb *et al.* 1997:281-282). The fishponds are traditionally thought to date to the late 1500s (Kolb *et al.* 1997:66).

The presence of three additional fishponds (Waiohuli kai, Kēōkea kai and an unnamed pond) in the two kilometer long stretch south of Kalepolepo Fishpond testify to pre-contact activities along the Kula coast.

Even with the record of development and the potential for destruction of the archaeological record, it still seems inescapable that few areas in the Hawaiian Islands abutting sandy beaches have less in the way of Hawaiian cultural deposits than coastal Kula district. For example, as far as we can determine, the only account of any burials in coastal Kula (Waiakoa, Ka`ono`ulu, Waiohuli, Kēōkea or Kama`ole *Ahupua`a)* is Neller (1982a)'s account of burials reported (but not seen) at Kalama Beach Park. This general lack of burial accounts is supportive of the general conclusion that habitation (and associated burial activities) in Kula district were overwhelmingly focused on the inland zone.

The general absence of coastal habitation was noted by George Vancouver while lying off the east side of Mā`alaea Bay in 1793 when he recorded: "A few habitations were promiscuously scattered near the water side."

ii. The Barren Zone in the Pre-contact Period

Most of the Kula District fits into the Hawaiian land category of "*kula*" defined as plain, field, dry grassland, or open country. In their place names study, Pukui *et al.* (1974:123) indicate the District name was derived from the land category.

According to Cordy this *kula* or "barren" zone was probably most utilized in the late pre-contact era as a route between the inhabited coastal and inland areas with corresponding intermittent habitation (Cordy 1977:12). Inventory surveys of portions of this intermediate zone have found remnants of dispersed, low-intensity, dryland agricultural features, such as mounds and alignments, as well as temporary habitations (Chaffee *et al.* 1997; Donham 1990, Miura 1982). Site densities are typically quite low within this barren zone with many studies of large parcels (Kennedy 1986c, Watanabe 1987, Hammatt and Shideler 2000b, Kikiloi *et al.* 2000) identifying no pre-contact sites at all.

The general absence of human endeavor on the vast barren zone slope was noted by George Vancouver while lying off the east side of Mā`alaea Bay in 1793 when he recorded: "The appearance of this side of Mowee was scarcely less forbidding than of its southern parts,...yet the soil had little appearance of fertility and no cultivation was to be seen...the inhabitants who came off to us, like those seen the day before, had little to dispose of."

iii. The Upland Field Zone in the Pre-contact Period

As the map of notable pre-contact archaeological sites (*heiau* and fishponds) of Kula District (Figure 4) clearly shows, these sites were overwhelmingly located between the 2000-foot and 4000-foot elevation contours. If, as seems likely, there is a rough correlation between *heiau* density and habitation density then "almost all settlement was concentrated there as well" (Kolb *et al.* 1997:28). The location of notable archaeological sites runs remarkably closely to the 30-inch isohyte (Figure 2) running along approximately the 3000-foot elevation in the southern half of Kula District (as far north as Pūlehu Iki *Ahupua`a*) and then dropping down to lower elevations further to the north. The distribution of notable archaeological sites would seem to suggest that prehistoric occupation in Kula was quite dispersed across this inland or upland field zone with perhaps slightly lower population densities in the northernmost *ahupua`a* (Kaupakalua, `A`apueo, Maka`eha and Hōkū`ula *ahupua`a* appear to have only one *heiau* amongst them).

The settlement survey by Kolb *et al.* (1997: 281ff) concludes that prior to circa A.D. 1200 human activity in this zone was limited to intermittent exploitation of forest resources (particularly of birds). Settlement and farming are understood as beginning circa A.D. 1200-1400 and "the first large scale period of up-country permanent settlement occurred in the 1400s-1500s." Forest-clearing was increasing during this period as the dryland field systems expanded. The settlement survey concludes that:

> In the A.D. 1600s, even more permanent habitations appear in the archaeological record along with more medium sized *heiau* and the larger garden enclosures. Grasslands with shrubs begin to dominate the area under agriculture, showing the expansion of lands under farming...no evidence of population decline or stabilization appears. (Kolb *et al.* 1997: 282)

Some traditional Hawaiian sayings probably dating to this late pre-contact period note environmental characteristics of Kula. The multiple references to smoke probably indicates the practice of burning the land before planting new sweet potato patches.

> *"Moe kokolo ka uahi o Kula, he Hau.*
> *The smoke of Kula traveled low and swift, borne by the Hau wind.*
> (Pukui. 1983:#2170)

> *"Kokolo ka uahi o Kula, he Kēhau.*
> *The smoke of Kula creeps along when the Kēhau breeze blows.*
> (Pukui. 1983:#1824)

Another saying, relating a story of a man from Kula and a woman from Ke`anae, emphasizes the sense of identity of the man with the agriculture/sweet potato production of Kula.

> *"O ka wai kau no ia o Ke`anae; o ka `ūlei ho`owali `uwala ia o Kula."*
> *"It is the pool on the height of Ke`anae; it is the `ūlei digging stick for the potato [patch] of Kula."*
> (*Pukui.* 1983:#2447)

Kula was traditionally famous for its *`uala* (sweet potato) "plantations" (Handy 1940:161; Handy and Handy 1972:131,276, 511; Kolb 1997: 25). The combination of good soil developed in volcanic ash, cool temperatures and frequent clouds to lower evapo-transpiration and bring moisture as fog drip, and rainfall distributed fairly evenly throughout the year would also have allowed for taro cultivation.

Archaeological studies in this upland field zone (Riford 1987, Brown 1989, Moore and Kennedy 1995) indicate high site densities, and by logical extension high pre-contact population densities. In her study of Ōma`opio, Donham (1992:4) discusses the presence of *heiau* and the subsequent inference that a large permanent population must have been present, as well.

iv. Zones Further Upslope in the Pre-contact Period

Relatively little archaeological research has been undertaken on the Kula slope above 4,000-feet elevation. Work at higher elevations (P. Rosendahl 1975, M. Rosendahl 1978, Masterson *et al.* 1995) have identified primarily cave shelters, wall shelters, and cairns. One of the main routes of access to Haleakalā Crater ascended through the *ahupua`a* of Pūlehu nui and Kalialinui of Kula District with a rest house located just north of Pu`u Kilohana (Sterling 1998:260). Kalialinui *Ahupua`a* extends into the crater. A number of burial places and *heiau* were associated with the summit region (Sterling 1998:264 ff).

The pre-contact utilization of one higher elevation resource, māmane wood, is suggested in one proverbial saying about the Kula people. Māmane was used for making the wooden digging sticks, the most important tool of potato farmers (Malo 1996:154).

> *"Na keiki uneune māmane o Kula.*
> *The lads of Kula, who tug and pull the māmane up by the roots.*
> Pukui, 1983.:#2238

B. Early Historic Period

For elaboration on the subjects of whaling, the Irish potato industry, the Chinese presence in Kula, ranching, and sugar cultivation the reader is referred to Helen Wong Smith's research as presented in Brown and Haun (1989:Appendix C). A general overview of these subjects is provided in the following sections along with supplemental information not covered by Wong Smith.

i. The Coastal Zone in the Early Historic Period

In 1820, the whaling industry arrived and although the whaling centered around Lahaina, Clark (1980:47) notes that "From the 1840s to the 1860s a small whaling station was maintained at Kalepolepo [Kihei]." This station both serviced the international Pacific whaling fleets and supported a local "bay whaling" industry that lasted at least as late as the 1860s. Shore parties would go off in small boats to take humpback and sperm whales. The Hawaiian Kingdom licensed the Mā`alaea fishery at least as early as 1847 (Jones 1938:20). The fisheries expert Cobb (1902:513) relates that "According to several of the old inhabitants of Wailuku the natives used to kill whales in the bay quite often in the 'forties'."

Around 1849 John Halstead built The Koa House at Kalepolepo in Kīhei. The building, part store and part residence, thrived on the whaling industry and the resultant potato industry. The store also served as a gathering place for the whaling sailors. David Malo created a balance for this boisterous crowd by constructing a church at Kalepolepo sometime after 1843. During the Gold Rush years, the store became "an emporium for Irish potatoes."

Kuykendall (1938:313) notes that in the period from 1830 to 1854:

> The commercial development during this period, by magnifying the importance of a few ports, gave momentum and direction to a townward drift of population; the population of the kingdom as a whole was steadily going down, but the population of Honolulu, Lahaina and Hilo was growing.

We believe that Kuykendall's observation was most likely the demographic pattern at the Kalepolepo entrepot as well. The development of Kalepolepo as an entrepot and a focus of Christian life in the 1840s and 1850s most likely increased the population in the immediate vicinity above the pre-contact population figures, contrary to the island-wide trend of depopulation. That the population and areal extent of the Kalepolepo community reached its zenith during the mid 1800's appears to be supported by the settlement study by Kolb *et al.* (1997:68):

> The ancient village of Kalepolepo was relatively small, and was built around an economy primarily based upon the exploitation of ocean resources--primarily the excellent fishing grounds as well as three large fishponds. However, as the number of visiting ships increased, Kalepolepo soon became an important provisioning area. By 1850 we know that the economic opportunities were attracting a number of European entrepreneurs.

This study (Kolb *et al.* 1997:69) goes on to discuss how Kalepolepo, with Captain John Halstead's Koa House establishment, "became the hub of activity for all of Kula". Based on the available evidence it appears most likely that the settlement of Kalepolepo was greatest c. 1850.

ii. The Barren Zone in the Early Historic Period

Developments in the barren zone during the early historic period remain largely undocumented. Presumably the Kalepolepo Trail, which ran up the middle of Waiohuli *Ahupua`a*, would have been more heavily utilized and perhaps somewhat developed to provide the major artery between the upland field zone and the Kalepolepo entrepot. Another major development was the establishing of ranching in the Kula region prior to the 1840s (Brown and Haun 1989:C-6). While the locus of early ranching endeavors is not well documented, the Kula grass lands would have been a natural focus. Cordy (in Fredericksen, *et al.* 1994:3) notes that the majority of Kama`ole *Ahupua`a* at that time, as noted in Māhele awards, was government cattle range.

iii. The Upland Field Zone in the Early Historic Period

The whaling industry mainly effected the Kula/Kīhei area with its agricultural demands. The introduction of whaling to the Maui community brought with it an increased demand (from the sailors) for the potato. As a result, after 1830 dryland agriculture in the upland field zone of Kula District expanded to include the Irish potato. The California Gold Rush of 1849 intensified this demand as a California-Hawai`i potato trade began to flourish. Kula became the area of highest potato production and came to be known as "the potato district" (the area between 2000 and 5000 ft. amsl).

Jarves (in Kuykendall 1980:313) describes the Kula area in July 1846 in the midst of the cash cropping boon of Irish potatoes there.

> "It ranges along the mountain (Haleakala) between 2000 and 5000 feet elevation, for the distance of 12 miles. The forest is but partially cleared, and the seed put into the rich virgin soil."

Potato production thrived in Kula from 1830-1850 until successful potato cultivation and production in California and Oregon resulted in a decline in the Hawai`i trade (Burgett and Spear 1995:6-7). Donham (1992:5) notes that the inundation of land clearing and cultivation associated with the Gold Rush resulted in "deforestation [which] adversely affect[ed] the amount of rainfall in the district, and periods of drought became more common." Substantial forest clearing for commercial agriculture, especially potatoes and sugar cultivation, does not appear to have occurred until the mid-1800s.

While it lasted, the increase in agricultural production associated with the potato industry encouraged many Hawaiians to venture into cash-cropping (Speakman 1984:116) and attracted Chinese immigrants to Kula in the 1840s. During the subsequent 30 to 40 years the Chinese created a thriving community (Burgett and Spear 1995:7).

Sugar cultivation was present prior to 1846, with six sugar producers operating on the slopes of Haleakalā (Wong-Smith in Brown and Haun 1989:C-7). In or by the 1840s plantation camps, such as at Keāhua, grew up, with small communities with churches, stores and homes (all which have since disappeared).

iv. Zones Further Upslope in the Early Historic Period

We really have no data on this subject. It seems not unlikely that the introduction of temperate cultigens ("Irish" potatoes and wheat) encouraged cultivation at higher elevations but this would really have been an inland extension of the traditional upland field zone.

C. Mid-1800s (Land Commission Claims / Awards)

According to Kame`eleihiwa *(1992:52)*, Kekau`ōnohi had the District of Kula before the *Māhele*. In the Māhele land division of 1848 the "Crown" (Kauikeaouli Kamehameha III) kept certain lands including Kēōkea *Ahupua`a* and the *`ili* of Keauhou 1 & 2. The Kingdom retained as "Government lands" `A`apueo, `A`apueo 3, Hoku`ula *Ahupua`a*, Kama`ole *Ahupua`a*, Kamehame 1 & 2, `Ōma`opio 6-11, Pūlehu, and Waiakoa *Ahupua`a*. No particular pattern is suggested in these Crown and Government claims.

Certain *Ali`i* received very large parcels of Kula district lands. The high chiefess, Ane Keohokālole (also known as Keohokālole wahine, she was the great granddaughter of Keaweaheulu and Kame`eiamoku, two of Kamehameha's four Kona "Uncles"), claims and gets the *ahupua`a* of `A`apueo, Alae 3, Kamehame, Kealahou 3 & 4, Koheo, and Kukuiniea. The *Kaukau Ali`i*, Hapakuka Hewahewa, claimed and was awarded the entire *ahupua`a* of Ka`ono`ulu, as 1 *`āpana* of 5,715 Acs (LCA 3237). The little known "Ali" received Ōma`opio 1-4. Another important personage of the time Ka`awai, the land commissioner of Maui, received Alae 3 without a claim and three *`apana* in Waiakoa.

Seemingly a relatively large number of *ali`i* claimed Kula district lands but had their claims denied. Keohokālole wahine claimed but didn't receive Ōma`opio 5. *Kaukau ali`i*; Nāmau`u claims but doesn't get Waiohuli. Hewahewa claims but doesn't get Koheo. The *konohiki*, Kealoha, claims but gets neither Kama`ole or Keohea. Kalama, claims but doesn't get Kama`ole, Kēōkea and Waiohuli lands. Ka`aha claims but doesn't get Keokeo or Waiohuli. Nahuina claims Kamaole and Kēōkea but gets neither. Kamaikaaloa's claim is for the entire *ahupua`a* of Kalialinui. Kaawai is not awarded his claims in Ōma`opio and Kalialinui. Of the *ali`i*, only three, Kealoha, Kaaha and Hewahewa, claim house lots.

Of greater interest in reconstructing patterns of land use are the commoner *kuleana* claims. In the records of the Land Commission (1847-1851) there were 203 claims made for the District of Kula on Maui, and almost half of these are for parcels in more than one *ahupua`a*. The number of parcels claimed by each claimant range between one and 14. Claimants range from the *ali`i* to local residents and included in this range are many claimants from outside the Kula District, who are raising potato crops or have ranching pastures. An article in the Polynesian newspaper for November 24, 1849 noted: "Kula, however, is full of people. Strangers from Wailuku, Hamakua, and Lahaina are there preparing the ground and planting."

No *kuleana* land claims lie within any of the *ahupua`a* traversed by the project area within a distance of approximately one kilometer of the project area. There may have been *kuleana* claims in Wailuku District within a kilometer of the north end of the project. The closest *kuleana* land claims in Kula District were those at Kalepolepo Village (Figure 5) discussed below.

i. The Coastal Zone in the Mid 1800s Period

At Kalepolepo in Ka`ono`ulu there were numerous *kuleana* located just southeast of the Kalepolepo fishpond and approximately a kilometer southwest of the west end of the project corridor (Table 1, Figure 5).

There appear to be five awarded *kuleana* claims at Kalepolepo, three awarded under Ka`ono`ulu *Ahupua`a* (LCAs 4120b, 5228, and 5376) and two awarded under Kēōkea *Ahupua`a* (LCAs 5279 and 7791). The rationale for the awards under Kēōkea *Ahupua`a* is unclear as the nearest point of this *ahupua`a* is understood as lying approximately 3.3 kilometers to the south of Kalepolepo Village. Possibly this represents a pattern of migration to commercial centers discussed previously, with people from "rural" Kēōkea claiming land near the Kalepolepo entrepot, but this is by no means certain. It appears that *Māhele* records (Table 1) report approximately a dozen *kuleana* at Kalepolepo (the majority unawarded). As is often the case, it is unclear whether all of the parcels (*`āpana*) claimed are in the vicinity of the Kalepolepo settlement or not. Possibly the potato patches, taro lands, and pastures mentioned were all near the settlement. Wilcox (1921:67) describes Kalepolepo of the eighteen-fifties as a place where "Coconut trees and kou trees grew beside pools of clear water, along the banks of which grew the taro and the ape". Some of these claims, however, could have been quite distant.

Hapakuka Hewahewa (the *kahu* for the Maui lands of Kaheiheimalie - one of Kamehameha's wives) claimed and was awarded the entire *ahupua`a* of Ka`ono`ulu, of 5,715 acres (LCA 3237). He claimed this land from the time of Kamehameha I in 1782 (well before the Kamehameha forces conquered the Island of Maui), through one of Kamehameha's wives who was from Maui. Hewahewa also claims the fish pond at Kalepolepo in another claim. His permanent place of residence was Kalepolepo.

We are unable to identify any *kuleana* claims awarded anywhere else in coastal Kula District beside Kalepolepo. *Māhele* records indicate a few (2-4) unawarded *kuleana* claims at "Laie", which may be the Laie at the coast where Waiohuli and Keokea *Ahupua`a* meet, but this is uncertain.

ii. The Barren Zone in the Mid 1800s Period

That no *kuleana* land claims are known to lie within any of the *ahupua`a* traversed by the project area within a distance of approximately one kilometer of the project area attests to just how barren the barren zone was in the mid 1800s.

Table 1: Kuleana Claims to the Land Commission in Kalepolepo Village and Vicinity

Ahupua`a	`Ili/Ahupua`a, Award	Land Use	Claimant	Claim #	Acreage / not awarded (na)	TMK located, Other comments
Kaonoulu	Kupulaia	lr. potato mala(s)	Nahiona	2764	na	
Kaonoulu	Kapukahawai, aw Kupalaia, aw Kaonoulu	1 potato patch potato patch & land house lot	Kuihelani	5228	1 ap. 28 Acs 1 ap. 1.8 Acs	
Kaonoulu	Kaukaulua, aw	[no significant text?]	Kauaua	5267B	1 ap. 4.5 Acs	
Kaonoulu	Kupalaia, aw Puuokuhihewa, aw	kula, 2 mala lr. potatoes kula	Pupuka	5328	1 ap. 2.04 Acs 1 ap. 5.14 Acs	
Kaonoulu	Kalepolepo, aw Kaonoulu, aw	house lot kula	Lono	5376	1 ap. .022 Acs 1 ap. 2.17 Acs	
Kaonoulu	Kaonoulu, aw Kalepolepo Kupalaia	 small house lot on kuapa 3 lr. potatoes	Mahiai	5407	2 ap. 3.491 Acs	
Keokea	Wailuku Molokai Maunakilowaa, aw Piimoo, aw Pualoa Kalepolepo, aw [Puuokeokeo], aw	pasture pasture taro taro 2 pastures house site [not given]	Kapohaku	4120B	 1 ap. 2.9 Acs 1 ap. 11.7 Acs 1 ap. .25 Ac. 1 ap. 3.04 Acs	TMK 2-2-03 ap. 4 TMK 2-2-03 ap. 1 ap. 3 ap. 2? 3.003 acs
Keokea	Kupuni	2 kulas of lr.	Kahulukaeiopio	5271	na	
Keokea	Kalepolepo, aw Paliku, aw Wailuku, aw (2 ap.) Piimoo Pualoa	house site taro taro pasture	Kapelekai / Palekai	5279	1 ap. .08 Ac. 1 ap. 10.4 Acs 2 ap. 2.75 Acs	TMK 2-2-03 ap. 1, 2 TMK 2-2-04 ap. 4 ap. 1 1± Ac. ap. 2 1.44 Acs TMK 2-2-02 Ap. 5 5± Acs
Keokea	Keokea	lr. potatoes	George Shaw	11032	na	
Waiohuli	Kahuihanau Kahilinananaenae	kula kula	Nahelu	6720B	na	

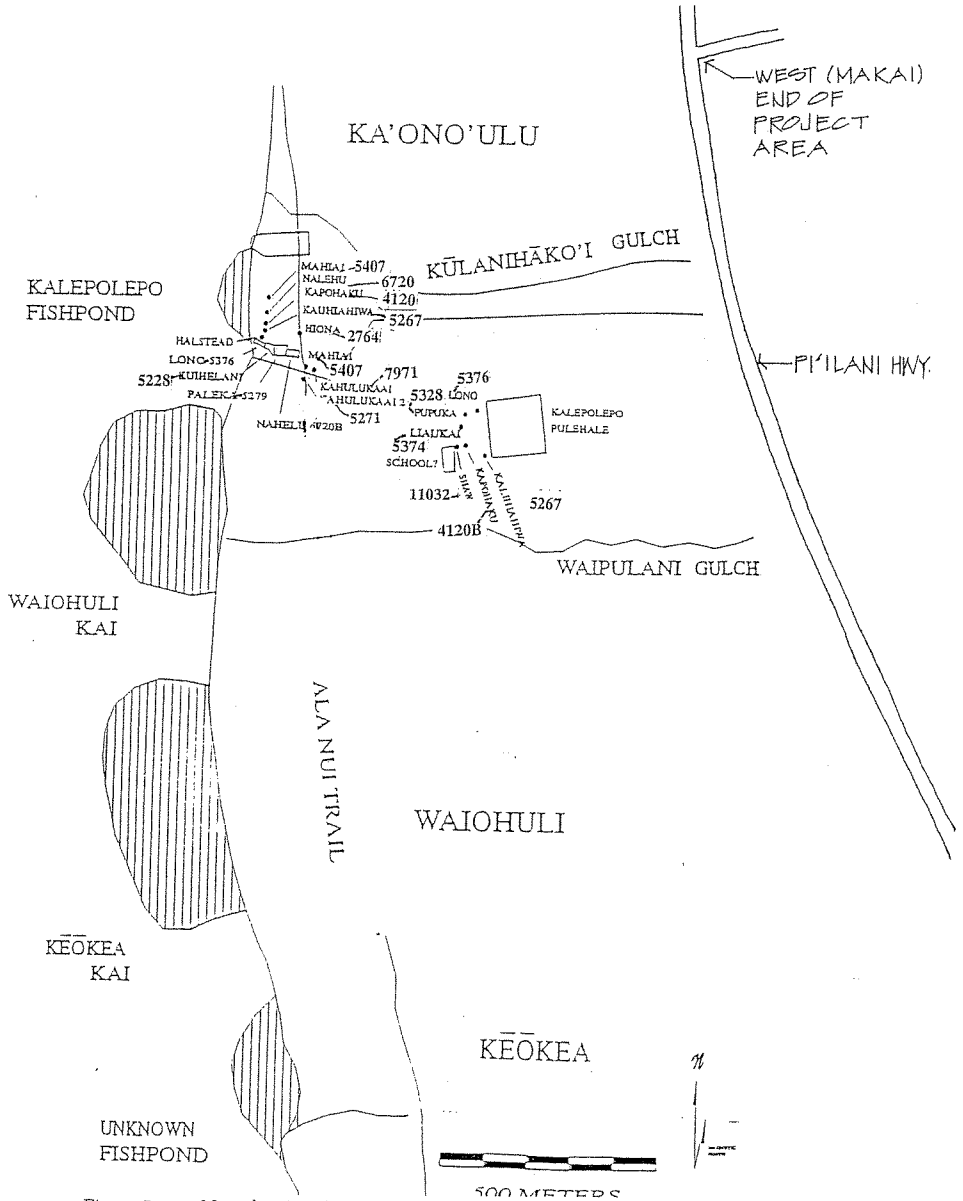

Figure 5 Map showing the location of *kuleana* land claims at Kalepolepo in Relation to the West End of the Project Area

It is certainly possible that some of the "pasture land" claims lay in the barren zone. Pasture lands are claimed 36 times throughout the District, but it is possible some might have been more generic *kula* or grassland claims, translated into pasture in English. Eight of these claims were in Pūlehu, one in Pūlehuiki, and five in Waiakoa. Except for Ali's pastures (LCA 281B), at circa 2,500-foot to 3,000-foot elevation in Ōma`opio, most of these pasture claims were not awarded and their location in terms of zone is uncertain. The location of the Ali pasture suggests that many or all of the "*kula*" or "pasture land" claims were in fact in the upland field zone.

The *kuleana* land claims in the upland field zone allow for an estimate of the width of the *kula* zone in the various *ahupua`a* of Kula District The *kula* zone lies between the following approximate elevations at the time of the *Māhele* and *kuleana* claims (Table 2).

Table 2: *Kula* Zone Elevations of Kula District (from South to North)

Ahupua`a	**Approx. Elevation (in Feet)**	**Approx. Distance from Coast to top of Kula Zone (Km)**	**Comments**
Kama`ole	40' to 2,400'	8.1	-
Kēōkea	40' to 2600'	11.0	-
Waiohuli	40' to 2800'	12.0	-
Kōheo	40' to 3000'	13.4	*Ahupua`a* does not quite reach the coast
Ka`ono`ulu	40' to 2900'	13.7	-
Alae	1000' to 3200'	15	Seaward end of *Ahupua`a* is at approx. 1000' elevation
Waiakoa	40' to 2700'	14	-
Kamehame-nui	1800' to 2400'	16	Seaward end of *Ahupua`a* is at approx. 1800' elevation
Pūlehu iki	2400'	17	Seaward end of *Ahupua`a* is at approx. 1800' elevation
Pūlehu nui	450' to 2400' elevation	17	No coastal zone, cut off by Wailuku District
Ōma`opio	450' to 2000'	16	No coastal zone, cut off by Wailuku District

Ahupua`a	Approx. Elevation (in Feet)	Approx. Distance from Coast to top of Kula Zone (Km)	Comments
Kalialinui	450' to 2300	16	No coastal zone, cut off by Wailuku District
`A`apueo	450' to 2200	16	No coastal zone, cut off by Wailuku District
Maka`ehu	450' -?	17	No coastal zone, cut off by Wailuku District, no data is available on the upland field zone
Keāhua	450' to 1075'	-	Cut off by Wailuku District seaward and Kalialinui landward; lies entirely in *kula*
Kailua	450' to 1075'	-	Cut off by Wailuku District seaward and Kalialinui landward; lies entirely in *kula*
Hōkū`ula	450' to ?	-	No coastal zone, cut off by Wailuku District, no data is available on the upland field zone

About the same time as the *Māhele* (late 1840s-early 1850s) land grants show foreigners coming into the District to establish ranches and plantations for sugar cane in this *kula* zone.

iii. The Upland Field Zone in the Mid 1800s Period

"W*ao-kanaka*" is used by Malo to describe that area below the various forest and mountain ones: "Here grows the *amau* fern and here men cultivate the land" (Malo 1976:17). It is this band of *wao-kanaka* that is most particularly detailed in the land claims.

In the Kula area, unlike most other areas of the islands in general, claimants did not confine their claims to one *ahupua`a* or even one district. A large number of claimants request *`āpana* in two, three, or more *ahupua`a* and the same claimant may also register several different claim numbers. We find "migrant farmers" who come from elsewhere on Maui (*i.e.* Lahaina or Waikapu or Wailuku) who either come occasionally to work in their fields, or are absentee landlords having others raise various crops (in particular Irish potatoes) for them. The booming victualing trade for whalers and the California gold fields may have significantly changed residential and agricultural patterns by the mid 1850s from what they had been in pre-contact times.

By the time of the *Māhele*, the major locus of settlement and food production was along the Government Main and the Old Kula roads. The vast majority of *kuleana* land claims (c. 1847-1853) in the Kula District are situated along the old Kula Road between 1200-foot elevation (in the north) and 3,800-foot elevation in the southern part of the district within a zone where there is sufficient natural rain and where it is cool enough for tuber crops. Of the land claims for the entire Kula District, by far, the greatest number are for plots of potatoes, both sweet and Irish (494 plots claimed). There are also claims for banana patches particularly in Waiohuli and Kēōkea *ahupua`a* at around the 3,000-foot elevation. Sugarcane is mentioned in one claim in Oma`opio at about 2,600-foot elevation. There are only two claims for pig pens in the district and one is in Pūlehuiki about 3,200-foot elevation. There are three mentions of *wauke*, one (unawarded) in Kalialinui, and two in Ōma`opio at about 3,000-foot elevation, with one of these latter being a *wauke* stream. Claims of "*kula*" lands in this upland zone included pastures while other "*kula*" lands in this upland field zone were used for dryland crops, such as bananas, some dryland taro, with occasional sugar cane patches, and grass lands. A few pig pens are also mentioned. In the southern area of Kēōkea, there were the claims for taro lands.

In the Kula District *kuleana* claims there is special kind of claim that is claimed no where else in the islands, "*ho`oilo*" or "winter" *kula*. While the concept of "*ho`oilo*" claims is not entirely clear it appears likely that these were typically lands which could be cropped in the wetter winter months but which did not support agriculture during the drier summer months. Twenty "winter *kula*" are claimed in Kula Maui: one in Kalialinui, two in Kamehame, three in Kealahou, three in Ōma`opio, three in Pūlehuiki and eight in Ka`ono`ulu. While many of these are unawarded claims and cannot be located on today's maps, many of the *ho`oilo* claims that can be located appear to typically be on the downslope edge of the upland field zone, just seaward of present-day Kula highway. One claim (10480) specifies that this winter *kula* is "*makai*" but how far "seaward" this claim lay is unclear. Only two winter *kula* claims mention the types of crops grown there and these two specify Irish potatoes. Three of the claims for winter *kula* (Kalialinui, Kamehame I and II - at about 2,400-foot elevation) are, however, associated with a bog (*naele*) which calls into question the conception that these were exclusively rainy season plots.

Another unusual term, used in Kula District and a few other places on Maui, is "*moku mau`u*" (which the Archive's translator believed might be small pockets of plantings, probably of sweet potatoes) found throughout the upland field zone.

The Kula map drawn by Monsarrat and Dodge (1872-1879; Registered Map No. 913) (Figure 6) shows only some of the awarded claims, and some differ from numbers those shown on the TMKs. What is evident on the Monsarrat and Dodge map is that some of the names of Land Commission claimants appear rather with grant numbers. Helen Wong-Smith (in Donham 1990b:B-4) notes that prior to the Māhele, land in Makawao was offered for sale, fee-simple, to native Hawaiians. These parcels (numbering close to 100) ranged from 5 to 10 acres and were purchased for $1.00 an acre, and may explain why many *kuleana* are not shown on maps as the owners had already opted for grant status. Land Grants were also purchased by Hawaiians and appear to consolidate scattered holdings, and occur particularly in the upland cultivating area (See McGerty and Spear 2000).

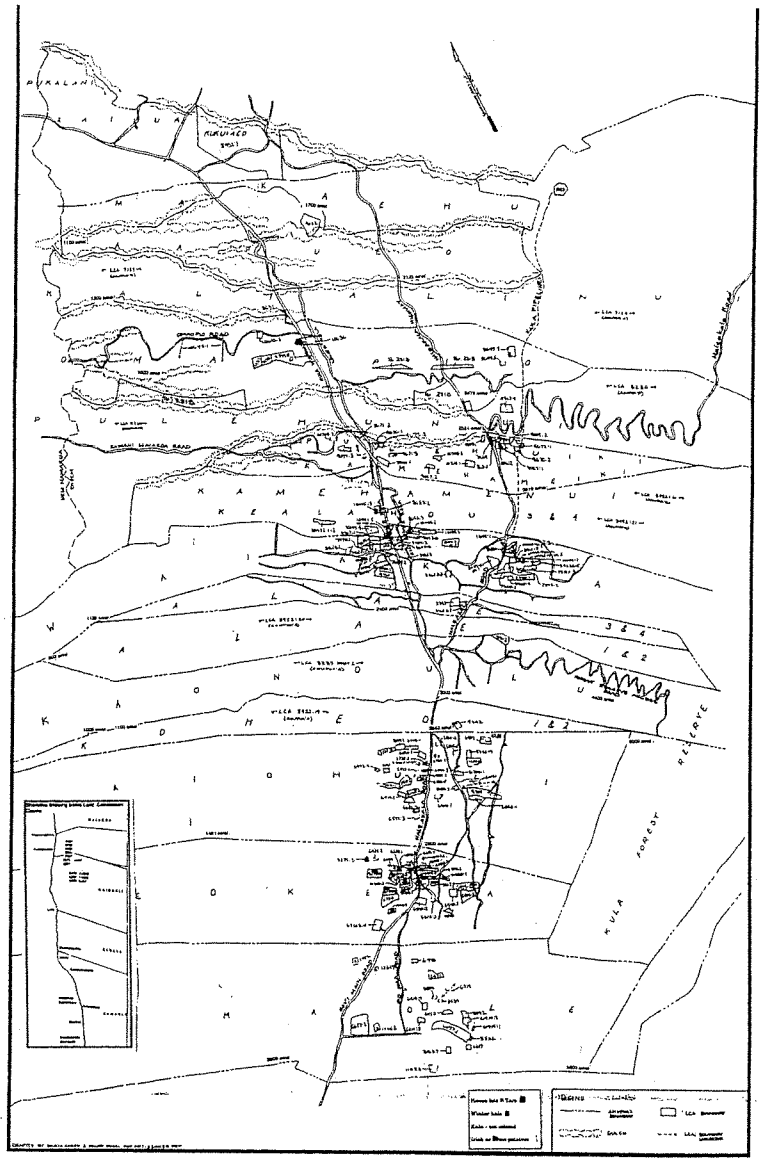

Figure 6 1880 Monsarrat & Dodge Map of Kula Upland Settlement Area, RM 913, Annotated to Show *Māhele* and *Kuleana* claims

Table 3: Upland Field Zone Elevations of *kuleana* claims in Kula District (from South to North)

Ahupua`a	**Approx. Elevation (in Feet)**	**Comments**
Kama`ole	2,400' -3800'	38 claims with potato fields, 13 with houses, 4 with taro and 1 with bananas
Kēōkea	2600'-3200'	29 claims with potato fields, 14 with houses, 24 with taro and 4 with bananas
Waiohuli	2600'- 3300	35 claims with potato fields, 23 with houses, 9 with taro and 12 with bananas
Kōheo	3000'	5 claims with potato fields, 1 with taro
Ka`ono`ulu	2900'	20 claims with potato fields, 1 with taro
Alae	3200'	1 claim with potato fields, 1 with a house
Waiakoa	2600' - 3800'	5 claims with potato fields, 1 with a house
Kealahou	2600-3000'	3 claims with potato fields
Kamehame	2400' - 3400'	2 claims with potato fields
Pūlehu	2400' - 3400'	7 claims with potato fields
Ōma`opio	2000' - 3800'	5 claims with potato fields, 2 with houses
Kalialinui	2300	7 claims with potato fields, 2 with houses, 1 with taro and 1 with bananas
`A`apueo	2200	2 claims with potato fields, 1 with a house
Maka`ehu	n.d.	No claims?
Keāhua	nd.	No claims?
Kailua	n.d.	No claims?
Hōkū`ula	n.d.	No claims?

The settlement pattern in the upland field zone indicated on the Monsarrat and Dodge map (Figure 6) and on Table 3 shows that this habitation/agricultural zone follows a relatively uniform contour as far as it can be documented. From Kama`ole in the south to Kalialinui in the north this zone typically begins on the downslope side between 2300 to 2600-foot elevation close to the 30" rain isohyte. There is really very little evidence for this zone further north but it appears to be descending in elevation - presumably following the same rain isohyte (see Figure 2). The Monsarrat and Dodge map (Figure 6) and Table 3, however, also show that this "zone" should not be construed as a uniform band of

habitation and agricultural activity across slope. The upland field zone of three *ahupua`a* (Kama`ole, Kēōkea and Waiohuli) account for 50 house claims and 102 potato fields while the fourteen northern *ahupua`a* (Kōheo -Hōkū`ula) collectively account for only seven house claims and fifty-seven potato field claims. This may in part reflect a random bias of the data, as there was clearly a good deal of activity in the upland field zone of Waiakoa *Ahupua`a* (Figure 6) despite the few houses and potato fields specifically claimed there. It still appears, however, that the upland zone of the southern portion of Kula District supported a much higher density of habitation and agriculture than did the northern lands.

iv. Zones Further Upslope in the Mid 1800s Period

Traditional activities in zones further upslope probably decreased in the mid 1800s as a result of Hawaiian population decline. Cattle and goats probably made inroads in upper forests which had never been subjected to swidden agriculture resulting in the increased erosion noted below. The approximate limits of the "zones further upslope can be estimated by locating the upslope limit of *kuleana* claims and noting the upslope extent of the *ahupua`a* of Kula District (Table 4).

Table 4: Elevations of Zones Further Upslope in Kula District

Ahupua`a	Approx. Elevation (in Feet)	Comments
Kama`ole	3800'-7000'	ends at Pu`u Kēōkea
Kēōkea	3200'-7200'	Beheaded by Papa`anui
Waiohuli	3300- 8800'	Ends at Kalepeamoa
Kōheo	3000'- 6000'	Pinched out by Ka`ono`ulu and Waiohuli
Ka`ono`ulu	2900' - 9000'	Beheaded by Papa`anui
Alae	3200' - 7400'	Pinched out by Ka`ono`ulu and Waiohuli
Waiakoa	3800'-10000'	To summit
Kealahou	3000' - 10000'	To summit
Kamehame	3400' - 9500'	To caldera
Pūlehu	3400'- 9500'	To caldera
Ōma`opio	3800' -4600'?	Pinched out by Kalialinui and Pūlehunui
Kalialinui	2300' -7500'	To caldera
`A`apueo	2200'-3200'	Beheaded by Kalialinui, perhaps no zones further upslope

Ahupua`a	Approx. Elevation (in Feet)	Comments
Maka`eha	n.d. -3200'	Beheaded by Kalialinui, perhaps no zones further upslope
Keāhua	nd.-1500'	Pinched out by Hoku`ula and Maka`eha, perhaps no zones further upslope
Kailua	n.d.-1500'	Pinched out by Hoku`ula and Maka`eha, perhaps no zones further upslope
Hōkū`ula	n.d.-2400'	Beheaded by Maka`eha, perhaps no zones further upslope

D. Late 1800s Period

i. The Coastal Zone in the Late 1800s Period

Coastal activity remained focused at Kalepolepo. Bay whaling was evidently still going strong in 1862 with O. J. Harris "meeting with such success that try-works were erected at his Kalepolepo Station." (Thrum 1913:56) Halstead ran his Koa House store at Kalepolepo until 1876, closing shop when the potato industry diminished and moving to `Ulupalakua. (Janion 1977:25-31). Wilcox (1921:66) relates an account of acute environmental degradation in Kula circa the 1870s as follows:

> In the [eighteen-] seventies and later, the Kula mountains had gradually become denuded of their forests, torrential winter rains were washing down earth from the uplands filling with silt the ponds at Kalepolepo." cattle trampling down the brush and grass of the nearby fields caused sand dunes to drift, filling up the Kalepolepo pond, and the daily breezes which once cooled the heated air had changed to a scorching daily simoon, sweeping clouds of dust and drifting sand over the partly abandoned site of the [Kalepolepo] village. In the seventies, ruins of grass huts partly covered by drifting sand, and a few weather beaten houses perched on the broad top of the old fishpond wall at the edge of the sea, with the Halstead house looming over them dim and shadowy in the daily swirl of dust and flying sand, impressed on the passerby that unlovely name bestowed on the village in song and story as a reproach - Kalepolepo, "the dirty place."

This was a far cry from the Kalepolepo of the eighteen-fifties in which "Coconut trees and kou trees grew beside pools of clear water, along the banks of which grew the taro and the ape."

The coastal portions of Kula, were used for ranching activities by Haleakalā Ranch Company in the late 1800s (Donham 1990b:6).

ii. The Barren Zone in the Late 1800s Period

By the 1880s the barren zone consisted primarily of pasture land for ranching (Wong Smith in Donham 1990b:B-6). The Land Grants show that Haleakalā Ranch Co. patented 2155 acres in Kula in 1891. Kennedy (1992:7) notes that at this point *kiawe* was imported to feed cattle and provide wood. Maps from late 1800s/early 1900s indicate that several ranching companies owned and operated land in the broad expanse of *kula* land in the barren zone of Kula District.

iii. The Upland Field Zone in the Late 1800s Period

Wilcox (1921:66) relates that: "In the late [eighteen-] sixties the Irish potato trade had become unimportant and later ceased all together." The declining decades of the potato industry were somewhat off-set by wheat. Wilcox (1921:66) relates that: "during the wheat boom of the [eighteen-] fifties and early sixties when the upper Makawao country was cropped to wheat." In the later decades of the 1800s the upland field zone was used increasingly for ranching. E. D. Baldwin relates that in 1888 "There were none of the owners of Waiakoa *kuleanas* living above the Government Road and only a few *makai* of said road (Sterling 1998:252). A major reason for abandonment was that "Waiakoa had been over run with cattle for years."

iv. Zones Further Upslope in the Late 1800s Period

While the acute environmental degradation of the 1870s Wilcox related above probably affected all environmental zones, it may have been most severe on the native forest of the higher slopes. Cattle and goats probably continued to make inroads in upper forests which had never been subjected to swidden or commercial agriculture.

Sugar companies began operating in the Makawao area in the late 1800s. The Hawaiian Commercial Company was founded in 1878 by Claus Spreckels and in 1882 became the Hawaiian Commercial and Sugar Company (HC&SC), located in Pu`unene. In 1899 the company was acquired by investors headed by J.B. Castle, with Alexander & Baldwin replacing the plantations agents.

E. Early 1900s To The Present

i. The Coastal Zone in the Twentieth Century Period

The Kīhei Plantation Company, located on the shores of Mā`alaea Bay was chartered in 1899 by an illustrious group including B. F. Dillingham, H.P. Baldwin, L. A. Thurson, J. P. Cooke and M. P. Robinson. Following poor returns, the Kīhei Plantation Company was absorbed or merged into the Hawaiian Commercial and Sugar Company in 1908 (Conde and Best 1973:230). It seems probable that the Kīhei Plantation Company sugar lands were quite similar to the Kīhei lands of the Hawaiian Commercial and Sugar Company shown on a map by H. I. Shoemaker dated 1910. This 1910 map indicates extensive sugar cane fields with some pastures lying seaward of the "Lowrie Ditch" at approximately 450-foot elevation. Some of these fields went virtually to the coast. The

best KPC fields continued to be cultivated (some are still productive), while the remaining plantation lands became cattle pasture. (Cox 1976:14-15) The upslope limit of these fields corresponds closely with the modern Wailuku/Makawao District boundary, or the seaward edge of Pūlehunui, Ōma`opio, Kalialinui, `A`apueo, Maka`eha Keāhua, Kailua and Hōkū`ula *Ahupua`a*. It appears that there was no commercial sugar cane cultivation near the project area at that time.

While World War I had little impact on Maui, World War II brought with it a significant military presence. Speakman (1984:166-176) provides a detailed review of the Marines on Maui including an account of training maneuvers held at Mā`alaea Bay, along its beach and in the *kiawe* groves to the east of the Bay. Allen (1971:230) notes that the Marines conducted amphibious landing training at Mā`alaea Bay. Allen (*Ibid.*) also gives an extensive account of the Navy presence on Maui, which included a Combat Demolition Training Station at Kama`ole. The training station at Kama`ole was responsible for research work at Kīhei as early as 1940.

Kīhei underwent a rapid residential and commercial development beginning in the 1970s. Clark (1980:49) notes that the groundwork for this development was established in the late 1950s when investors began purchasing coastal property. However, the construction boom of high rise apartments, hotels, and condominiums and corresponding shopping centers, restaurants, and real estate offices didn't occur until the 1970s. Speakman (1984:188) notes that along with the condominiums and "classy" hotels (Maui's "hallmark") came congestion and overcrowding which resulted from this development: "It was partially blamed on the fact that Kīhei was owned by many proprietors or speculators, each with individual plans uncoordinated with general planning, and partly on the failure of the County planners to hold the line against the runaway development. Kīhei became the model for the wrong way to go about expansion." Pi`ilani Highway was constructed to ease the congested Kīhei traffic which resulted from this development and expansion of the tourist industry.

ii. The Barren Zone in the Twentieth Century Period

In 1909 Henry P. Baldwin receives a grant for 873 acres (Grant 5167 seen on TMK: 2-5-01:2) in Ōma`opio and Pūlehu nui. With pineapple, sugar, and dairy in the area, "a sizeable plantation community developed at Keāhua, a few miles below Pukalani, complete with school post office, and churches, all of which has now disappeared and been replaced with sugar cane" (Bartholomew and Bailey 1994:121). Keāhua Camp lay approximately 4 kilometers west of the north end of the project area at the seaward edge of Kailua *Ahupua`a*. A 1949 map of Hawaiian Commercial and Sugar Company lands shows extensive fields extending up to the Hāmakua Ditch at approximately 1000-foot elevation extending across an expanse of Pūlehunui, Ōma`opio, Kalialinui, `A`apueo, Maka`eha

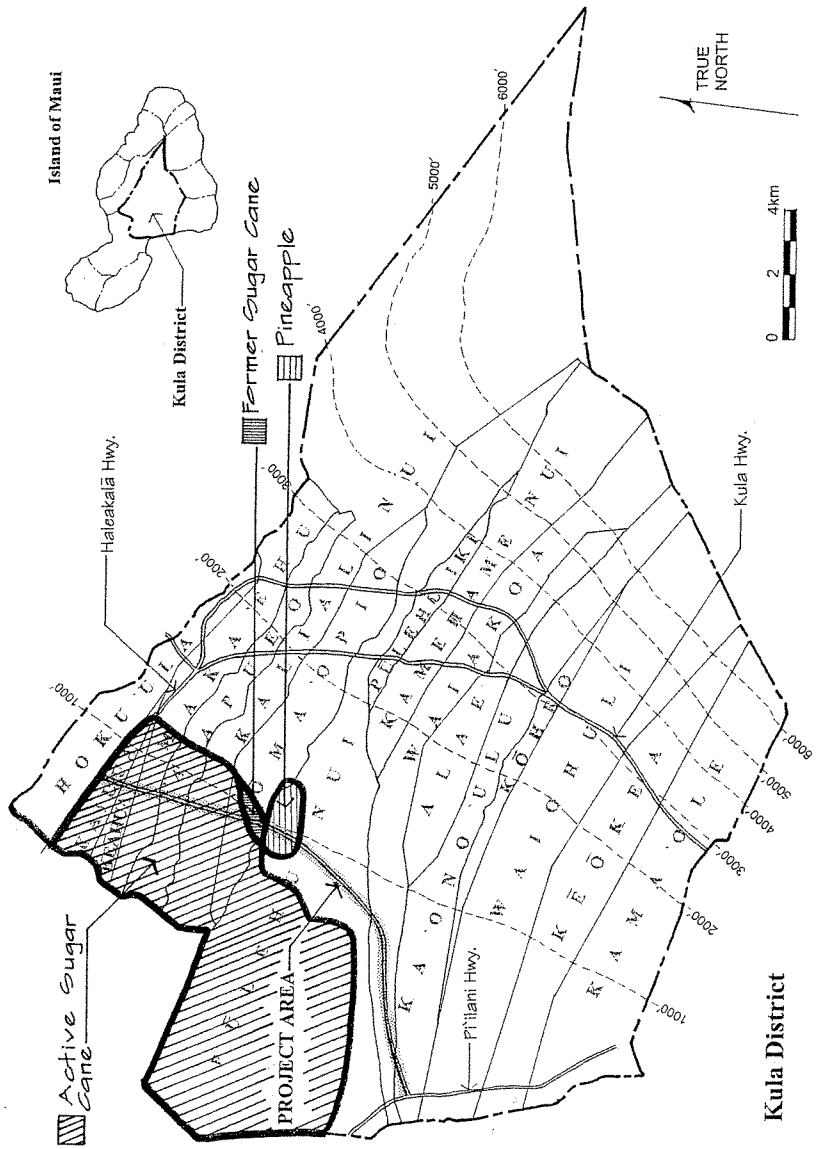

Figure 7 Map Showing Areas Impacted by Commercial Agriculture Adjacent to the Project Area

Keāhua, Kailua and Hōkū`ula *Ahupua`a*. Thus it can be safely assumed that most of the sugar cane field infrastructure observed in the northern 60% of the project area dates between 1910 and 1949. HC&SC currently operates the cane fields which blanket the northern third of the study parcel (Figure 7).

Pineapple cultivation was introduced to Makawao in the early 1900s. The Maui Agricultural Company (M.A.Co.), primarily a sugar producer, began planting pineapple in its upland parcels. "Some of the M.A. Co. fields in the higher elevations were too far from the main line railroad and lacked a water supply for fluming and irrigation. In 1923 the plantation started planting pineapple on these lands...the C.P.C. [California Packing cannery] concern then built a large cannery...The M.A. Co. move[d] the cannery workers from Paia to Kahului." (Condé and Best 1973:233)

Maui Land and Pineapple Company also had its beginnings during this time period. According to Speakman (1984:130-131) the company started as Baldwin Packers which then became Maui Pineapple Company, owned by Alexander & Baldwin. The company developed over the 1950s and 1960s, becoming "the largest producer of pineapple on Maui." The Cameron family then took control and the company became Maui Land and Pineapple Company. Maui Land and Pineapple Company continues to cultivate pineapple within the western reaches of the study parcel (Figure 7).

Burgett and Spear (1995:8) discuss the introduction of ranching ventures into the uplands of Kula in the early 1900s. Haleakalā Ranch and Ka`ono`ulu Ranch continue to run cattle over a huge expanse of the "barren zone" of Kula District.

Speakman (1984:188) notes that along with the Kīhei construction boom in the late twentieth century came the construction of millionaire homes in the dry hills overlooking Kīhei and the view beyond of Kaho`olawe and Moloka`i.

iii. The Upland Field Zone in the Twentieth Century Period

In 1905 the Kula Pipeline was built during a harsh drought, expanding the water resources of the Kula area (Mark in Kennedy 1992:7). Haleakalā Ranch and Ka`ono`ulu Ranch continue to run cattle over a huge expanse of the "upland field zone" of Kula District.

iv. Zones Further Upslope in the Twentieth Century Period

Haleakalā Ranch and Ka`ono`ulu Ranch continue to run cattle over a huge expanse of the "zones further upslope" of Kula District. During the 1970s, Kula produced the majority of Hawai`i's locally grown produce and livestock ranches comprised most of the remaining land use. At present, non-residential areas are still in use as centers of agricultural production.

IV. SUMMARY AND PREDICTIVE MODEL

The project area appears to be located entirely in the *kula* (dryland plains) or "barren zone" of Kula District (see Figure 3). The vicinity of the upper roads on the slopes of Haleakalā, above this *kula* zone has served as an "upland field zone" or agricultural center since the pre-contact era. The *`uala*, or sweet potato was traditionally cultivated in Kula in elevations above 2000 ft. a.m.s.l. in an upland field zone belt. Corresponding with this agricultural activity was relatively dense habitation in the uplands, particularly in the southern *ahupua`a* of Kama`ole, Kēōkea and Waiohuli. This upland field zone is poorly defined in its northern extent in land documents with no *kuleana* land claims for houses or agricultural fields awarded in the uplands of the northern *ahupua`a* of Maka`eha, Keāhua, Kailua, or Hōkū`ula (there is one claim 8452:7 for *kula* land in Kailua *Ahupua`a).* It appears that the upland field zone most likely approximated the 30-inch rainfall isohyte, dipping in elevation to the north (Figure 2), but this remains largely conjectural in north Kula District owing to the absence of land claims for houses or agricultural fields. The extensive historic disturbance in this area by commercial agriculture probably obliterated most traces of what few fields and homesteads there were here.

Cordy (2000:2) notes that the barren zone in which the project area lies seemed to mainly have had trails and associated shelters leading to the uplands, but with some small dryland fields and associated field shelters near the shore. This zone is suggested (Cordy 2000:2) to have a very low density of sites. It seems probable that the more populous southern *ahupua`a* of Kula District, which had a coastal zone (Kama`ole, Kēōkea, Waiohuli, Ka`ono`ulu, Waiakoa), had more activity in the barren zone. This greater activity would be due to the greater traffic between uplands and coast and also to small dryland fields associated with coastal settlement.

The prediction for the most likely area of pre-contact and early post-contact Hawaiian sites thus would focus on the southwestern third of the project area in Waiakoa and Ka`ono`ulu *ahupua`a*. It seems probable that trails from the uplands to the coast would have traversed these narrow *ahupua`a* (such as the Waiakoa Trail; see McGerty and Spear 2000:44) and that associated temporary shelters, midden scatters etc. might be encountered. Another focus of pre-contact and early post-contact Hawaiian sites would be expected to be in the gulches. McGerty and Spear (2000:51) quote Charles Maxwell as asserting knowledge of petroglyphs in at least four gulches and of at least six burial caves in these gulches. The over-riding conclusion however is that the entire *kula* or barren zone in which the project entirely lies is an area in which low to very low site densities might be anticipated. This is supported by a recent study (McGerty and Spear 2000:55) "which did not identify any specific Traditional Cultural Properties within the project area".

The results of the present study suggest that the vast majority of Kula District land, including the Barren Zone and zones above the upland field zone, would be expected to have low densities (perhaps less than one site per ten acres on average) of pre-contact to mid 1800s sites. Areas with anticipated high site densities (averaging perhaps one or more sites per acre) would include the vicinity of Kalepolepo settlement and the upland field zone of Kama`ole, Kēōkea, Waiohuli, Ka`ono`ulu. Other portions of the coastal zone and the upland field zone might be anticipated to have moderate site densities (perhaps averaging 0.1 to 1 site per acre).

V. PREVIOUS ARCHAEOLOGICAL RESEARCH

Previous archaeological research in Kula District has predominantly been done at the elevations above 2,000 ft. a.m.s.l. -- upcountry Kula -- or in the coastal Kihei region. An overview of research relevant to the study parcel is presented in Table 5 and is discussed below.

Table 5: Previous Archaeology

Date	Author	*Ahupua`a*	Nature of Study	Findings
1909 - 1918	T. Thrum	Island wide	*Heiau* study	1 *heiau* in Kailua *Ahupua`a*
n. d.; c. 1909	J. Stokes	Island wide	Reconnaissance, *Heiau* study	Documents a settlement and agricultural zone around 2,000' elevation
1931	W. Walker	Entire Island	Reconnaissance	three *heiau* in the *ahupua`a* of Waiohuli above 3,000' elevation
1970	J. Cox & E. Stasack	Archipelago Wide	Petroglyph study	Inventories petroglyphs
1971	I, Ashdown	Island Wide	Study of *Ke Alaloa o Maui*	Collection of cultural information
1971	P. Kirch	Palauea	Survey & Excavations	Documents a coastal settlement and settlement patterns
1973	W. Kikuchi	State-wide fishpond survey	Fishpond survey	Notes 3 fishponds in the Kalepolepo area
1975	P. Rosendahl	Haleakalā Hwy.	Reconnaissance	Identified 7 sites
1976	D. Cox	Pūlehunui to Kama`ole	Surface Survey	Identified 6 sites
1977	R. Cordy	Pūlehunui to Paeahu	Reconnaissance	Identified 38 sites: 30 in Waiohuli, 0 in Kaonoulu and 8 in Kēōkea
1978	M. Rosendahl	Haleakalā	"Overview"	Located & reported sites
1978	A. Sinoto	Coastal Kama`ole	Reconnaissance	Recorded 6 sites including 4 probable habitation features

Date	Author	*Ahupua`a*	Nature of Study	Findings
1981	R. Hommon	Coastal Waiakoa	Reconnaissance	No archaeological findings
1981 (a)	C. Keau	Coastal Kama`ole	Reconnaissance	No archaeological findings
1981 (b)	C. Keau	Coastal Kaonoulu	Reconnaissance	Notes historic features & significance of area
1982	M. Miura (R. Bordner & D. Cox)	Coastal Waiohuli & Kēōkea	Reconnaissance	Reports 9 sites
1982 (a)	E. Neller	Coastal Kama`ole	Reconnaissance	Relates report of "large number of burials"
1982 (b)	E. Neller	Coastal Kaonoulu	Reconnaissance	No archaeological findings but relates history on pond & graves
1986	W. Kam	Waiohuli & Kēōkea 2100' to 2700' elevation	Field Inspection	2 possible pre-contact house sites & walls
1986 a	J. Kennedy	Coastal Kēōkea	Reconnaissance	No archaeological features were located
1986 b	J. Kennedy	Coastal Waikapu	Reconnaissance	Notes mounds (discounted in 1988a)
1986 c	J. Kennedy	Coastal Waiohuli	Reconnaissance	No archaeological sites were found
1987	M. Riford	Uplands (1800' to 3000') of Waiohuli & Kēōkea	Monitoring & Reconnaissance Survey	Identified 113 sites mostly pre-contact
1987	F. Watanabe	Uplands (280' to 380') of Waiohuli	Reconnaissance	No archaeological sites were found
1988	A. Estioko-Griffin	Uplands (2680') of Kēōkea	Field Inspection	Notes human remains in a cave site
1988	A. Haun	Kama`ole	Reconnaissance	Identified 33 sites, mostly military, revisited by Mayberry & Haun 1988
1988 (a)	J. Kennedy	Coastal Waikapu	Testing & Monitoring	No archaeological findings

Date	Author	*Ahupua`a*	Nature of Study	Findings
1988 (b)	J. Kennedy	Coastal Kaonoulu	Reconnaissance	No archaeological findings
1988 (c)	J. Kennedy	Coastal Waiohuli	Reconnaissance	No archaeological Findings
1988 (d)	J. Kennedy	Coastal Waiohuli	Reconnaissance	No archaeological Findings
1988	J. Mayberry & A. Haun	Coastal Kama`ole	Reconnaissance	Identified 33 sites
1989	R. Brown	Upland (1800' to 3000') Kēōkea and Waiohuli	Inventory Survey	Identified 159 sites (part of this area was studied by Riford in 1987)
1989	R. Brown & A. Haun	Kēōkea and Waiohuli	Inventory Survey	A more detailed study of the same parcels described by Brown 1989
1989	T. Donham	Waiohuli	Inventory Survey	Identified 4 sites in a portion of the Miura 1982 study area and recommended data recovery
1989	W. Fredericksen *et al.*	Coastal Kama`ole	Inventory Survey	No archaeological findings
1989	H. Hammatt & D. Shideler	Coastal Kama`ole	Reconnaissance	Identified 8 sites
1989 (a)	J. Kennedy	Coastal Kama`ole	Survey	No archaeological findings judged significant
1989 (b)	J. Kennedy	Coastal Kama`ole	Reconnaissance	No archaeological findings
1989 (c)	J. Kennedy	Coastal Pūlehu	Inspection	No archaeological findings
1989 (d)	J. Kennedy	Coastal Waiohuli	Subsurface Testing	No archaeological findings
1989	H. Leidemann	Coastal Kama`ole	Reconnaissance	No archaeological findings, area extensively bulldozed
1989	A. Sinoto	Coastal Kama`ole	Surface Survey	Identified 8 sites

Date	Author	*Ahupua`a*	Nature of Study	Findings
1990 (a)	T. Donham	Coastal Waiohuli	Data Recovery	Site 2475 was excavated
1990 (b)	T. Donham	Coastal Kēōkea	Inventory survey	Part of Miura 1982 study area. 16 sites were identified
1990 (a)	W. Fredericksen & D. Fredericksen	Coastal Kēōkea	Monitoring	No archaeological findings
1990 (b)	W. Fredericksen & D. Fredericksen	Coastal Kēōkea	Survey & Monitoring	No archaeological findings
1990	W. Fredericksen *et al.*	Coastal Kama`ole	Inventory Survey	No archaeological findings
1990	H. Hammatt & D. Shideler	Coastal Kama`ole	Reconnaissance	No archaeological findings
1990 a	J. Kennedy	Coastal Waiakoa	Survey	No archaeological findings
1990 b	J. Kennedy	Kama`ole, 300' elevation	Archaeological Inventory Survey	No archaeological findings
1990 (a)	A. Sinoto	Coastal Waiakoa	Survey & Testing	No archaeological findings (other than 2 pieces of midden)
1990 (b)	A. Sinoto	Coastal Kama`ole	Reconnaissance	No archaeological findings
1991	T. Donham	Upland (3200') Kaonoulu	Field Inspection	Study of the Wonderland Mushroom House (1933-1936) historic structures
1991 a	W. Fredericksen *et al.*	Coastal Kama`ole	Subsurface Inventory Survey	No significant archaeological findings (2 modern dog burials and a modern trash pit)

Date	Author	*Ahupua`a*	Nature of Study	Findings
1991 b	W. Fredericksen *et al.*	Coastal Kama`ole	Subsurface Inventory Survey	No significant archaeological findings (only modern trash)
1991	J. Kennedy	Coastal Kama`ole	Reconnaissance	No archaeological findings
1991	J. Kennedy & M. Breithaupt	Coastal Kēōkea	Inventory survey	No archaeological findings
1991	J. Pantaleo *et al.*	Coastal Kama`ole	Inventory Survey	Covered part of same area as Hammatt & Shideler 1989, 1991
1991	L. Hazuka & J. Pantaleo	Coastal Kama`ole	Surface Survey	No archaeological findings
1992	H. Hammatt & D. Shideler	Coastal Kama`ole	Survey & Testing of H. Hammatt & D. Shideler 1989 study area	Identified 2 probable *koa* (fishing shrines) among 8 sites
1992	J. Kennedy	Coastal Kama`ole	Inventory survey	Identified 4 sites including a permanent pre-contact habitation/religious site
1992	J. Kennedy *et al.*	Coastal Kama`ole	Inventory survey wt Subsurface Testing	Identified 4 sites all believed to be historic; two military and 2 ranching
1992	Sinoto & Pantaleo	Coastal Pūlehunui	Inventory Survey	No archaeological findings other than a bridge foundation (site -3131)
1992	R. Spear	Coastal Kēōkea	Inventory Survey	No archaeological findings
1993	W. Folk and H. Hammatt	Ōma`opio, 2500 ft elevation	Inventory Survey	Three sites identified
1993	D. Fredericksen *et al.*	Coastal Waiohuli	Inventory Survey/Data Recovery	A rock shelter excavation yielded lithic artifacts, midden and a date of A.D. 1560 to 1800
1993	W. Fredericksen & D. Fredericksen	Ōma`opio	Inventory Survey	No sites identified

Date	Author	*Ahupua`a*	Nature of Study	Findings
1994	D. Frederick-sen *et al.*	Coastal Kama`ole	Inventory Survey	2 sites were identified including a midden scatter & a concrete slaughterhouse foundation
1994 a	E. Frederick-sen *et al.*	Kama`ole	Inventory Survey	Radiocarbon date reported as AD 1520 to 1570
1994 b	E. Frederick-sen *et al.*	Coastal Kama`ole	Subsurface Testing	Work at Site 50-50-10-2636
1994 c	E. Frederick-sen *et al.*	Kaonoulu, *mauka* of Pi`ilani Hwy.	Inventory Survey	21 sites were identified, some military and some pre-contact
1994	W. Frederick-sen *et al.*	Coastal Waiohuli	Inventory Survey	22 backhoe test trenches were excavated but there were no significant archaeological findings
1994	M. Kolb *et al.*	Upland Waiohuli and Kēōkea	Settlement Survey	Archaeological & historical settlement survey
1995	Burgett & Spear	Upland Kaonoulu (3100' elevation)	Archaeological Inventory Survey	6 post contact sites were identified
1995 a	E. Frederick-sen & D. Frederick-sen	Waiohuli	Inventory Survey	one rock shelter site was identified as a pre-contact temporary habitation site
1995 b	E. Fredericksen & D. Fredericksen	Waiohuli	Data Recovery	Four carbon dates were obtained suggesting late pre-contact use.
1995 a	D. Hibbard	Coastal Kēōkea	Environmental Assessment	Determined Phase III South Kīhei Road Improvements project would have "no effect"
1995 b	D. Hibbard	Coastal Kēōkea	Historic Preservation Review	Determined Phase II South Kīhei Road Improvements project would have "no effect"
1995	Masterson I *et al.*	Kalepeamoa at 9,250' elevation	Inventory Survey	Identified five sites

Date	Author	*Ahupua`a*	Nature of Study	Findings
1995	Moore and Kennedy	Upland Koheo and Kaonoulu (2600' elevation)	Archaeological Inventory Survey	8 sites were identified (3 historic ranching, 5 possibly pre-contact ag.
1996	E. Frederick-sen *et al.*	Upland Kaonoulu (3060' to 9700' elevation)	Archaeological Inventory Survey	4 sites were identified including 2 rock shelters and 2 historic sites
1996	B. McPhatter & P. Rosendahl	`A`apueo (Pukalani) 1600' elevation	Reconnaissance	Two sites were identified
1996	W. Wulzen *et al.*	`A`apueo (Pukalani) 1800 ' elevation	Archaeological Inventory Survey	5 Sites reported on
1997	Chaffee *et al.*	Waiohuli (120' elevation)	Archaeological Inventory Survey	3 sites were identified, all interpreted as agricultural
1997	Kolb *et al.*	Waiohuli & Kēōkea	Settlement Survey	Focuses on sites in Waiohuli & Kēōkea *makai* of Kula Hwy.
1998	C. Kawachi	15 kilometer corridor	Reconnaissance	Notes a large area of agricultural features
1999 (in press ?)	Pepalis, J. & Michael J. Kolb	Waiohuli	Archaeological Excavations	Found evidence of a stream-fed pond near Kalepolepo Church
1999	A. Dunn *et al.*	Waiohuli (2,700' elevation)	Data Recovery	11 sites were studied, 15 carbon samples were dated
1999	H. Hammatt and W. Folk	Kailua to Kama`ole	Reconnaissance	23 sites were identified
1999	Erik and Demaris Fredericksen	Kama`ole (170' elevation)	Archaeological Inventory Survey	3 sites were identified including 5 small enclosures and a rock pile
1999	E. Gordon & J. Brent	Waiohuli (2800' elevation)	Archaeological Inventory Survey	3 sites were identified
2000 a	H. Hammatt & D. Shideler	Waiohuli	Assessment	No archaeological findings

Date	Author	*Ahupua`a*	Nature of Study	Findings
2000 b	H. Hammatt & D. Shideler	Kēōkea	Archaeological Inventory Survey	No archaeological findings
2000	S. Kikiloi *et al.*	Kēōkea	Archaeological Inventory Survey	No archaeological findings
2000	McDermott, Shideler, and Hammatt	Waiohuli, adjacent to the Kalepolepo Church	Additional Archaeological Inventory Survey (Backhoe Testing)	Document Site 50-50-09-4981, former inland pond that contains evidence of early occupation at coastal Kīhei--approximately A. D. 600-900

General Kula District Research

The earliest archaeological studies on Maui begin with descriptive lists of religious sites by Thomas Thrum (1906-1918) and John Stokes (n.d.) in the early 1900s and culminate with the first island wide site survey by Winslow Walker (1931). Throughout the Kula region of Maui from Olinda and Makawao to Kanaio beyond `Ulupalakua, the sites recorded by Walker (all *heiau* - 33 total) are located in a continuous band between roughly 2000 ft. and 3000 ft. amsl.

From around 1930 to the 1970s only sporadic visits were made to Kula by archaeologists, primarily for the purpose of recording individual archaeological sites reported by local residents.

Inez Ashdown (1899-1992) spent her lifetime collecting information about Maui. This information she collected was put together in the book *Ke Alaloa o Maui* (1971). Regarding Kula (including the current project area and areas nearby), she notes that the largest fields of *ki`i* were at Nu`u, and the next largest could be found throughout Honua`ula, "particularly around the ancient temple of Lono in Oama`opio [sic]. In Kamehameiki area and on across into Ka-ono-ulu many petroglyphs are known and new ones can be found" (*op. cit.*:48). She also remarks that in the Kēōkea and Waiakoa areas:

> are many structures, fields of petroglyphs and temples around the two temples called Pa`uhu and Ka-imu-pe`e-lua. Also in this area the temples of Mahea and Ka-umu-o-pahu (or Ka-unu-o-pahu) may still remain, along with Po`o-na-hoe-hoe and Mana` the latter now part of a modern cemetery. At Pūlehu stood the temple of Ni-ni-ni-wai, and at Kama`ole the two on the Mao land, one named Wailuku because of the battle there and the destruction during the time when Ka-lani-ku-pule ousted a brother of Pai`ea Kamehameha (*op.cit.* 57-58).

W. Folk *et al.* (1999) located 23 sites during a reconnaissance survey of six different alternate routes for the Kīhei to Kula road corridor. The alternate corridors were four hundred feet wide. Sites encountered included petroglyphs, cattle walls, military features (C-shapes, enclosures, etc.), temporary habitation enclosures, a midden scatter and agricultural features. Two of the six alternatives were chosen as the final routes. The present study is an inventory of those two alternatives.

Coastal Kīhei Region (Figure 8)

Numerous archaeological surveys were conducted along the south coast of the Makawao District, particularly in the Kīhei, Wailea, and Mākena area and the from Kama`ole to Waiakoa as a result of the 1970s resort development.

From 1969 to 1971, Kirch (1971) conducted a survey and subsequent excavations at Palauea, south of K1 and K2 termini at Pi`ilani Highway. Through his analysis of coastal sites 50-50- -1028 and 50-50- -1029, Kirch concluded that settlement patterns in this area were characterized by transient coastal habitation involving the use of ocean resources with permanent settlements and agricultural activities in the upland region. (Donham 1990b: 4)

Donham (1990), in a report on Phase II of the Pi`ilani Residential Community in Kēōkea lists numerous reconnaissance and testing projects conducted in the Wailea and Mākena area from the early 1970s to the late 1980s. These studies, as stated by Donham, include: Barrere 1974, Clark 1974, Cleghorn 1974 and 1975, Barrere 1975, Hommon 1975, Cordy 1978, Haun 1978, Sinoto 1978, Jourdane and Sinoto 1979, Bordner 1980, Schilt and Dobyns 1980, Bordner and Cox 1982, Walker, Rosendahl and Haun 1985, Dicks and Haun 1987, Dobyns 1988, Haun 1988, and Shapiro and Haun 1988. According to Donham, the findings from the Jourdane and Sinoto 1979 and Schilt and Dobyns 1980 studies also support Kirch's hypotheses regarding settlement and subsistence patterns involving the inland and coastal regions of Makawao.

Other projects were also conducted in the coastal region of Kīhei extending from Kama`ole *Ahupua`a* in the south to Waiakoa *Ahupua`a* in the north (Figure 8). These projects provide useful information about the coastal area of Kīhei and settlement patterns relating to the inland zone, as discussed by Kirch (1971). However, since these studies reiterate already mentioned information and are located outside of our current study parcel, they will not be discussed here. For the reader's reference, these projects include (but are not limited to) a flora and fauna survey by Austin, Smith & Assoc. Inc. in 1974 and the following archaeological studies: Cox 1976, Hirota 1979, Hommon 1981, Keau 1981, Miura 1982, Neller 1982, Mayberry and Haun 1988, Hammatt and Shideler 1989, Hammatt and Shideler 1990, Donham 1990(a&b), Hurst 1991, Kennedy 1991, Hammatt and Shideler 1992, Kennedy 1992, Sinoto and Pantaleo 1992, Fredericksen *et al.* 1993, and Fredericksen *et al.* 1994.

Kula Zone (above Pi`ilani Highway at the coast)

In 1970 J. Halley Cox and Edward Stasack (1970) compiled a listing of identified petroglyph sites throughout Hawai`i, including the Kula area. Two of these sites, MA-B22-2 (State site 50-50-10-1061, Kalialinui Gulch petroglyphs) and MA-B22-1 (identified as MA-B23-1 in Cox and Stasack; State site 50-50-10-1062, Kaluapulani Gulch petroglyphs), were relocated during the present project (designated CSH 1 and CSH 23, respectively).

In January 1993 (Folk and Hammatt 1993), Cultural Surveys Hawai`i conducted an inventory level survey of approximately 25 acres on the southern edge of Ōma`opio *Ahupua`a*. This survey resulted in the relocation of several previously recorded sites, which in relation to the current study parcel are located east of terminus U3, between Kula Highway and Haleakalā Highway. These sites, already documented by Griffin and Donham, included a large enclosure (site 50-50-11-1349) and the Upper Pūlehu Gulch Petroglyphs (site 50-50-11-1268). Additional archaeological features consisting of a stacked boulder alignment and few low mounds were also located and collectively assigned site number 50-50-11-3121. Charcoal analysis of site 50-50-11-1349 suggests the site dates to be possibly as early as the 15th century A.D.

Mayberry and Haun's study in Kama`ole (1988) identified 33 sites with formal features including C-, U- and L-shaped alignments or walls, enclosures, terraces, cairns, alignments, upright boulder, mounnds and roadbeds and modified outcrops. They interpreted these to include military sites, temporary habitations, transportation, markers and agriculture. Which the majority of sites (20) interpreted as military-related remains.

E. Fredericksen *et al.* (1994) located 21 sites in Kaonoulu ranch land and these sites included a petroglyph (Site 3746), stone piles, cairn(s), enclosures, alignments for roadbed, walls, midden and lithic scatters. The stone piles are interpreted as possible clearing piles, possibly for agriculture, the cairns as markers, the enclosures as both a military and a pre-contact shelter, alignments for a military road, erosion walls from ranching period, and the midden and lithic scatters as possible sites of temporary habitations.

Upper Settlement and Agricultural Zone

In 1995, Burgett and Spear (1995) of Scientific Consultant Services, Inc. conducted an inventory survey of a 22.5 acre parcel located in Ka`ono`ulu *Ahupua`a*, Makawao District. A total of six sites comprised of 29 features were identified during the survey. The identified features included the following formal types: terrace, wall, enclosure, cistern, mound, building and platform. It was determined that all sites are post-contact in age and associated with agriculture and habitation activities.

In February 1996 McPhatter and Rosendahl (1996) conducted an archaeological reconnaissance survey of a 250-acre parcel located in the land of `A`apueo, Makawao District (TMK: 2-3-08: Por.5). Most of the project area consists primarily of former pineapple lands between Kaluapulani and Kalialinui Gulches. This survey resulted in the identification of two sites: (1) a site assigned the temporary number 1707-1 and described as a sailing canoe petroglyph, and (2) temporary site number 1717-2 described as a wall. In

addition to these sites several land clearing piles associated with historic pineapple cultivation were also reported but were not assigned site numbers. It was determined that further data collection activities should take place at the wall site 1707-2, and that the petroglyph site 1707-1 be preserved with interpretive development.

In March 1996 Wulzen, *et al.* (1996) conducted an inventory survey of a 44-acre parcel that is the *mauka* portion of McPhatter and Rosendahl's February 1996 project area. The 44-acre parcel is also described by Wulzen as part of the 305-acre Pukalani Terrace Subdivision Unit III located in the land of `A`apueo, Makawao District (TMK: 2-3-08: Por.5). Wulzen's project area contained three previously recorded sites: (1) the Kalialinui petroglyph site 50-50-10-1061, (2) 50-50-10-4179, the "sailing canoe petroglyph site" recorded as temporary site number 1707-1 by McPhatter and Rosendahl (1996); the description of this site was upgraded to multiple petroglyphs, and (3) 50-50-10-4178, the wall recorded as temporary site number 1707-2 by McPhatter and Rosendahl (1996). One new site (Site 50-50-10-4181) was identified during Wulzen's survey; it consisted of four features including two agricultural clearing mounds and two stone alignments. Testing conducted at the stone alignments yielded historic artifacts associated with pineapple agriculture. The Kaluapulani petroglyph site 50-50-10-1062, originally described as being only on the north side of Kaluapulani gulch, was relocated by Wulzen although his project area boundary is on the south side of that gulch. They reported their concurrence with the original recorded data on the site, except they found the petroglyphs to extend further *makai* than originally described.

Other research in the upcountry Kula area includes Donham (1990(c); 1992), and Fredericksen and Fredericksen (1993; 1995).

Two archaeological surveys conducted during the 1980s in the *ahupua`a* of Waiohuli and Kēōkea by Mary Riford (1987) and Roderick Brown and Alan Haun (1989) have contributed the bulk of data on site patterning and land use prior to the 20th century in "up-country" Kula Maui. These studies, and a selection of others relevant to the upcountry Kula area, are summarized below.

Riford's (1987) monitoring and reconnaissance survey for the Waiohuli and Kēōkea Subdivisions identified 113 sites with 252 features consisting of "agricultural terraces and mound features as well as a number of possible habitation- and religious-related stone, walled enclosures..." (*op. cit.*:55). Riford suggests that human occupation in the area extended from prehistoric times to the 1950s based on artifacts observed at the sites (*op. cit.*:56). This time frame is further documented by Brown and Haun (1989:18-21).

Brown and Haun (1989) conducted an inventory survey for the same study parcels in Waiohuli and Kēōkea, covering 1,025 acres of uncultivated pasture land located between 1,800 ft. and 3,000 ft. amsl. Within the survey area 159 sites with 274 features were identified, including agricultural, residential, and ceremonial complexes. Fifty-three of the sites had been identified during the Bishop Museum (Riford 1987) survey.

In general Brown and Haun (1989:27) found that the Kēōkea division was intensively exploited in a variety of ways for at least two-thirds of the entirety of Hawaiian prehistory." They suggest similar land use and chronology but lesser density in the

Waiohuli area, probably due to a greater amount of recent land clearing activities. Sixteen radiocarbon dates provided overlapping ranges from A.D. 1270 through A.D. 1955. One sample, with the earliest date, yielded three possible ranges between A.D. 680 and A.D. 1157. (*op. cit.*:19,20)

In 1996 Xamanek Research located 4 sites of which two are in the Upper Settlement and Ag zone: a historic house platform with cistern and agricultural terracing at 3600 ft. a.m.s.l. and an historic habitation area between 3080 and 3200 ft. a.m.s.l. which the authors believe is probably associated with potato production during the Gold Rush.

In 1996 Farley Watanabe did an assessment followed up by Carol Kawachi's recordation of sites in the upper reaches of the Upper Settlement and Agricultural zone. Three Chinese corn-growing agricultural sites including a historic house foundation were recorded at the 4169 ft. Elevation. The recordation of sites was between the 3988 to 4214 a.m.s.l. Other retaining walls and an historic road were also noted.

> "Watanabe's (1996) research suggest that the project area may have been in forest in pre-contact times and at the upper reaches of early post-contact cultivation" (Kawachi 1997:10).

Michael J. Kolb, editor, *et al.* (2000), has provided an extensive historical and archaeological background for the Kula District in Waiohuli and Kēōkea. They identified 1093 features of which 52% were interpreted as having an agricultural function. The features included terraces, enclosures, mounds, walls, outcrops, alignments, and C- U-, and L-shapes, platforms, garden enclosures, rock shelters, notched enclosures, overhangs, lava tubes, depressions, an `auwai, a pavement and a road. Their 161 test pits determined agricultural, permanent and temporary habitations,, ritual and burial functions.

Mountain and Forest Region including Kalialinui section of Haleakalā

In 1975 Paul Rosendahl conducted an archaeological reconnaissance for the Haleakala road Realignment corridor in the National Park. He located 2 cave shelters, 6 walled shelters, 1 platform, and 3 cairns. In 1978 Margaret Rosendahl wrote an overview of National Park archeological resources including Emory's and others' works, although none of these resources appears in Kula, the types of sites she noted were caves, pits, walls, resting places with *ahu* or cairns, trail, platforms, terraces, a *heiau*, various shelters and enclosures and fireplaces.

In 1995 Ian Masterson, William Folk and Hallett Hammatt conducted an inventory survey of the summit in Papa`anui *Ahupua`a* and found two walled shelters. Tina Bushnell and Hallett Hammatt (in progress) *An Archaeological Inventory Survey of 1.5 Acres of the University of Hawai`i Facility at Haleakala, Papa`anui Ahupua`a, Makawao District, East Maui, (TMK 2-2-07: 8)* located two rock enclosures which are interpreted as trash burning pits and are associated with military use of Kolekole in the early 1940s and subsequent University of Hawai`i Research use. Another site was a terrace, an enclosure and a wall segment (Bushnell & Hammatt 2000:2). In 1996 Xamanek Research located 4 sites of which two are in the Mountain & forest zone of which 2 in the upper reaches of the Upper Settlement and Ag zone: the 2 rock shelters are found at the 6900 and 7400 ft. a.m.s.l.

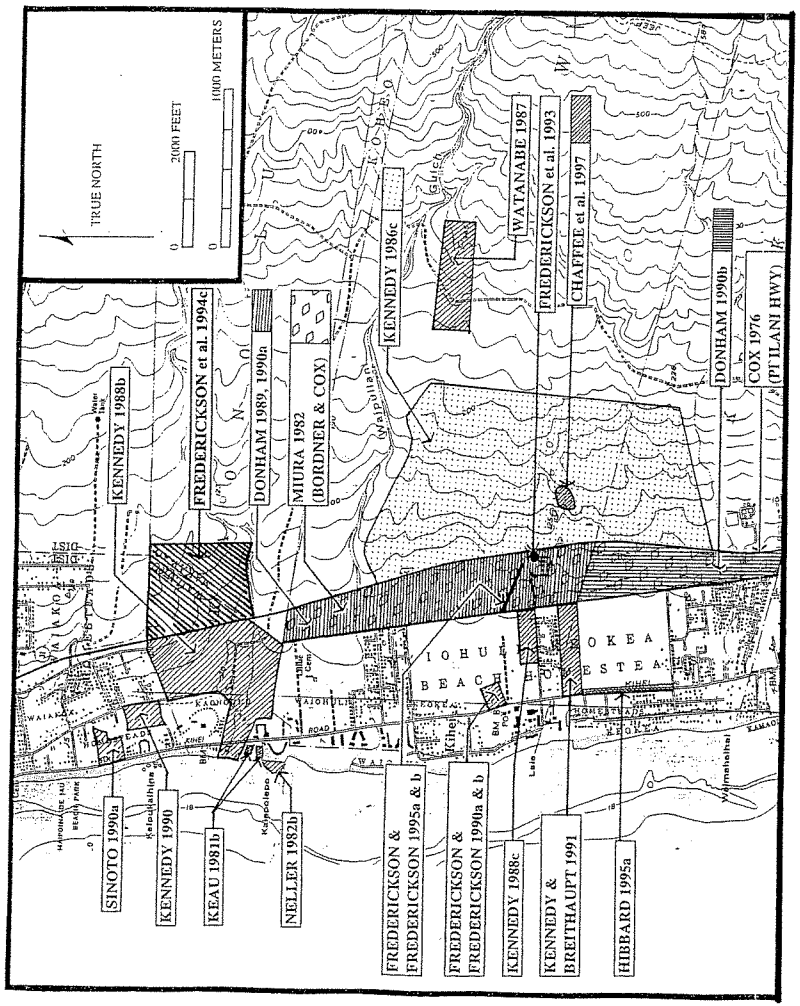

Figure 8 Previous archaeology conducted in the Kula Zone of the Kula District

VI. SURVEY METHODOLOGY

The survey and testing were conducted between August 28, 2000 and October 3, 2000 by a crew that ranged from two to four archaeologists. A total of eleven days were spent in the field for a total of 36 person days. Crew members included Ka`ohulani McGuire, B.A., Mary Perzinski, B.A., Lokelani Aipa, B.A., Thomas Devereux, B.A., Tony Bush, B.Ed., and Ian Masterson with Brian Colin, B.A., acting as field director and Dr. Hal Hammatt as the principal investigator.

Different survey methods were utilized during the course of the inventory survey. In the sections of the project that were active sugar cane fields the corridor was followed by two archaeologist in a vehicle. The active cane fields were not traversed by foot. The section of the corridor that traverses active pineapple fields was traversed by four archaeologist on foot following the existing pineapple roads. All clearing mounds in the pineapple fields along the corridor were inspected. All other areas of the project including the gulches, valleys and ravines within the active cane fields were swept by four archaeologists with the distance between members ranging from 1 to 15 meters. Generally the gulches, valleys and ravines within the project area were covered with team members being one to three meters apart due to the potential for petroglyphs within these areas. The rest of the project area corridor consisted of open savannah with scattered *kiawe*. The open savannah portions of the project were swept by four archaeologist with distances ranging from 5 to 15 meters between members covering 100% of the area. The centerline of the corridor was staked every 200 feet in all portions of the project area that were not in active agriculture. A 400 foot wide corridor, 200 feet on either side of the staked centerline was surveyed. Therefore the entire project area, with the exception of the areas in active sugar cane or pineapple cultivation, were covered 100% by pedestrian sweeps. Visibility was excellent at the time of the survey due to ongoing drought conditions.

All sites and features were plotted on a 1 inch = 500 ft project area map with 25 ft contours. All sites were located on the contour map by tape and compass measurements to at least two centerline stakes. A metal site tag was placed at each feature and labeled with the feature designation, state site number (when available, for new sites a temporary field number was assigned preceded by CSH(see Table 6).

Each site was described in detail and photographed. All of the sites were mapped to scale with the exception of State site -4773. State site -4773 is a large complex of simple military features that cover an approximate 6000 ft of section of the road corridor (see Survey Results section for complete details). Dr. Melissa Kirkendall SHPD/DLNR Maui Island archaeologist was informed of the extent and type of military features that were encountered within State site -4773. The SHPD/DLNR provided guidelines for the recording of the site. Based on the provided guidelines for site -4773, all features were plotted on the overall project map, all features were photographed, all features were described including type, size, the presence or absence of surface remains, and overall condition. A representative sample, 47 out of 102 features (46%), were mapped to scale. Mapped features represent the range of feature types in different states of preservation from a range of different elevations.

Each site and feature were recorded by formal site type using descriptive categories (*i.e.* mounds, C-shape enclosure, wall etc.). presented in the SURVEY RESULTS section of this report. Functional interpretation of sites were established on the basis of structural characteristics, spatial associations with other sites and in some cases, associated artifacts as well as external correlations with other archaeological studies and interpretations in the general region. Significance and recommended treatment of each site was determined on the basis of type, complexity, configuration, apparent function, probable age, and comparable characteristics to other sites in the region.

During the field work, an effort was made to consolidate related features into complexes. Feature associations were typically based on the following considerations; proximity, similarity in construction technique, similarity in states of preservation, functional interrelationships and similarity of artifactual materials observed on the surface.

Limited subsurface testing was conducted at six sites. A total of five 1.0 m by 50 cm test units were excavated at two sites (-4773 and -4776) and two traditional temporary habitation sites (-5033 and -5034). One 50 by 50 cm unit was excavated at another temporary habitation site (-5032). The features were tested using controlled excavation. Excavations were extended well into sterile soil layers with contents sifted through 1/8-inch mesh screens. One profile was prepared for each excavation. In addition three shovel test probes were conducted at two sites (-4773 and -5035) to determine the presence or absence of subsurface deposits. Results of the subsurface testing are presented in the EXCAVATION RESULTS section of this report. All excavations were back-filled and structures reconstructed.

Subsequent to the field work all sites were given SIHP (State Inventory of Historic Properties) site numbers. As a result of the inventory survey, seventeen sites were identified on the property (Table 6 and Figure 9).

Table 6: Archaeological Inventory Survey: Summary of Sites

State Site # 50-50-10-	Feature/ CSH #	Site Type	Function	Distance/ orientation to center line(CL)	Age	Significance	Recommendation
3727*		Stone Piles	Agriculture	50 ft/south CL	Indeterminate	D	No Further Work
3728*		Stone Pile	Agriculture	150 ft/south CL	Indeterminate	D	No Further Work
3729*		Stone cairn	Marker	165 ft/south CL	Indeterminate	D	No Further Work
3742*		Surface scatter	Temporary Habitation	On CL	Indeterminate	D	No Further Work
3743*		Surface scatter	Temporary Habitation	200 ft/south CL	Pre-contact	D	No Further Work
3745*		Surface scatter	Temporary Habitation	130 ft/south CL	Pre-contact	D	No Further Work
4765		Ditch and Mound Complex	Agriculture		Historic	D	No Further Work
	A	Clearing Mound	Agriculture	300 ft/west CL	Historic		
	B	Irrigation Ditch	Irrigation	Crosses CL	Historic		
	C	Irrigation Ditch	Irrigation	Crosses CL	Historic		
	D	Irrigation Ditch	Agriculture	Crosses CL	Historic		
	E	Mounds	Agriculture	On CL	Historic		

State Site # 50-50-10-	Feature/ CSH #	Site Type	Function	Distance/ orientation to center line(CL)	Age	Significance	Recommendation
4765	F	Irrigation Ditch	Agriculture	Crosses CL	Historic		
	G	Irrigation Ditch	Agriculture	Crosses CL	Historic		
4773	A-CX (see separate table)	Military Complex	Military	Encompasses corridor section	Historic	D	No Further Work
4776		Oval Enclosure	Military	50 ft/north CL	Historic	D	No Further Work
4778	CSH 22	L-shape Enclosure	Military	75 ft/east CL	Historic	D	No Further Work
5029	CSH 1001	Petroglyphs	Symbolic	200 ft/east CL	Historic	C, D	Preserve
5030	CSH 1002	Walls	Animal husbandry	On CL	Historic	D	No Further Work
5031	CSH 1003	Petroglyphs	Symbolic	200 ft/west CL	Pre-contact	C, D	Preserve
5032	CSH 1004	Alignments	Temporary Habitation	190 ft/north CL	Pre-contact	D	Data Recovery
5033	CSH 1005	Rectangular Enclosure	Temporary Habitation/ Military	150 ft/north CL	Pre-contact/ Historic	D	Data Recovery
5034	CSH 1019	Square Enclosure	Temporary Habitation	75 ft/south CL	Pre-contact	D	No Further Work

State Site # 50-50-10-	Feature/ CSH #	Site Type	Function	Distance/ orientation to center line(CL)	Age	Significance	Recommendation
5035	CSH 1020	C-Shape Enclosure	Temporary Habitation	50 ft/north CL	Indeterminate	D	Data Recovery

* = Site Type, Function, Age, Significance and Recommendation taken from Fredericksen *et al.* 1994c

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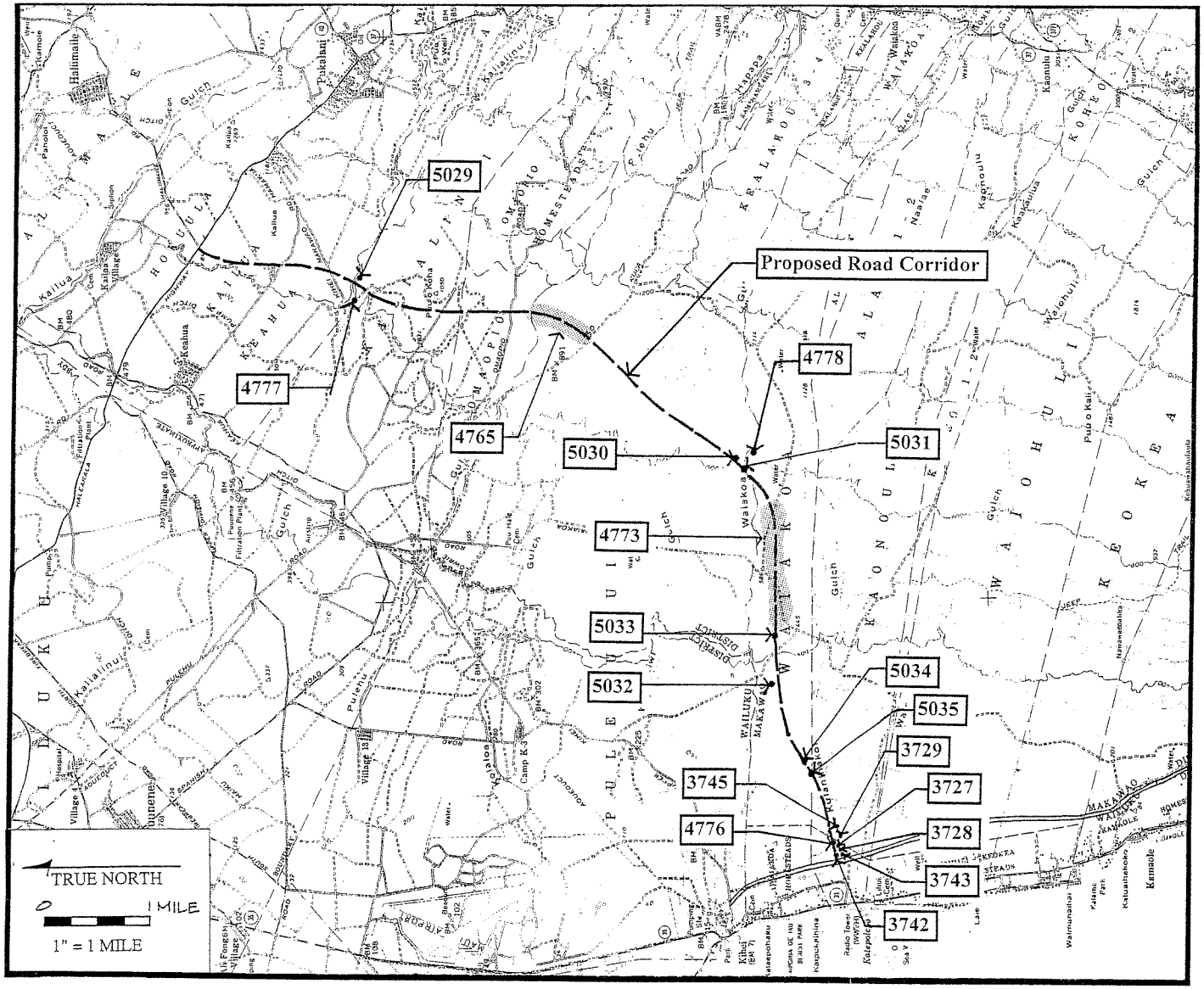


Figure 9 Project area map based on USGS 7.5 minute series topographical maps of the Pu'u O Kali and Paia quadrangles, showing the corridor and location of historic properties.

VII. SITE DESCRIPTIONS

State Site #: 50-50-10-3727
Site Type: Series of Mounds
Site Function: Agriculture
Features: 3

Description: State site 50-50-10-3727 is comprised of three irregular shaped mounds (designated features A-C) (Figure 10) with a previously excavated 1.0 m by 0.5 m test unit. The site was initially documented by Xamanek Researches (Fredericksen, et. al. 1994c:61). The site is located approximately 50 ft to the south of the study corridor centerline. The mounds are roughly in a straight line which is oriented at roughly 225°T.

Feature A the northernmost mound was partially excavated during the 1994 Xamanek study. A 1 m by 50 cm test unit was excavated into the northern portion of the mound. Feature A presently measures 1.5 m in diameter. It is constructed of a rough stacking of basalt cobbles to medium boulders with a maximum height of 35 cm in the center of the structure. There is a small mound located approximately 1.2 m to the east of the northern mound is a small mound, approximately 70 cm in diameter, which appears to be the byproduct of the excavation.

Feature B, located in the center of Feature A and Feature C, is constructed in a similar style to Feature A. Feature B is located approximately 2.5 m from the Feature A. The mound measures 1.9 m NE/SW by 1.1 m NW/SE. The maximum height of the mound, near its center, is 50 cm.

Feature C, the southern most mound, is located approximately 1.0 m from the southern end of Feature B. It is irregular in shape and is also constructed of stacked basalt cobbles to medium boulders. Heights of the mound range from 20-50 cm. A few fragments of cowrie shell were observed just to the south of Feature C. The site was relocated.

State Site #: 50-50-10-3728
Site Type: Mound
Function: Agriculture
Features (#): 1

Description: State site 50-50-10-3728 was initially recorded by Xamanek Researches in 1994 (*Ibid.*:62). The site consisted of an isolated stone mound. During Xamanek's recording a 1.0 m^2 test unit was excavated through the mound dismantling the majority of the structure. No cultural material was observed at the site. The site was relocated 150 ft to the south of the study corridor centerline.

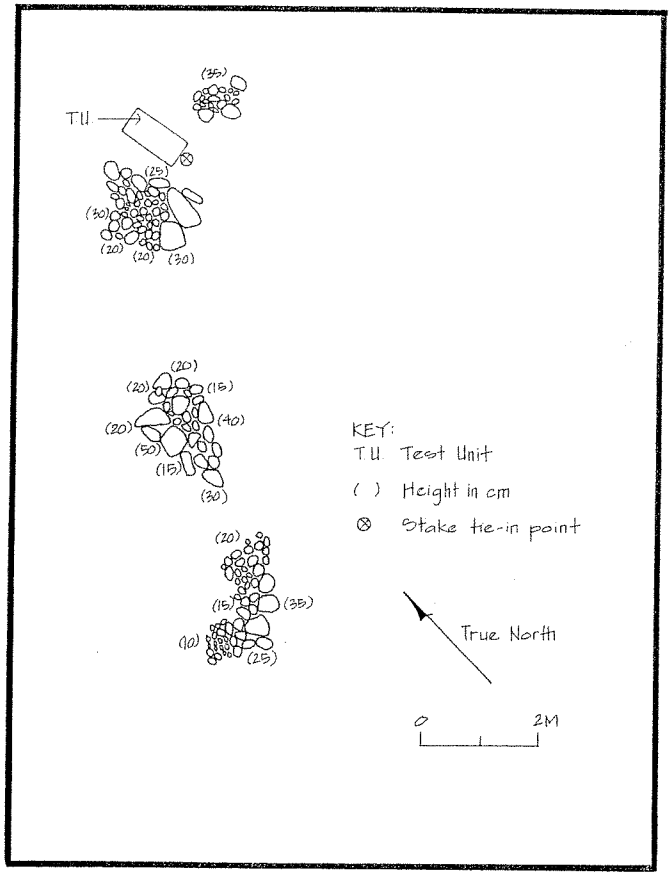


Figure 10 State site 50-50-10-3727: Series of Mounds, Plan View

State Site #: 50-50-10-3729
Site Type: Mound
Function: Agriculture
Features (#): 1

Description: State site 50-50-10-3729 was initially recorded by Xamanek Researches in 1994 (Ibid.:62). The site was a mound. During Xamanek's recording a 1.0 m by 50 cm test unit was excavated through the mound dismantling the majority of the structure. No cultural material was observed at the site. The site was relocated 165 ft south of the study corridor centerline.

State Site #: 50-50-10-3742
Site Type: Surface Scatter
Function: Temporary Habitation
Features (#): 1

Description: State site 50-50-10-3742 was initially recorded by Xamanek Researches in 1994(Ibid.:69). The site was a very sparse surface scatter consisting of only a few marine shell fragments, a basalt flake, waterworn stones and coral fragments. During Xamanek's recording a surface collection was conducted, collecting all of the cultural material at the site with the exception of the marine shell midden. The site was located on the study corridor centerline. The site area was relocated and the marine shell midden was observed.

State Site #: 50-50-10-3743
Site Type: Surface Scatter
Function: Temporary Habitation
Features (#): 1

Description: State site 50-50-10-3743 was initially recorded by Xamanek Researches in 1994(Ibid.:69-70). The site was a very sparse surface scatter consisting of approximately 25 pieces of marine shell, two basalt flakes, two basalt cores, waterworn stones and coral fragments. During Xamanek's recording a surface collection was conducted, collecting all of the cultural material at the site with the exception of the marine shell midden. The site was located 200 ft south of the study corridor centerline. The site area was relocated and the marine shell midden was observed.

State Site #: 50-50-10-3745
Site Type: Surface Scatter
Function: Temporary Habitation
Features (#): 1

Description: State site 50-50-10-3745 was initially recorded by Xamanek Researches in 1994(Ibid.:70-71). The site was a very sparse surface scatter consisting of approximately six pieces of marine shell, three basalt flakes, a basalt core, a waterworn stone and coral fragments. During Xamanek's recording, a surface collection was conducted, collecting all of

the cultural material at the site with the exception of the marine shell midden. The site was located 130 ft south of the study corridor centerline. The site area was relocated and the marine shell midden was observed.

State Site #: 50-50-10-4765 (CSH #8)
Site Type: Mounds and irrigation ditches
Function: Agriculture
Features (#): 7

Description: State site 50-50-10-4765 is a complex of features that are all related to sugarcane cultivation on the parcel of land between Pūlehu Road and Ōma`opio Road (see Figure 11). The study corridor traverses this site. The area is currently utilized as a cattle pasture. Feature A is a single agricultural clearing mound, Features B, C, D, F and G are historic irrigation ditches, and Feature E consists of a series of agricultural clearing mounds covering a large area. These features are located on gently sloping pasture land. Vegetation in this section of the corridor consists of a few monkeypod trees, *panini* cactus, *kiawe*, and *koa haole*; groundcover consists of low grass. In addition to the seven features detailed below, remnants of other smaller less formal cross slope earthen ditches, also associated with sugarcane irrigation systems, were also observed within this area

Feature A is a historic agricultural clearing mound located just off Pūlehu Road approximately 300 feet from the corridor centerline. The mound is constructed of stacked and piled boulders and cobbles. Some sections are neatly stacked, while others are piled with less organization. Moss is visible on most of the rocks. Feature A has a maximum height of 2.9 m, a maximum length of 8.65 m N/S and a maximum width of 7.8 m E/W. No cultural material was observed at the feature.

Feature B is a historic irrigation ditch, currently not in operation, which is primarily earthen in construction. It passes through the corridor from east to west, perpendicular to the road alignment. Four small bridges cross the ditch within the corridor. The bridges are constructed of lumber, concrete and set stone. Some of the lumber elements have been damaged or destroyed by fire. The ditch portion of Feature B has a maximum width of 3.6 m and a maximum depth of 0.7 m. The bridges of Feature B average 1.85 m wide and 0.7 m high. The irrigation ditch runs under the bridge through a rectangular opening that measures 0.65 m wide by 0.4 m high. Feature B is in poor condition; it is clearly part of an old irrigation system for sugarcane cultivation.

Feature C is a historic irrigation ditch, currently not in operation which is primarily earthen in construction. It passes through the corridor from east to west, perpendicular to the road alignment. Three small bridges cross the ditch within the corridor. The bridges are constructed of lumber, cement and set stone. Some of the lumber elements have been damaged or destroyed by fire. Feature C bridges are similar to those in Feature B, with the added feature of an adjacent side-chute, constructed of cement and set stones. The side-chute is at a right angle to the bridge, allowing for lateral ditch flow. The ditch portion of Feature C has a maximum width of 2.1 m and a maximum depth of 0.85 m. The bridges of Feature C average 2.1 m wide and 0.85 m high. The ditch runs under the bridge through a rectangular opening that measures 0.6 m wide by 0.56 m high. The side-chute wall is 0.95 m

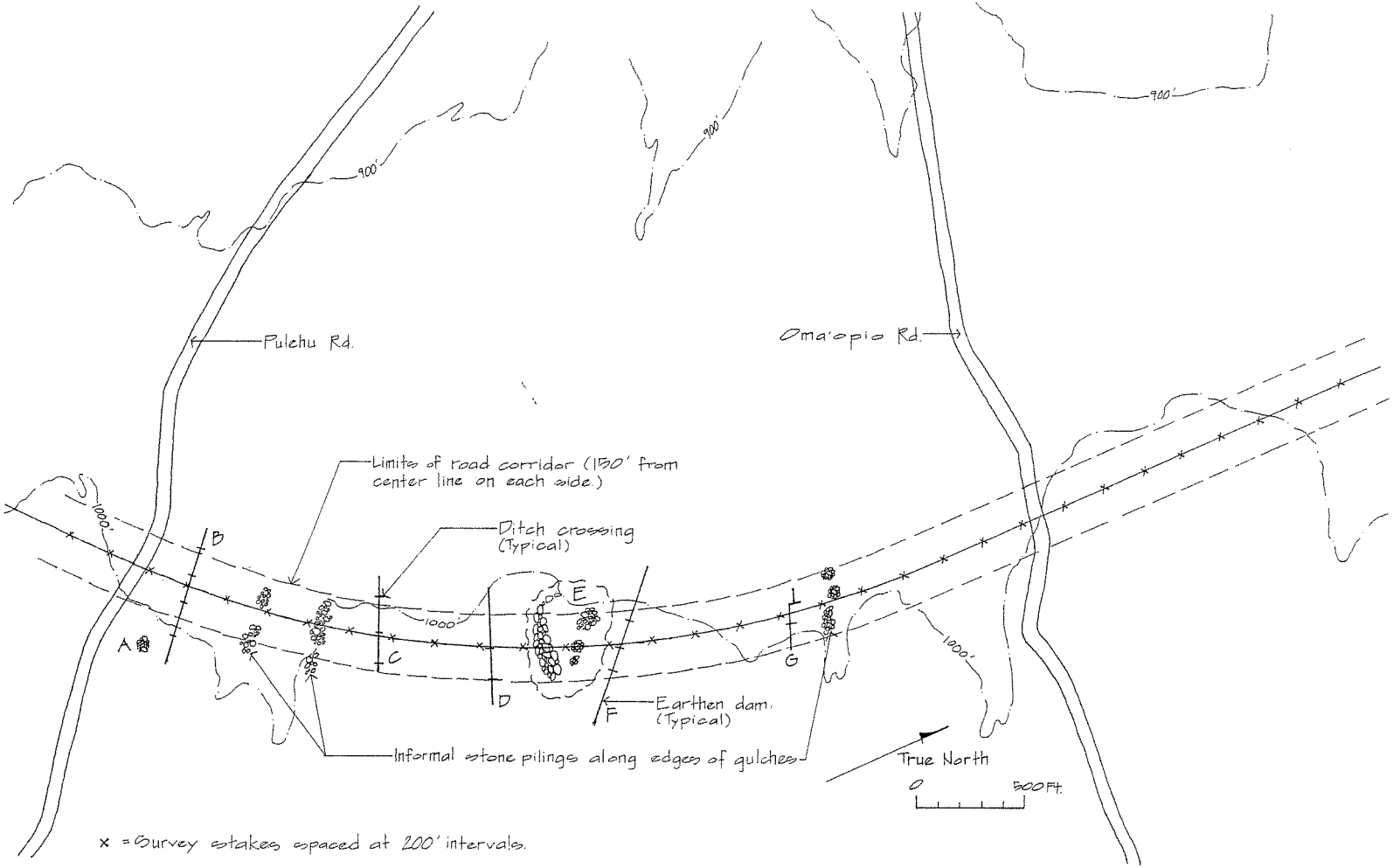


Figure 11 State site 50-50-10-4765: Plan View

wide and 0.7 m high, with a circular opening approximately 0.4 m. in diameter. Feature C is in poor condition; it is clearly part of an old irrigation system for sugarcane cultivation.

Feature D is a historic irrigation ditch, currently not in operation, which is primarily earthen in construction. It passes through the corridor from east to west, perpendicular to the road alignment. Three small bridges cross the ditch within the corridor. The bridges are constructed of lumber, concrete and set stone. Most of the lumber in the bridge sampled for measurement had been destroyed by fire. Feature D bridges are similar to those in Feature C due to the presence of a side-chute. The side-chute is at a right angle to the bridge, allowing for lateral ditch flow. Feature D ditch has a maximum width of 1.4 m and a maximum depth of 0.65 m. Feature D bridges average 1.85 m wide and 0.8 m high. The ditch flowed through a rectangular opening beneath the bridge which measures 0.6 m wide. The side-chute wall is 0.95 m wide and 0.7 m high, with a circular opening approximately 0.4 m in diameter. Feature D is in poor condition; it is clearly part of an old irrigation system for sugarcane cultivation.

Feature E includes a number of historic agricultural clearing mounds distributed across a large, sloping area approximately midway between Pūlehu Road and Ōma`opio Road. The mounds range in form from circular/elliptical to long and linear. Construction also varies from stacked to piled, and size of basalt materials range from very large boulders to cobbles. Mechanical scarring and lichens are evident on many of the stones. A small, discrete mound was measured and tagged. The sample measures 2.5 m E/W by 2.7 m N/S and 1 m high. All of the constituents of Feature E are associated with clearing activities for sugarcane cultivation.

Feature F is a historic irrigation ditch, primarily earthen in construction. Feature F passes through the corridor from east to west, perpendicular to the road alignment. Three small bridges cross the ditch within the corridor. The bridges are constructed of lumber, concrete and set stone. Some of the lumber elements have been damaged or destroyed by fire. Bridges are similar to those in Feature C and D (Feature F also has a side-chute). The side-chute is at a right angle to the bridge, allowing for lateral ditch flow. The ditch has a maximum width of 1.97 m and a maximum depth of 0.65 m. Feature F bridges average 2.1 m wide and 0.95 m high. The irrigation ditch flowed through a rectangular opening beneath the bridge that measures 0.55 m wide by 0.6 m high. The side-chute wall is 0.95 m wide and 0.7 m high, with a circular opening approximately 0.4 m in diameter. Feature F is in poor condition; it is clearly part of an old irrigation system for sugarcane cultivation.

Feature G is a historic irrigation ditch, primarily earthen in construction. It passes through the corridor from east to west, perpendicular to the road alignment. Three small bridges cross the ditch within the corridor. The bridges are constructed of lumber, concrete and set stone. Some of the lumber elements have been damaged or destroyed by fire. Feature G is similar to Feature C with an adjacent side-chute. The side-chute is at a right angle to the bridge, allowing for lateral ditch flow. The ditch has a maximum width of 1.56 m and a maximum depth of 0.35 m. The bridges average 2.1 m wide and 0.85 m high. The ditch formerly flowed through a rectangular opening beneath the bridge that measured 0.6 m wide by 0.56 m high. The side-chute wall is 0.95 m wide and 0.7 m high, with a circular opening approximately 0.4 m in diameter. Feature G is in poor condition; it is clearly part of an old irrigation system for sugarcane cultivation.

State Site #: 50-50-10-4773 (CSH # 16 & # 17)
Site Type: Complex of enclosures, alignments and foxholes
Function: Military training
Features (#): 102

Description: State Site 50-50-10-4773 consisted of 102 features, all composed of cobbles to large boulders that are typical and plentiful in the area (Figures 12-19). Of these features, there were 28 C-shapes, 17 U-shapes, 22 square enclosures, 5 circular/ oval enclosures, 12 rectangular enclosures, 9 alignments/walls, 4 L-shapes, 1 remnant, and 4 sets of foxholes. The study corridor traverses this site.

A total of 28 C-shaped rock structures were encountered with the most were in fair to poor condition, with several being collapsed to almost indefinable remnants. Most consisted of a single alignment of cobbles to medium size boulders, though stacking to 2 to 3 courses high was observed in approximately thirteen structures (46% of C-shapes). Angles of the actual "C" shape ranged from very wide to an almost U-shape, with corners typically being rounded. Over 1/3 of the C-shapes had an slightly excavated interior similar to the foxhole construction. This excavation typically did not extend deeper than 30 cmbs. Construction style was generally similar in all cases. One C-shape was built against an existing kiawe tree, demonstrating the relatively recent age of construction.

The 17 U-shaped structures were also generally in fair to poor condition with a number being almost undefinable. The majority were constructed of a single alignment of coblle to medium boulders with stacking only occurring in six examples of U-shapes (35%) None of the U-shapes exhibited an excavated interior.

The 22 square enclosures, 5 circular/ oval enclosures, and 12 rectangular enclosures are similar in all ways except for their actual shape. Most are composed of small to medium boulder alignments Six of the square/ rectangular enclosures exhibit an excavated interior, no deeper than 30 cmbs. Most features are deteriorating, with gaps in the wall.

The nine alignment/walls within the site complex are consistent in construction style with all the other features types previously described: less than 15 boulders long (1-3 m long, 0.8 m wide) and the walls being no more than three courses in construction.

The 4 L-shaped stone structures are also consistent with typical construction style of the features in this area, with alignment segments ranging from 0.7- 3.5 m in length. L-shape Feature CA exhibits some portions of 2 course stacking and Feature AC exhibits a partial excavated interior. Both other L-shapes are formed by a single alignments.

The remnant was most likely a rectangular enclosure that has been severely altered by the placement of a waterline through the center of the feature. The stones from the feature appear to have been re-utilized to create a support for the waterline. The center of the remnant is partially excavated to a depth of 20 cmbs.

The four series of fox hole-type features, which have no associated rock structures consist of excavated hole in the terrain that average 20 to 30 cmbs. It is possible that the fox holes may be the product of explosions from military activity rather than human excavation.

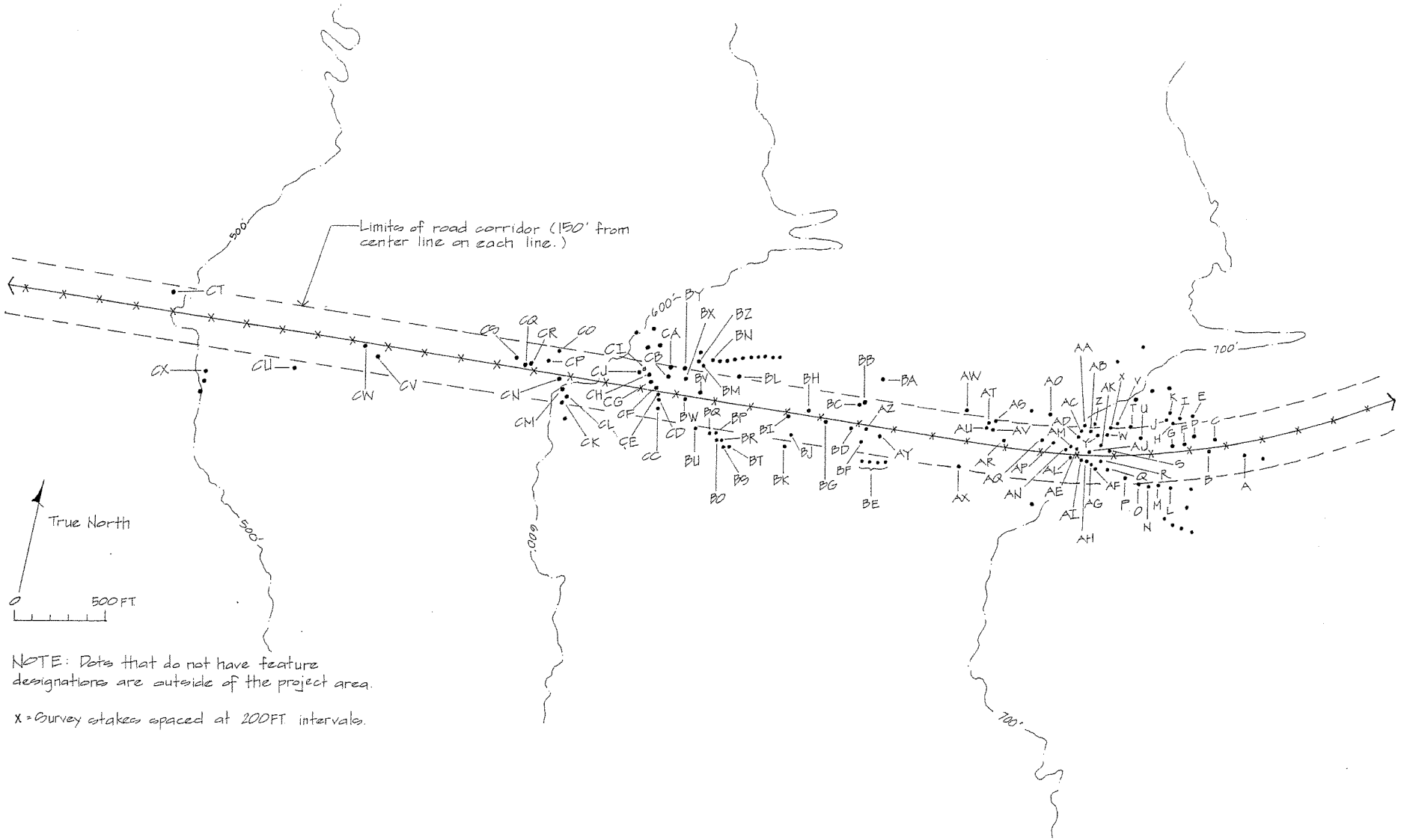


Figure 12 State site 50-50-10-4773: Feature Location Map

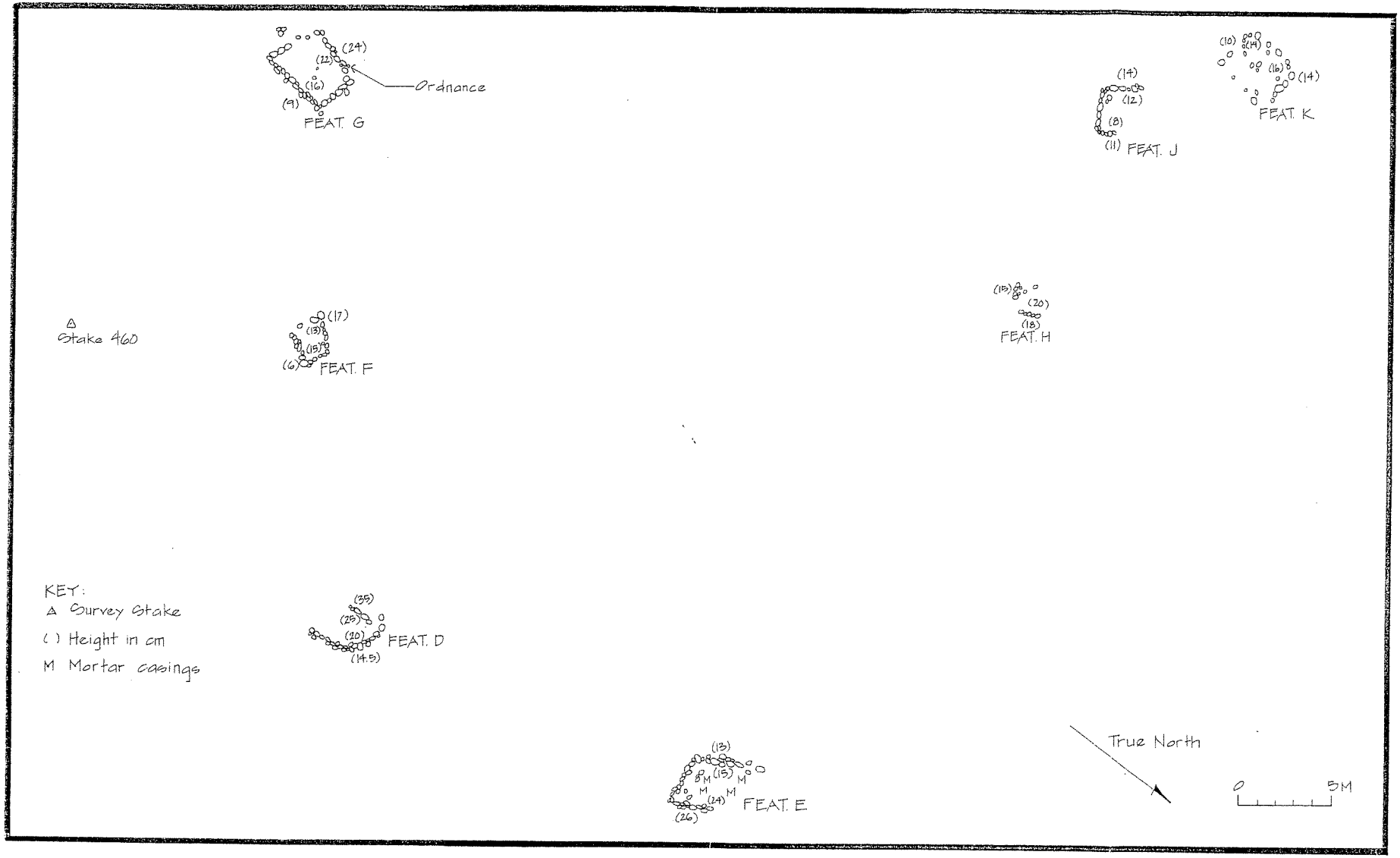


Figure 13 State site 50-50-10-4773: Features D, F, G, H, J, and K Plan View

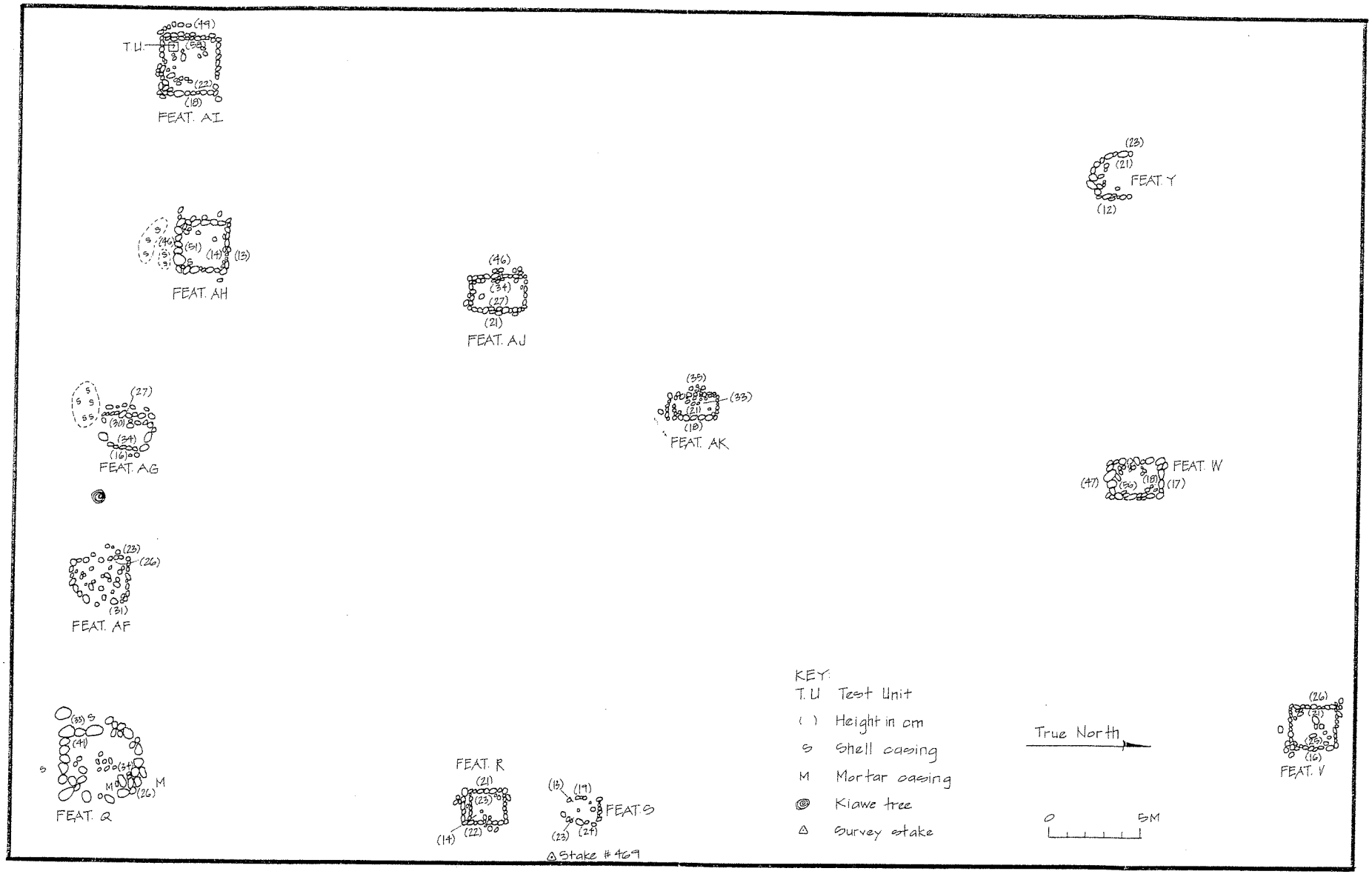


Figure 14 State site 50-50-10-4773: Features Q, R, S, V, W, Y, AF, AG, AH and AI, Plan View

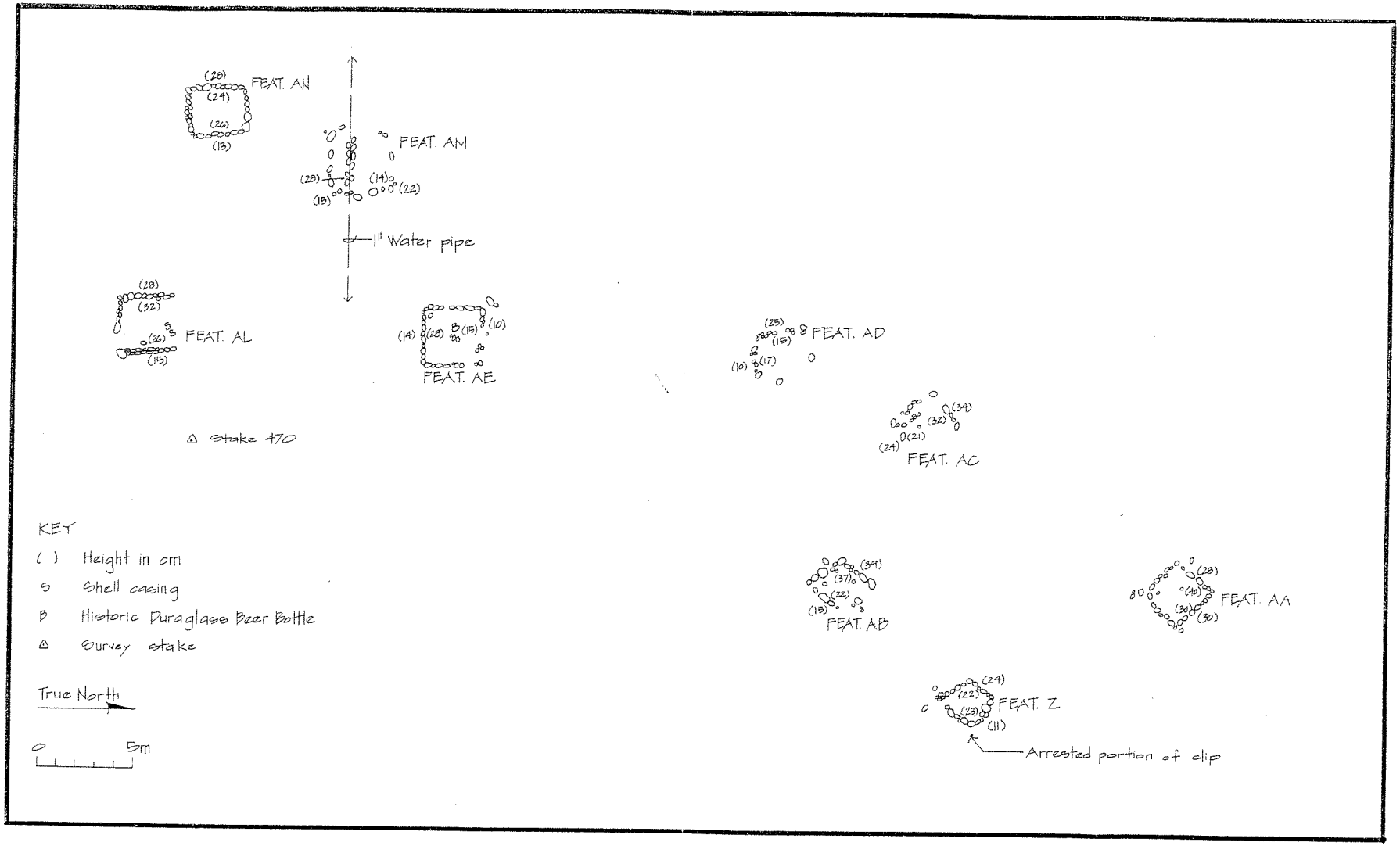


Figure 15 State site 50-50-10-4773, Features Z, AA, AB, AC, AD, AE, AL, AM and AN, Plan View

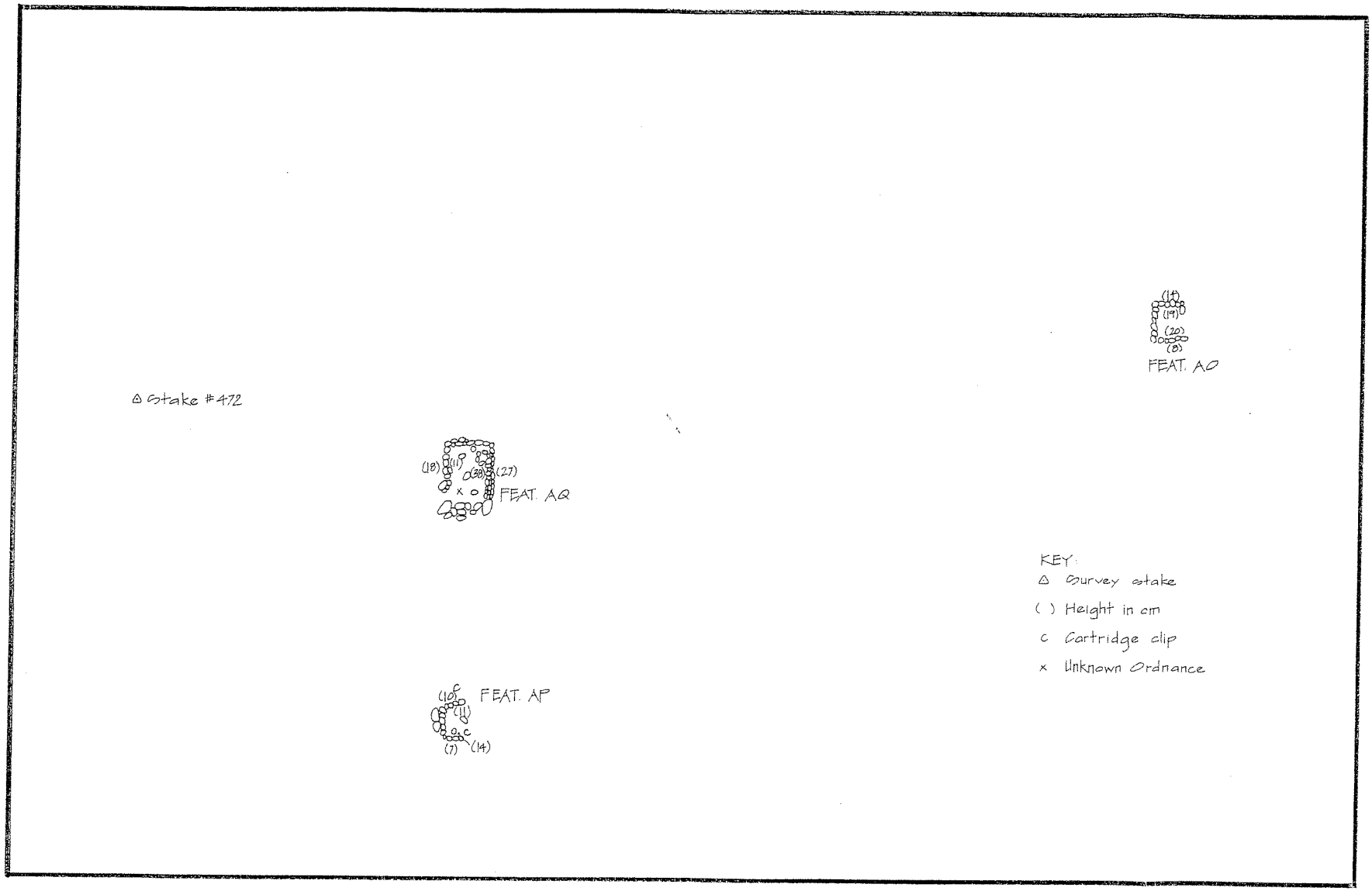


Figure 16 State site 50-50-10-4773: Features AO, AP and AQ, Plan View

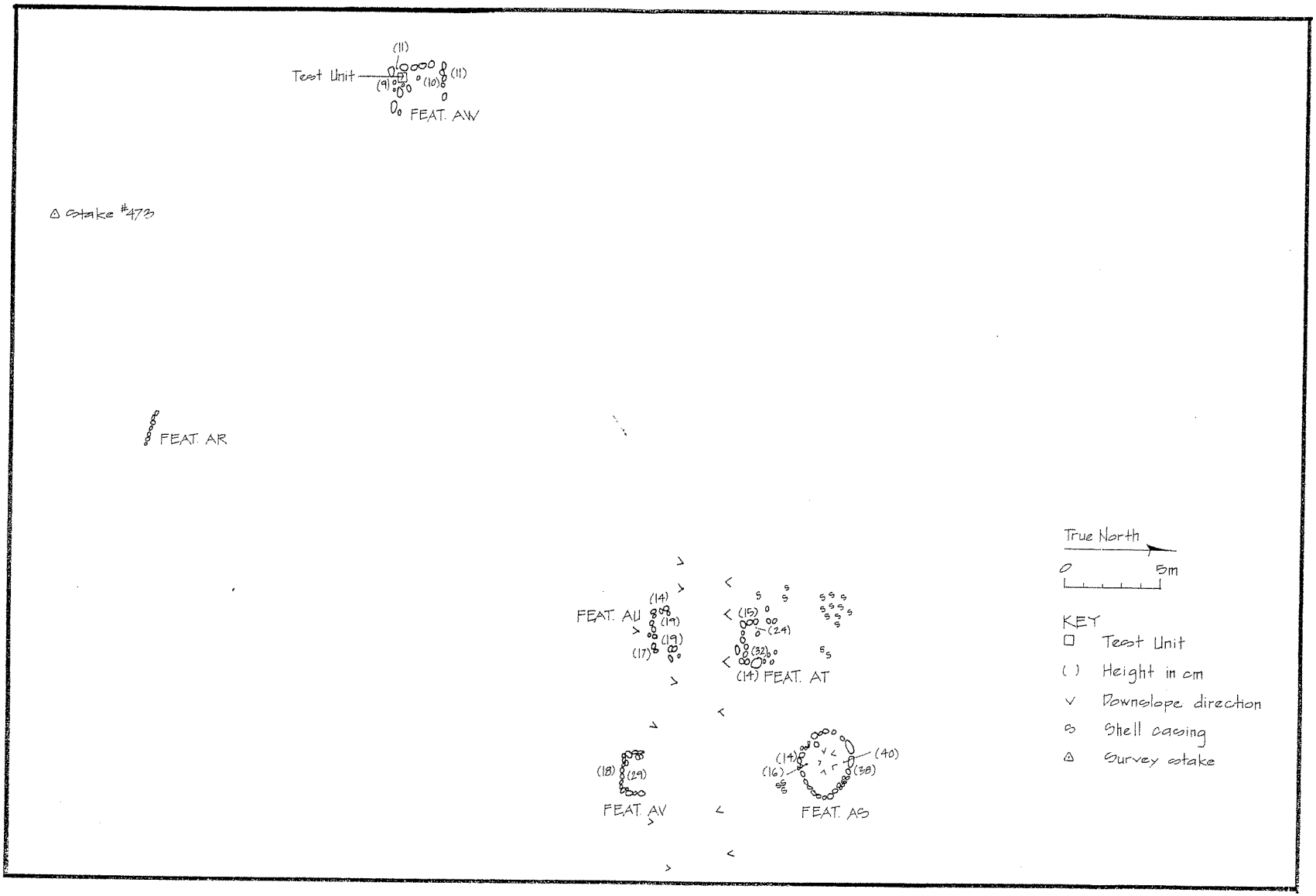


Figure 17 State site 50-50-10-4773: Features AR, AS, AT, AU, AV and AW, Plan View

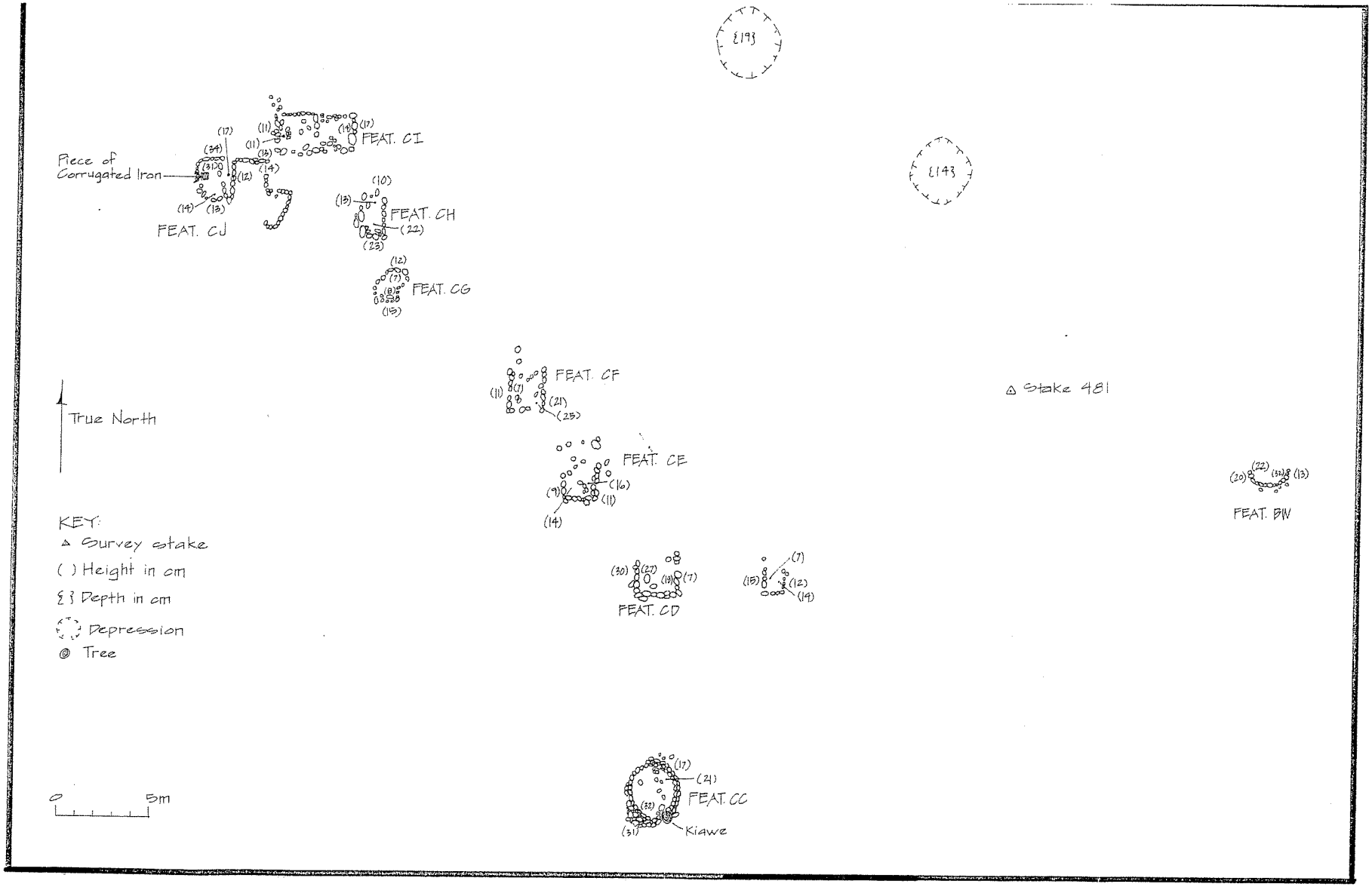


Figure 18 State site 50-50-10-4773, Features BW, CC, CD, CE, CF, CG, CH, CI and CJ, Plan View

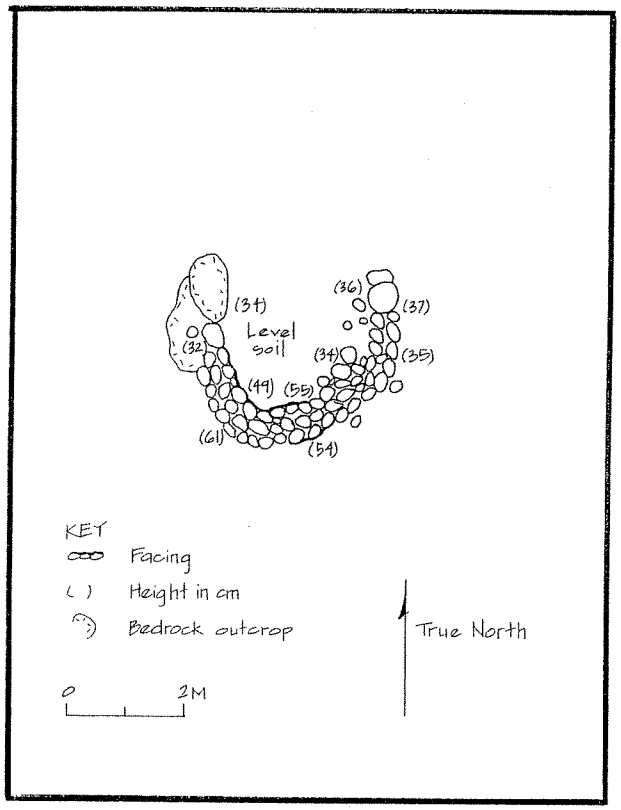


Figure 19 State site 50-50-10-4773: Features CU, Plan View

Military debris was observed throughout the entire site area and was common at most features. Ordnance encountered included a variety of small arms ammunition including spent cartridges from 30 cal., 50 cal., and 20 mm ammunition. Springfield ammo clips were observed scatter throughout the area. In addition a number of casings for 60 mm mortars were observed scattered through the site area. A single shell casing for a 75 mm Howitzer was also observed within the site area. An illumination rounds were also observed. In addition to ordinance assorted metal fragments and communications wire were observed throughout the site area. The site area contains evidence of widespread bulldozing. No other cultural material was observed within the site area.

Two 50 cm by 1.0 m test units were excavated at Features U and CS to determine the presence or absence of subsurface cultural material. In addition, shovel test probes were conducted at Features AI and AW to determine the presence or absence of cultural material. All excavations, test units and test probes, were completely sterile of cultural material.

The table below lists each feature, its type, individual measurements, description, and condition, and whether the feature was mapped or not:

Table 7: State Site 50-50-10-4773 Feature list

Feature	Type	Measurements	Condition	Map	Description and materials
A	C-shape; collapsed	2.4 m E/W 2.8 m N/S	Poor		1 mortar casing
B	Alignment; collapsed	2.5 m E/W 0.8 m wide	Poor		14-stone alignment; 2 sections with 2 course stacking
C	C-shape	2.0 m E/W 2.2 m N/S	Poor		Opening to west; 3 mortar casings
D	C-shape	4.0 m E/W 2.6 m N/S	Fair	x	Opening to southwest; east and north sections 2 course stacking
E	C-shape	3.5 m E/W 3.4 m N/S	Fair	x	Opening to west; square corners; composed of medium sized boulders
F	U-shape	2.9 m E/W 2.6 m N/S	Fair	x	Opening to west; square corners; some 2 course stacking
G	U-shape	2.9 m E/W 2.8 m N/S	Fair	x	Opening to west; square corners; 1 artillery dummy round and 1 mortar casing
H	U-shape; collapsed	2.3 m E/W 2.35 m N/S	Poor	x	Opening to northwest; several collapsed sections
I	U-shape; partial	2.85 m E/W 2.55 m N/S	Fair		Opening to northwest; southeast section is stacked 2 courses
J	U-shape	2.1 m E/W 1.65 m N/S	Fair/poor	x	Opening to north; square corners; construction not complete

K	U-shape; collapsed	3.2 m E/W 2.65 m N/S	Very poor	x	Opening to east; very poor alignment; construction not complete
L	Square enclosure	2.7 m E/W 2.5 m N/S	Fair		Composed of medium boulders; metal fragments present; numerous features in vicinity of this feature but just outside the project corridor;
M	U-shape	2.3 m E/W 2.6 m N/S	Fair		Opening to south (toward existing road); impacted by existing road improvements
N	Square enclosure	3.1 m E/W 3.3 m N/S	Fair		Composed of medium to large boulders; 2 course stacking on south side; near existing road
O	Circular enclosure	3.3 m E/W 3.5 m N/S	Fair		Alternating alignment to 2 course stacking; near existing road
P	U-shape	2.2 m E/W 2.5 m N/S 0.35 m average height	Fair		Opening to north; up to 3 course stacking in some sections
Q	Circular enclosure	3.25 m E/W 3.9 m N/S 10-40 cm high	Fair	x	Alignment composed of medium boulders; 4 mortar casings and several bullet casings present
R	Rectangular enclosure	1.9 m E/W 2.6 m N/S 10-40 cm high	Fair	x	Alignment composed of small boulders; square corners
S	U-shape	1.6 m E/W 2.2 m N/S 5-25 cm high	Poor	x	Opening to south; incomplete construction
T	Square enclosure	2.9 m E/W 2.95 m N/S 10-40 cm high	Fair/ Good	x	Single to 3- course (south side) stacking
U	Square enclosure	2.9 m NE/SW 2.7 m NW/SE 10-30 cm high	Fair	x	Single course alignment; small gaps at northwest section
V	Square enclosure	2.5 m E/W 2.8 m N/S 10-25 cm high	Fair	x	Single course small boulder alignment
W	Square enclosure	2.1 m E/W 2.5 m N/S 5-40 cm high	Fair	x	Medium boulder to cobble alignment; previously 2-3 courses but now mostly collapsed

X	Foxhole and associated rock alignment	1.8 m E/W 2.2 m N/S Foxhole 10 cm deep, Alignment 1.2 m long 0-30 cm high	Poor		Excavated soil interior; edges now slumped, possibly from erosion; 7 small boulder alignment along south edge
Y	C-shape	2.5 m E/W 2.3 m N/S 15-40 cm high	Fair/ Good	x	Opening to north; ranging from alignment to 2 course stacking (north side)
Z	Square enclosure	2.6 m E/W 2.6 m N/S 15-40 cm high	Fair/ Good	x	Small boulder to cobble alignment; ranging from 1 to 2 course stacking
AA	Square enclosure	3.1 m NE/SW 2.6 m NW/SE 15-47 cm high	Fair/ Good	x	Small boulder to cobble alignment; ranging from 1 to 3 course stacking; partially excavated interior; metal fragments and ammo clips present
AB	Square enclosure	2.7 m NE/SW 3.0 m NW/SE 10-47 cm high	Poor/ Incomplete	x	Small boulder to cobble alignment; north section incomplete; south section 2 course stacking; east and west sections 1 course stacking; built on a slope in the terrain
AC	L-shape/ Right Angle	2.5 m NE/SW 3.5 m NW/SE	Poor	x	NE/SW alignment composed of 5 small boulders; NW/SE alignment composed of cobbles; interior section is partially excavated
AD	Square enclosure	3.15 m NE/SW 3.3 m NW/SE 15-40 cm high	Fair/ Poor/ Incomplete	x	Small boulder to cobble alignment; incomplete construction; interior partially excavated
AE	Square enclosure	3.1 m E/W 3.2 m N/S 10-50 cm	Fair/ Good	x	Small boulder to cobble alignments; south side 3 courses high; interior excavated to 30cmbs; 1 modern brown beer bottle within enclosure
AF	Square enclosure; collapsed	2.7 m E/W 3.25 m N/S 10-45 cm high	Poor	x	Composed of small boulders; soil pushed up into south side during existing road construction; several waterworn boulders present
AG	Oval enclosure	2.1 m E/W 2.7 m N/S 10-35 cm high	Poor	x	Small to medium boulder alignment; ration can lids

AH	Square enclosure	2.8 m E/W 2.7 m N/S 7-55 cm high	Good	x	Southern section composed of medium boulders with some 2 course stacking, other sections lower; northern section also contains some 2 course stacking; numerous bullet casings scattered throughout site area
AI	Square enclosure	3.2 m E/W 3.3 m N/S 10-55 cm high	Good	x	East and west sections 2 courses high small boulders; north and south sections cobbles to small boulders; interior excavated to 20 cmbs; bullet casings, tin cans, communications wire present at site area; 6 small boulder c-shape alignment between AH and AI
AJ	Rectangular enclosure	1.8 m E/W 3.0 m N/S 7-35 cm high	Good	x	Small boulder to cobble alignment with some 2 course stacking; ammo clips near feature
AK	Square enclosure	2.8 m E/W 3.2 m N/S 5-35 cm high	Good	x	Small boulder alignment with some 2 course stacking
AL	U-shape	3.1 m E/W 3.5 m N/S 10-55 cm high	Fair/ Good	x	Opening to north; southwest section 3 course stacking; east side now only a remnant; large gap in south side; bullet shell casings present
AM	Military remnant	3.45 m E/W 4.0 m N/S 5-40 cm high	Poor	x	No sides intact; existing modern water pipe cuts through the middle of the site, utilizing feature rocks to prop pipe up off ground surface; interior excavation to 20 cmbs; metal fragments present
AN	Square enclosure	3.1 m E/W 3.4 m N/S 18-42 cm high	Good	x	Small to medium boulder alignments with some 2 course stacking; just off existing road
AO	C-shape	2.1 m E/W 1.8 m N/S 5-35 cm high	Good	x	Opening to north; square corners; small boulder alignments
AP	C-shape	2.3 m E/W 1.8 m N/S 10-25 cm high	Fair/ Poor	x	Opening to north; small boulder alignment; interior excavated 10 cmbs; ammo clips present
AQ	Rectangular enclosure	3.55 m E/W 2.4 m N/S 10-40 cm high	Fair/ Good	x	2 course stacking on north, east, and west sides; south side impacted by existing road; cannister bomb (?) observed at center of structure; bullet casings present
AR	Alignment	1.8 m long 20 cm high	Fair		Seven stone alignment, bullet casings present

AS	Rectangular enclosure	3.8 m E/W 2.8 m N/S 10-50 cm high	Fair/ Poor	x	Small boulder to cobble alignments; interior excavation to 15 cmbs; bullet casings and ammo clips present
AT	C-shape	2.1 m E/W 2.0 m N/S 10-35 cm high	Poor	x	Opening to north; 12 small boulders total; interior excavated to 10 cmbs; bullet casings and metal fragments present
AU	C-shape; collapsed	2.5 m E/W 1.5 m N/S 5-25 cm high	Very poor	x	North section impacted by erosion
AV	C-shape	2.0 m E/W 1.4 m N/S 5-30 cm high	Good	x	Structure generally 2 course stacking of small boulders; bullet casings present
AW	C-shape; collapsed	2.5 m E/W 2.15 m N/S 10-35 cm high	Poor	x	Opening to north; terrain sloping to north; small boulder alignment
AX	Rectangular enclosure	2.4 m E/W 3.0 m N/S 15-30 cm high	Fair/ Poor		Small boulder alignment; gaps in south and west sections
AY	C-shape	1.5 m E/W 2.0 m N/S 10-40 cm high	Fair		Center section (south) 2 course stacking w/ longer west wall (1.5 m) and shorter east wall (30 cm); ammo clips present
AZ	U-shape	2.2 m E/W 1.95 m N/S 10-30 cm high	Fair		Opening to north; Small boulder alignment; 50 caliber casings present
BA	U-shape	2.2 m E/W 2.2 m N/S 7-35 cm high	Fair/ Good		Small boulder alignment with some 2 course stacking; ammo clips present
BB	C-shape	2.4 m E/W 2.0 m N/S	Fair		Opening to north
BC	C-shape	2.3 m E/W 2.0 m N/S	Fair		Bullet casings present
BD	C-shape and associated collapsed wall	2.0 m E/W 1.3 m N/S	Poor		Opening to north; structure composed of 12 small boulders only
BE	4 Foxholes	see map	Poor	x	see map
BF	Alignment	2.5 m long (E/W)	Fair		Composed of 12 small boulders only
BG	Alignment	2.0 m long (E/W)	Fair		Small boulder to cobble alignment
BH	Alignment	3.0 m long (E/ EW)	Fair		Small boulder alignment

BI	Alignment	2.3 m long (E/W)	Fair		Small boulder to cobbles alignment; metal fragments present
BJ	Square enclosure	2.7 m E/W 3.2 m N/S	Fair		Some gaps/collapse in walls
BK	Alignment	2.4 m long (E/W)	Poor		Medium to small boulders alignment
BL	C-shape	2.4 m E/W 1.3 m N/S 30 cm high	Fair		Opening to south; shallow angle; some two course stacking
BM	U-shape	2.2 m E/W 1.4 m N/S	Fair		Small boulder alignment
BN	C-shape	2.1 m N/S	Fair		Opening to north; small boulder alignment; "1943" 75 mm Howitzer casing in interior
BO	C-shape	2.0 m E/W 2.4 m N/S 30 cm high	Good		Opening to north; small boulder to cobble alignment
BP	Rectangular enclosure	1.4 m E/W 2.2 m N/S	Fair/ Poor		Incomplete alignments
BQ	Rectangular enclosure	1.4 m E/W 2.4 m N/S	Fair		Small boulder alignments
BR	Rectangular enclosure	1.6 m E/W 2.6 m N/S	Fair/ Poor		Small boulder alignments; most of east and west sides missing; interior excavated less than 10 cm
BS	L-shape	2.4 m E/W 2.0 m N/S	Poor		Very rough small boulder alignments
BT	3 alignments	1) 2.4 m E/W 2) 2.1 m E/W 3) 1.0 m E/W	Poor		Alignments consist of medium to small boulders
BU	Square enclosure	2.1 m E/W 2.0 m N/S	Poor		Rough small boulder to cobble alignment
BV	Square enclosure	2.2 m E/W 2.3 m N/S	Good		Small boulder to cobble alignments
BW	C-shape	3.2 m E/W 1.0 m N/S	Poor		Opening to north; shallow angle of "C"; erosion evident
BX	Rectangular enclosure	1.4 m E/W 2.4 m N/S	Fair/ Good		Small boulder to cobble alignment
BY	Square enclosure	1.4 m E/W 1.2 m N/S	Poor		Small boulder to cobble alignment

BZ	Square enclosure	1.6 m E/W 2.6 m N/S	Fair/ Poor		Interior excavated less than 10 cm
CA	L-shape		Fair/ Poor		Small boulder to cobble alignment with some 2 course stacking
CB	U-shape	0.8 m E/W 1.4 m N/S	Good		Very narrow alignment
CC	Circular enclosure	see map	Fair	x	Small boulder to cobble alignment with some 2 course stacking and piling
CD	C-shape	2.1 m E/W 1.2 m N/S	Fair	x	Opening to north; Small boulder to cobble alignment with some 2 course stacking
CE	U-shape	see map	Fair	x	Opening to north; Small boulder to cobble alignment
CF	Square enclosure; remnant	see map	Poor	x	Small boulder to cobble rough alignment with gaps / collapses
CG	Rectangular enclosure; remnant	see map	Poor	x	Small boulder to cobble rough alignment with gaps / collapses
CH	Rectangular enclosure; remnant	see map	Poor	x	Small boulder to cobble rough alignment with gaps / collapses
CI	Circular enclosure; very remnant	see map	Poor	x	See map
CJ	Rectangular enclosure	see map	Fair/ Good		Small boulder to cobble alignment with gaps / collapses in south section; communications wire present
CK	C-shape	1.2 m E/W 2.6 m N/S	Fair/ Poor		Opening to west; Small boulder to cobble alignment with some 2 course stacking
CL	L-shape	0.7 m E/W 1.3 m N/S	Fair/ Poor		Small boulder to cobble rough alignment
CM	C-shape	1.2 m E/W 2.2 m N/S	Poor		Small boulder to cobble rough alignment some stacked and piled two course areas
CN	C-shape w/foxhole	2.2 m E/W 2.8 m N/S	Good		Opening to west; One course alignment on north, east, and south sides; well excavated interior; 4+ c-ration cans in structure interior

CO	Foxhole	2.1 m E/W 2.4 m N/S	Poor		Small boulder alignment; possible bomb crater; otherwise, excavated interior; 4 other similar features nearby
CP	C-shape w/ foxhole	2.4 m E/W 1.7 m N/S	Fair/Poor		Small boulder to cobble alignment with some 2 course stacking on the east side; interior excavated less than 10 cmbs
CQ	C-shape	1.6 m E/W 3.2 m N/S	Fair/ Good		Opening to west; Small boulder to cobble alignment with some 2 course stacking
CR	Foxhole	1.1 m E/W 1.4 m N/S	Fair		Small boulder to cobble alignment with some 2 course stacking along east side
CS	C-shape	2.0 m E/W 3.2 m N/S	Fair		Opening to west; abutting kiawe tree to south; collapsed sections appear to have once been 2 courses high
CT	C-shape	2.2 m E/W 1.2 m N/S	Fair		Opening to south; Small boulder to cobble alignment with some rough 2 course stacking; 2 ammo clips present
CU	U-shape	see map	Good	x	see map
CV	C-shape	2.5 m E/W 1.2 m N/S	Fair		Opening to north; just off existing road; small boulder alignment with some 2 course stacking
CW	U-shape	1.4 m E/W 2.2 m N/S	Fair/good		Possible utilization of existing bulldozer push or vice versa; large flat stone in structure; unique to this area
CX	2 alignments and 1 rock wall		Fair		Very simple construction

State Site #: 50-50-10-4776
Site Type: Circular Enclosure
Site Function: Military
Features: 1

Description: State site 50-50-10-4776 is a oval enclosure (see Figure 20). The enclosure measures 1.8 m N/S by 2.3 E/W with the enclosure wall averaging 0.25 m in width. The site is constructed of basalt cobbles to medium boulders with heights ranging from 15-30 cm. Construction ranges from a single coarse alignment to two-course stacking on the western section of the site. The site is partially constructed on exposed bedrock outcrop and partially on soil. The soil at the interior of the site is slightly higher than on the outside of the site, possibly due to erosion. The site is located approximately 50 ft to the north of the study corridor centerline.

A 1 m x 50 cm test unit was excavated at the eastern interior section of the site, partially dissecting the enclosure wall (see Testing Results section for complete results).

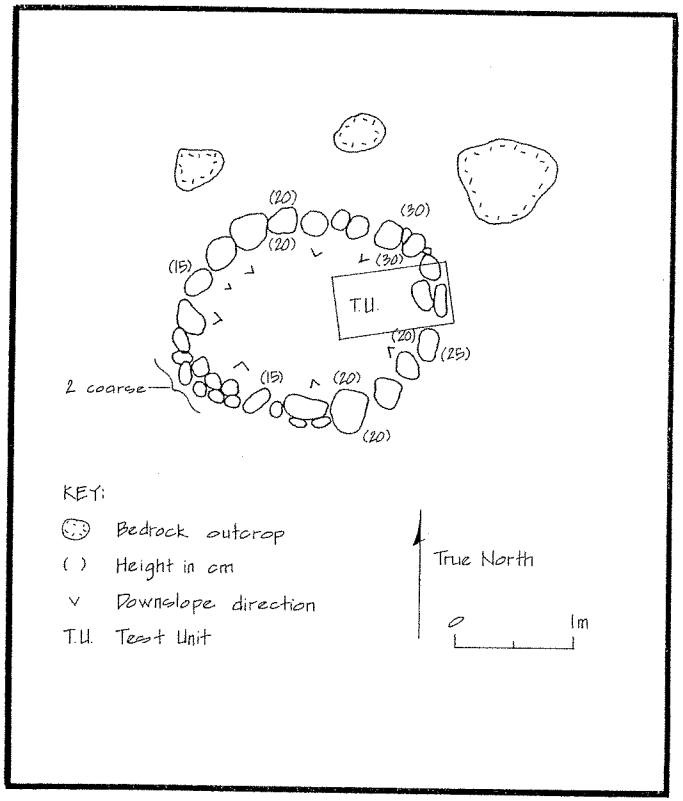


Figure 20 State site 50-50-10-4776: Plan View displaying test unit location

State Site #: 50-50-10-4778 CSH Site #: 22
Site Type: L-shape enclosure
Site Function: Military
Features: 1

Description: State site 50-50-10-4778 is a roughly constructed L-shaped enclosure situated on the southern edge of Waiakoa Gulch (Figure 21). The L-shaped enclosure measures 2.8 m E/W by 2.3 m N/S and is constructed of small to medium boulders stacked 1 to 3 courses high to a maximum height of 0.65 m. The site is open to the south and southwest. The interior of the enclosure appears to be shallow soil over bedrock. No cultural material was observed at the site. The site is located approximately 75 ft to the east of the study corridor centerline.

State Site #: 50-50-10-5029 CSH Site #: 1001
Site Type: Petroglyphs
Site Function: Symbolic
Features: 1

Description: State site 50-50-10-5029 is comprised of three historic petroglyphs on two panels located on the northern cliff of Kalialinui Gulch approximately 200 ft north of centerline (Figures 22 and 23), outside the study corridor. The petroglyphs consist of three words in block lettering, all capitals with pronounced serifs. The words have been pecked and abraded into the vertical fine grain basalt cliff face near the top of the north side of the gulch approximately 6.1 m below the top of the cliff face. A narrow ledge trail allows access to this portion of the cliff. All petroglyphs are faint and in fair condition. Lichen growing on the gulch face obscures the petroglyphs. The petroglyphs appear to spell KUAANA, MILIMILI(A?), and MEHAME. The word KUAANA measures 33 cm long and 5 cm high, except the "K" which is 7 cm tall. The word MILIMILI measures 40 cm long and 5 cm tall, with an "A" at the end that has been scratched in, as opposed to pecking. The word MEHAME measures 40 cm long and 10 -11 cm tall. All words appear to have had the outline of each letter pecked, then the interior was pecked and abraded to fill it in. Sections of the word MEHAME are very faded, especially the "E"s.

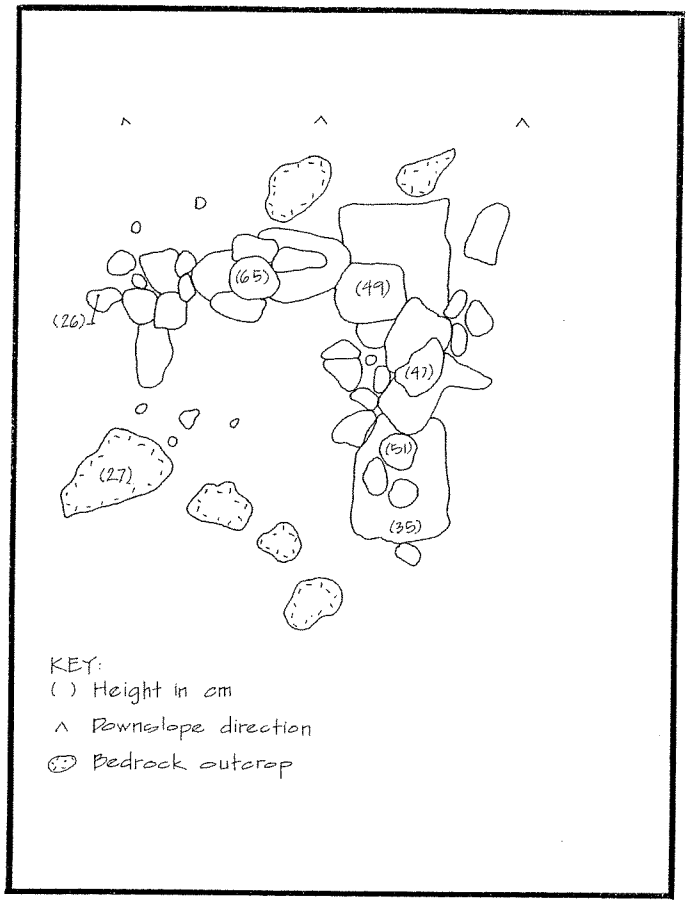


Figure 21 State site 50-50-10-4778: Plan View

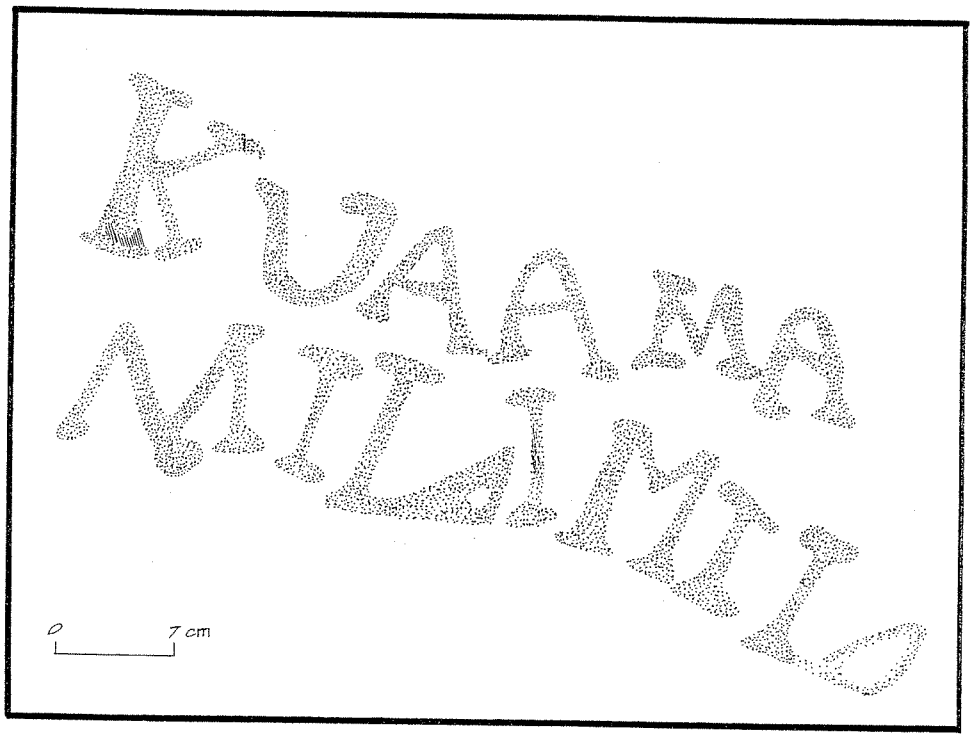


Figure 22 State site 50-50-10-5029: Petroglyphs

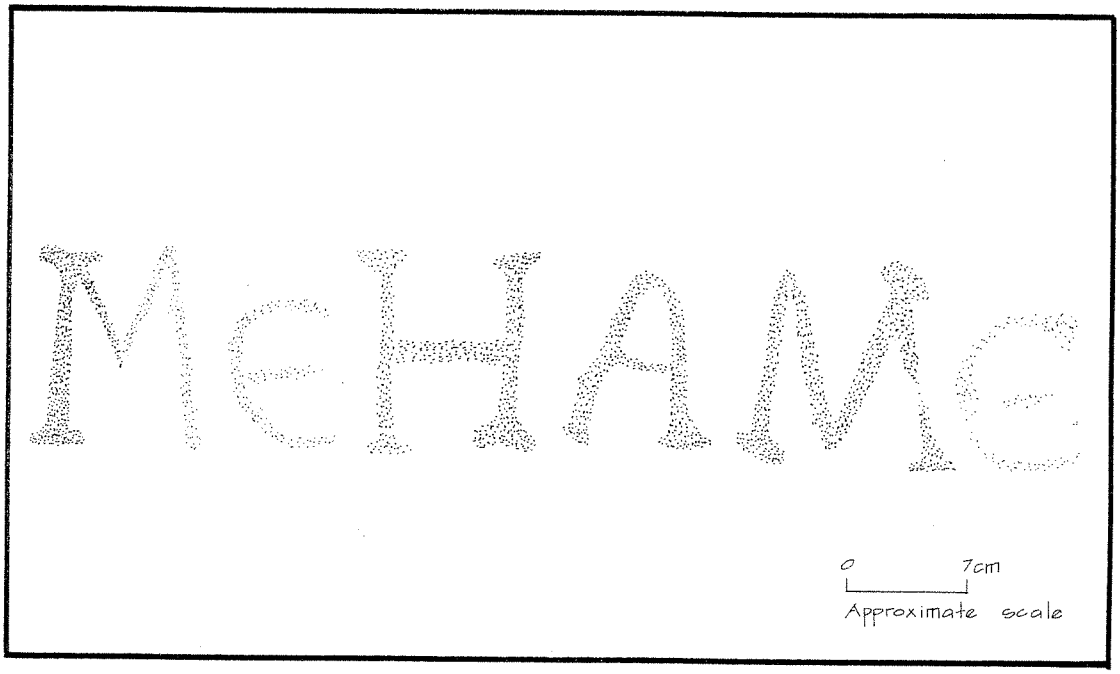


Figure 23 State site 50-50-10-5029: Petroglyphs

State Site #: 50-50-10-5030 CSH Site #: 1002
Site Type: Historic Wall
Site Function: Cattle barrier
Features: 2 within corridor

Description: State site 50-50-10-5030 consists of a series of short wall segments constructed along the northern edge of Waiakoa Gulch (see Figure 24). The wall segments are constructed at strategic points along the cliff effectively preventing cattle from either exiting or entering the gulch. Wall segments were observed along the north side of the gulch both to the east and the west of the present road corridor. Two of the wall segments are located within the project area corridor and have been designated features A and B (see Figure 24). A total of six more segments were observed to the west of the corridor along the gulch and a total of three segments were observed to the east of the corridor along the gulch. Only the portions of the site within the corridor were recorded. Surrounding terrain outside of the gulch consists of gently sloping grassland with scattered basalt boulders and cobbles. Vegetation consists of *kiawe*, several monkeypod trees, *panini* cactus, *koa haole*, and grass.

Feature A is a wall segment which measures 4.5 m E/W by 0.7 m wide, with a maximum height of 0.85 m, and a minimum height 0.1 m at the western end. The wall is constructed of small to medium basalt boulders, stacked 4 - 5 courses high. The wall appears core filled. Feature A is in good condition.

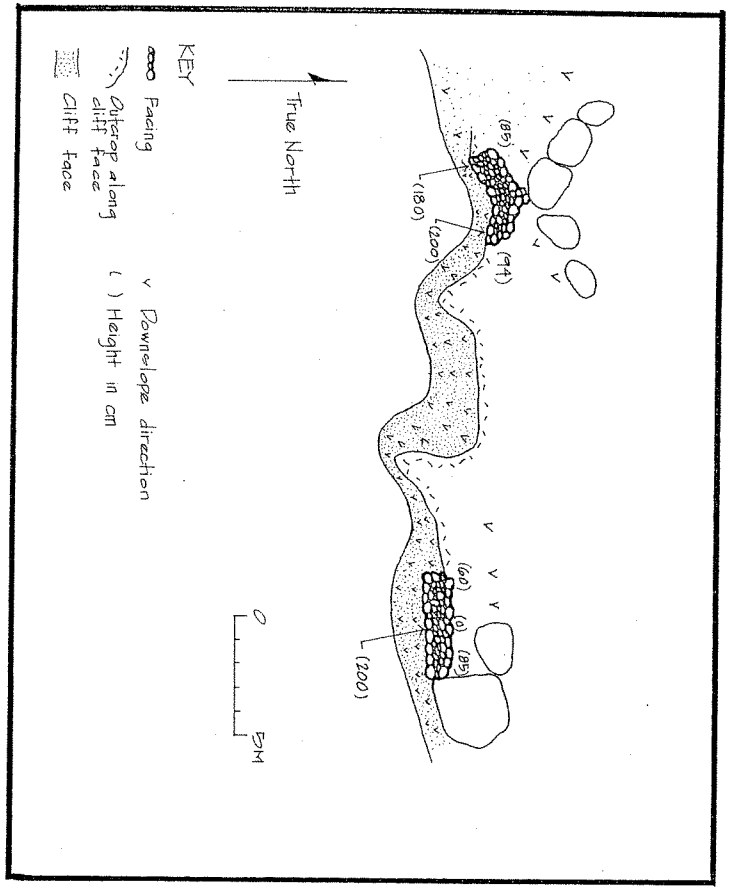
Feature B is another short wall segment measures 3.7 m E/W by 0.7 m wide. Feature B wall heights range from 0.85 - 0.9 m on the south side, and 1.8 - 2.0 m on the north side. Feature B is constructed of small to medium basalt boulders, stacked 4 - 5 courses high on the exterior face. The wall is core-filled with cobbles.

State Site #: 50-50-10-5031 CSH Site #: 1003
Site Type: Petroglyphs
Site Function: Symbolic
Features: 3

Description: State site 50-50-10-5031 consists of two petroglyph panels located on the southern side cliff face of Waiakoa Gulch. The first panel contained two petroglyphs (Figures 25 and 26) and the second panel contained a single petroglyph (Figures 25 and 27). All three petroglyphs are of anthropomorphic figures. The petroglyphs were originally located 50 ft to the west of the corridor centerline, but the corridor was redesigned (150 ft to the east) to place the site 200 ft from the corridor centerline. The corridor was redesigned to avoid any impact to the site.

Panel #1 consists of two anthropomorphic figures, possibly male. The figures have been pecked into the surface. The first figure, designated Figure 1, measures roughly 16 cm tall and 9 cm wide. Figure 1 has a triangular shaped torso. Additional pecking is visible just above the figures' head. Figure 2 is a pecked stick figure, possibly male measuring roughly 14 cm tall by 9 cm wide. Both figures are very faint.

Figure 24 State site 50-50-10-5030: Plan View



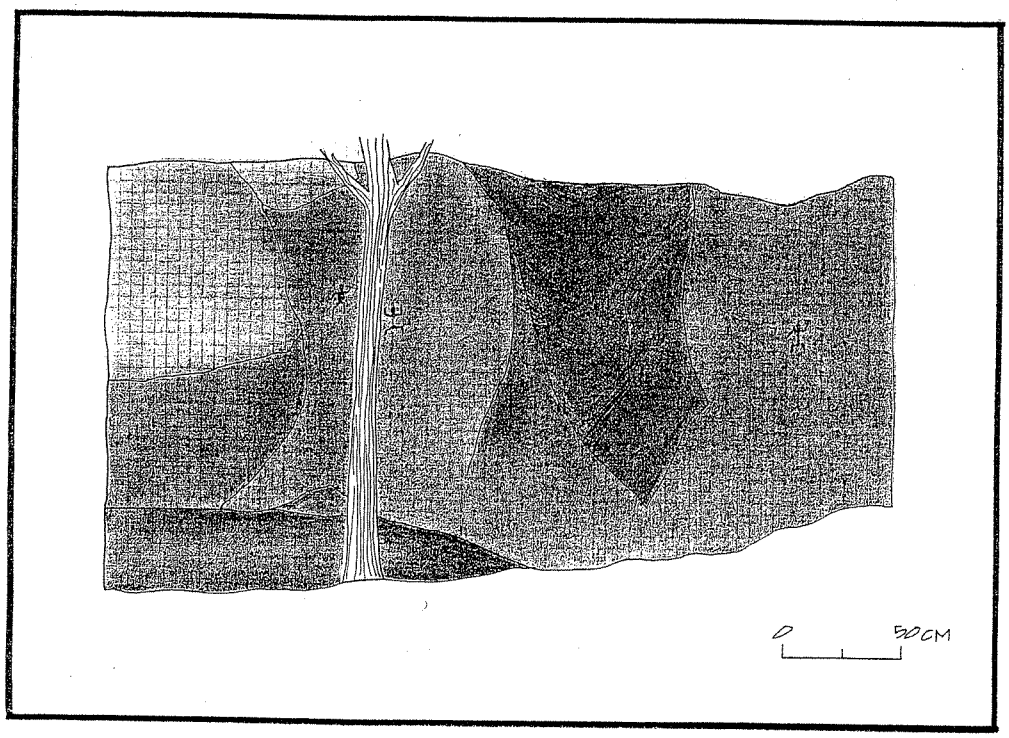


Figure 25 State site 50-50-10-5031: Petroglyphs, Plan View

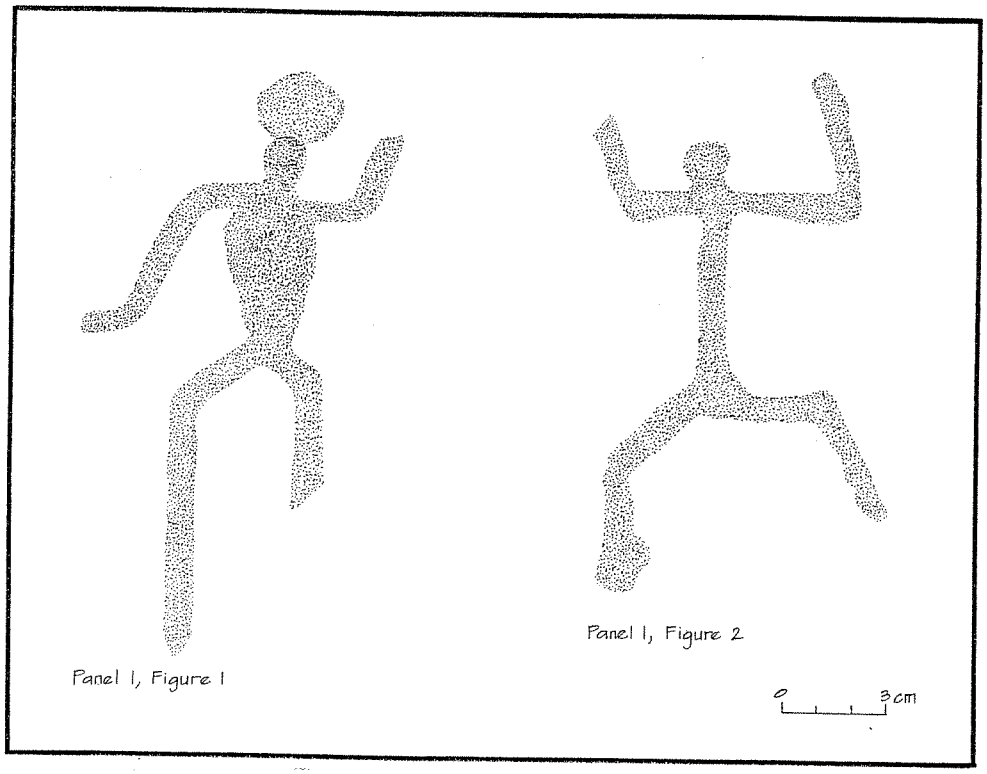


Figure 26 State site 50-50-10-5031: Petroglyphs, Panel 1

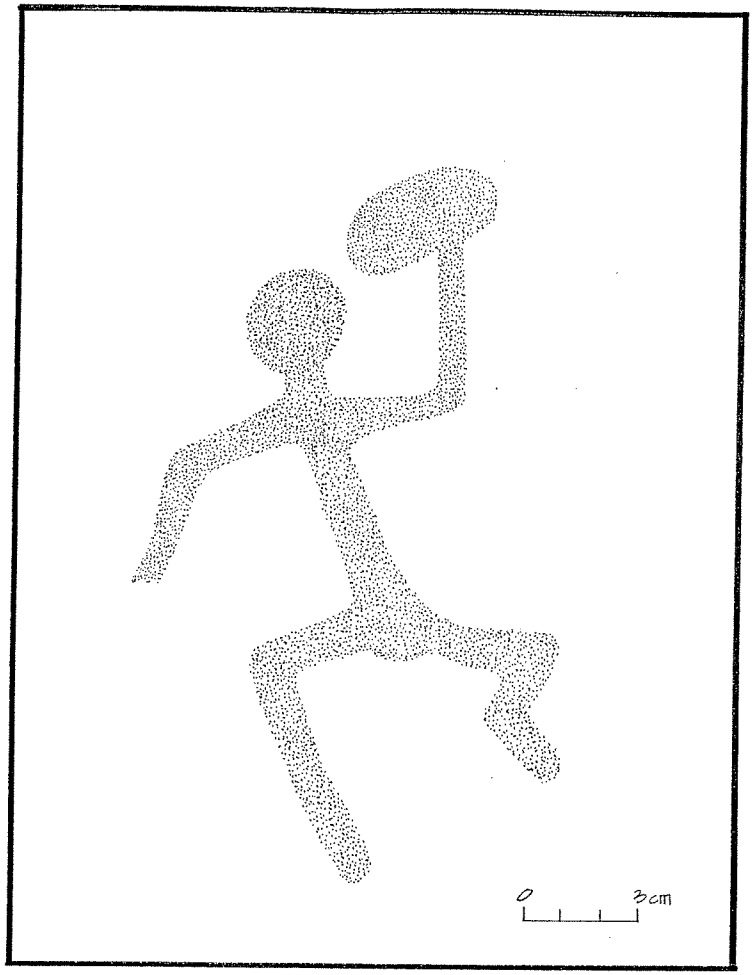


Figure 27 State site 50-50-10-5031: Petroglyphs, Panel 2

Panel #2, located 1.8 m west of Panel #1, consists of a single anthropomorphic stick figure, possibly male, holding something (club, paddle?) In the left hand. The right hand tip has definite claw-like points (fingers?). The basic figure is approximately 18 cm tall and 8 cm wide it is located 2.5 m up the cliff face from the gulch floor. The figure was made by pecking rather than with a incising style. Additional pecking is visible connecting to the right hand of the figure, suggesting the figure is holding something. It is very faint, almost impossible to see when sunlight is directly shining on it. It appears to be very old and worn.

No other cultural material was observed in the vicinity (*i.e.* midden, artifacts). Vegetation consists of *kiawe* brush along the sides of the gulch, sporadic grass, and sparse *koa haole*. No water was observed in the gulch during the time of the survey.

State Site #: 50-50-10-5032 CSH Site #: 1004
Site Type: Alignments
Site Function: Temporary Habitation
Features: 1

Description: State site 50-50-10-5032 consists of a series of alignments (see Figure 28). The alignments are constructed of single rows of small basalt boulders, which are set into the soil in a row. The longest section, which is discontinuous and L-shaped, measures 25 m N/S by 4 m E/W Extending from the midpoint of the E/W section is a second, smaller L-shaped alignment that measures 3 m N/S by 1.7 m E/W. There is another small L-shaped alignment that begins 4 m to the east of the north end of the largest alignment. The alignment generally parallels the larger alignment. The surrounding terrain is gently sloping pasture land. The site is located approximately 190 ft to the north of the study corridor centerline. Vegetation consists of *klu*, *kiawe* and *koa haole*; groundcover consists of sparse grass. Cultural materials observed at the site consist of a single fragment of cowry shell (*Cypraea* sp.), a basalt sinker stone and a basalt adze preform fragment. The sinker was collected for further analysis.

A 50 x 50 cm test unit was excavated in the south corner of the enclosure (see Testing Results section for complete details). No cultural material was encountered during the excavation.

State Site #: 50-50-10-5033 CSH Site #: 1005
Site Type: Rectangular enclosure
Site Function: Temporary Habitation
Features: 1

Description: State site 50-50-10-5033 is a roughly rectangular enclosure (Figure 29). It is constructed of basalt stones, cobble- to small boulder-sized, stacked one to three courses high, with a maximum height of 55 cm on the south wall. The site is located approximately 150 ft to the north of the study corridor centerline. Vegetation near the site consists of

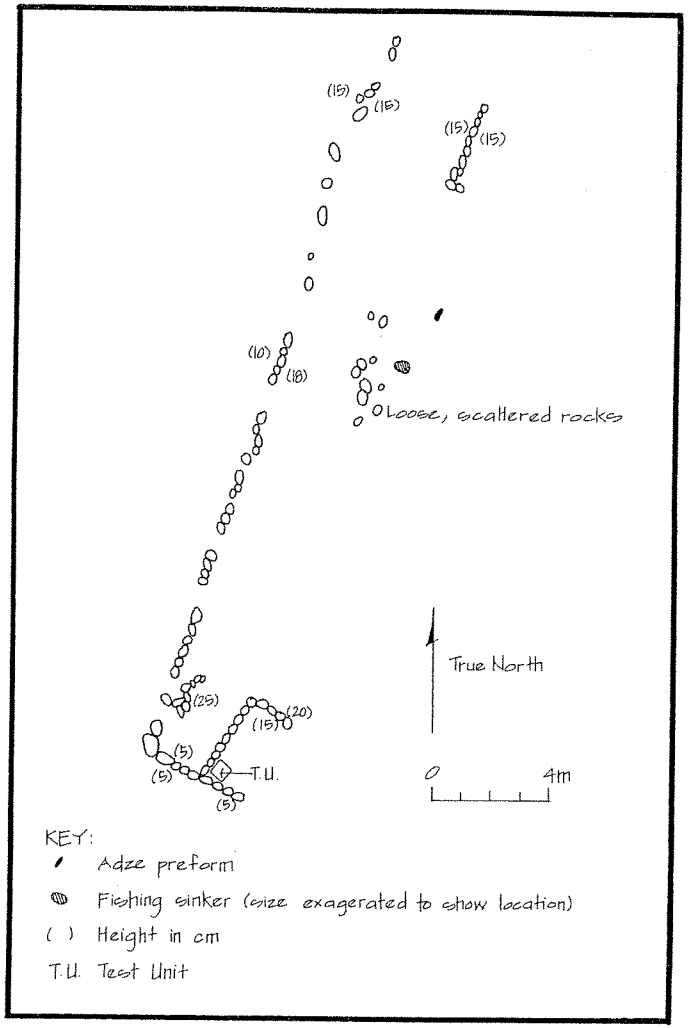


Figure 28 State site 50-50-10-5032: Plan View

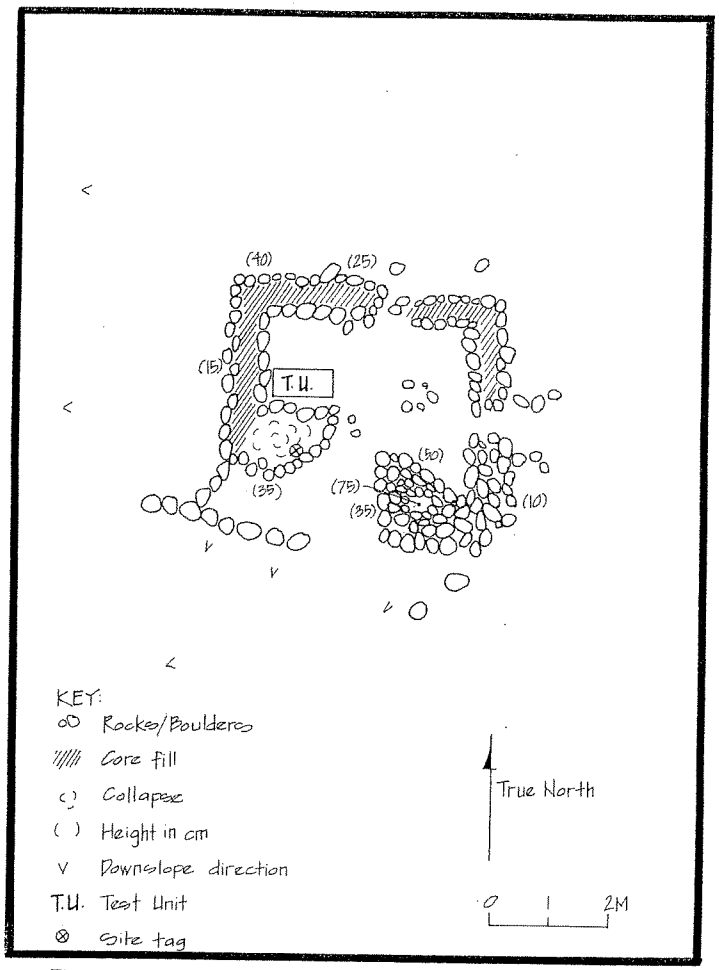


Figure 29 State site 50-50-10-5033: Plan View displaying test unit location

kiawe, *klu*, and various sparse grasses. The enclosure appears to be constructed directly upon Stratum I soil. The interior of the enclosure is soil-filled and is slightly higher than the ground surface at the exterior of the enclosure. The north side and portions of the east and west sides appear to be core-filled. The south and east sides of the structure have gaps in their construction.

Two sections appear to be more recent modifications. The southwest corner section of the structure appears to be a newer stacking of small basalt boulders constructed on top of the existing older core-filled western wall section. This modification, similar to the military features construction style possibly functioned as a wind break. The site tag has been placed within this newer construction. The southeast corner section is also created with a different construction style of stacked small basalt boulders and cobbles constructed alongside the existing southern wall. The stone stacking seems to delineate a hole, 15 cm deep, in its center, which appears to have functioned as a fire pit. No cultural material was observed on the surface at the site.

An additional alignment of small basalt boulders is located to the southwest of the site, constructed parallel to the south wall section of the enclosure. The alignment is composed of 6 boulders. This may have been the former southwestern edge of the site, from which material was removed to create the more recently modified sections of the site.

A 1 m x 50 cm test excavation unit was excavated in the northwest corner of the site, just inside the west wall and just north of the newer constructed mound. A total of 29.8 g of marine shell midden and a 146.7 g piece of coral were collected from the excavation (see Testing Results Section of complete details).

State Site #: 50-50-10-5034 CSH Site #: 1019
Site Type: Square Enclosure
Site Function: Temporary Habitation
Features: 1

Description: State site 50-50-10-5034 is a square enclosure situated on relatively level pasture land (Figure 30). The site is located approximately 75 ft to the south of the study corridor centerline. Vegetation consists of *klu*, *kiawe* and *koa haole*, and sparse grasses. The enclosure measures 2.7 m N/S x 2.4 m E/W, with alignment heights ranging from 0.05 - 0.35 m. The enclosure is constructed of small to medium basalt boulders set into the soil with some segments stacked up to 3 courses high. The interior of the enclosure is level soil. The entire enclosure, including the interior, is constructed on a raised soil base, about 0.5 m higher than the surrounding ground surface. The northwest half of the site has been damaged by bulldozing. No cultural material was observed.

A 1.0 m by 50 cm test unit was excavated in the interior of the enclosure to determine the presence or absence of subsurface cultural materials (see Testing Results section for complete details).

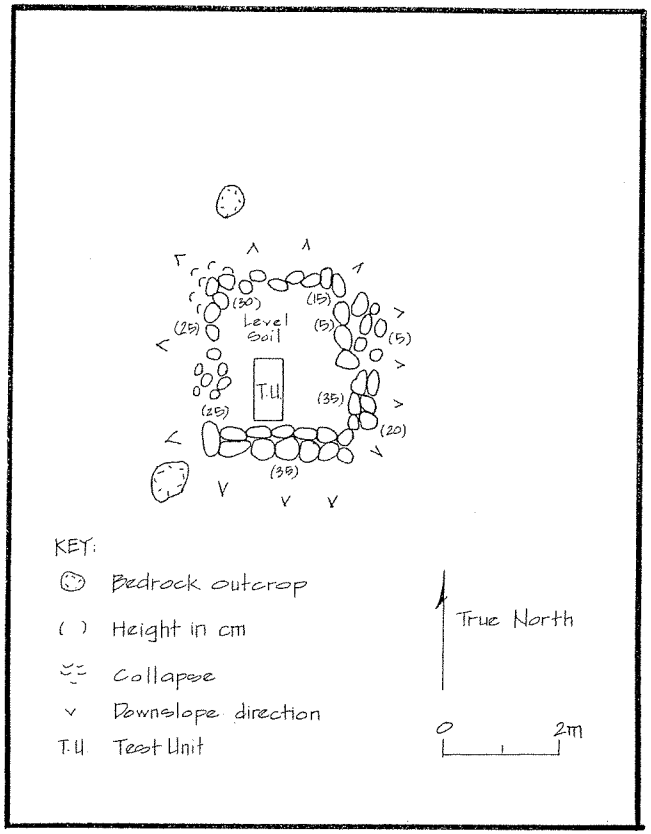


Figure 30 State site 50-50-10-5034: Plan View displaying test unit location

State Site #: 50-50-10-5035 CSH Site #: 1020
Site Type: C-shaped Enclosure
Site Function: Temporary Habitation
Features: 1

Description: State site 50-50-10-5035 consists of a large C-shaped enclosure and associated mound at its southeast end (Figure 31). The surrounding terrain is gently sloping pasture land. The site is located approximately 50 ft to the north of the study corridor centerline. Vegetation consists of *klu*, *kiawe*, and *koa haole* and various sparse grasses. The enclosure is constructed of stacked basalt boulders, 1 to 3 courses high (15-62 cm high), constructed directly on bedrock outcrop. The interior of the structure is completely soil-covered with some exposed bedrock and a few scattered cobbles. Three *kiawe* trees are growing just inside the enclosure. The north end of the C-shape is in good condition; the eastern and western sides are more weathered and collapsed. The adjacent mound consists of piled basalt cobbles to small boulders, 1 - 3 courses high, measuring 1.9 m N/S x 1.2 m E/W. The mound is collapsed on the south side.

A shovel test probe was excavated in the northwest interior of the structure (see Testing Results section for complete details). No cultural material was observed.

A. Testing Results Section

Limited subsurface testing was conducted at six sites. A total of five 1.0 m by 50 cm test units were excavated at two military sites (4773 and 4776) and two traditional temporary habitation sites (5033 and 5034). One 50 by 50 cm unit was excavated at another temporary habitation site (5032). In addition three shovel test probes were conducted at two sites (4773 and 5035) to determine the presence or absence of subsurface deposits.

A 1 m x 50 cm test units were excavated site 4773 Features U (Square Enclosure) and Feature CS (C-Shaped Enclosure). A 1 m x 50 cm test unit was also excavated at two of the temporary habitation sites 5032 (Square Enclosure) and 5033 (Rectangular Enclosure). The last 1 m x 50 cm test unit was excavated at a military site 4776 (Oval enclosure). In addition, shovel test probes were excavated at SS# 50-50-10-4773 Features AI and AW, 5032, and 5035 to determine presence or absence of subsurface cultural material.

The features were tested using controlled excavation. Excavations were extended well into sterile soil layers. One profile was prepared for each excavation. All excavated materials were screened through 1/8-inch wire mesh and cultural material recovered from the excavations were measured and analyzed. Each test unit was backfilled and the sites were reconstructed as close as possible to their original form.

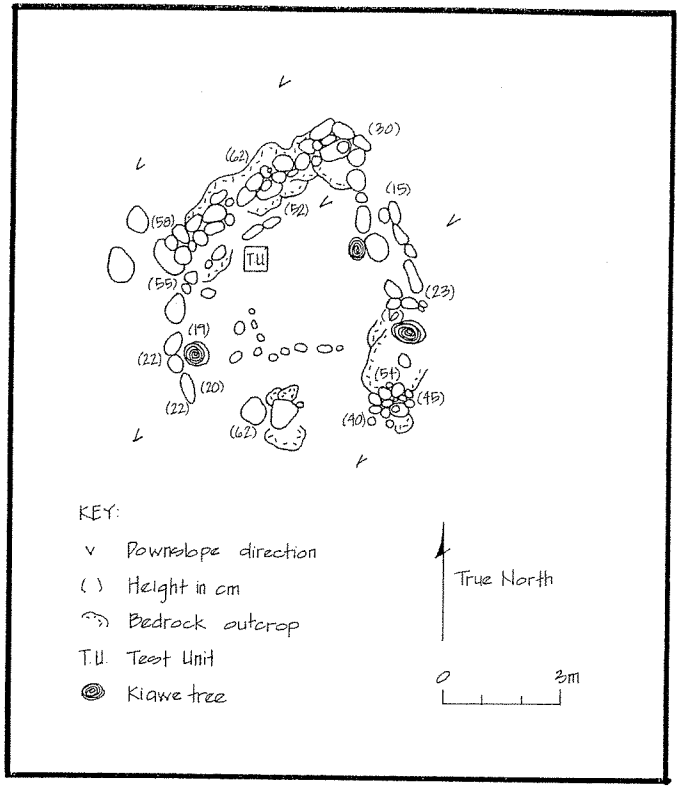


Figure 31 State site 50-50-10-5035: Plan View displaying location of test probe

Test Excavation Unit Descriptions

State Site # 50-50-10-4773 Feature U

A 1 m x 50 cm test unit was excavated in the northern interior of Feature U, a historic military square enclosure. A single stratigraphic layer was observed, very compact, fine grain, yellowish red (5YR 5/6) clay silt (Figure 32). The unit was excavated to a depth of approximately 60 cmbs. The top 20-25 cmbs contained approximately 20% root/rootlet inclusions and a basalt cobble concentration of approximately 50%. The cobble concentration increased with depth to a maximum of approximately 80% cobble inclusion at 25 cmbs that was the base of excavation. The base of the unit contained decomposing bedrock. No cultural material was encountered during excavation. A profile was drawn of the north face. Photos were taken pre- and post-excavation.

SS# 50-50-10-4773 Feature AI

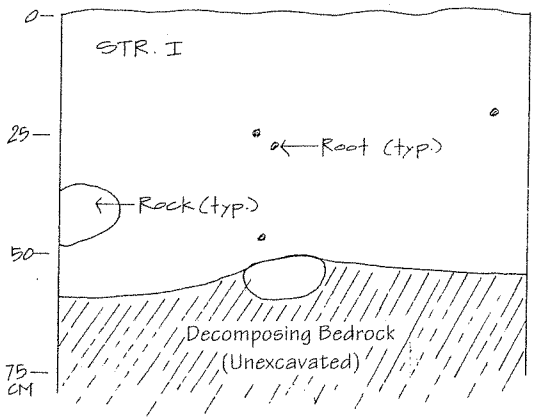
A shovel test probe was excavated in the center of military Feature AI to aid in determining the presence or absence of subsurface cultural material. The probe was approximately 60 cm N/S x 40 cm E/W. The probe was excavated to a maximum depth of 46 cmbs. One stratigraphic layer was encountered, a very compact 5YR 5/6 yellowish red silt, containing small cobbles and abundant roots and rootlets (Figure 33). No cultural material was noted during excavation. A profile was drawn of the northeast face of the probe. Photos were taken pre- and post-excavation.

SS# 50-50-10-4773 Feature AW

A shovel test probe was excavated in the southwest corner of military Feature AW to aid in determining the presence or absence of subsurface cultural material. The probe measured approximately 60 cm N/S x 42 cm E/W (at the surface) and was excavated to a maximum depth of 48 cmbs at which point bedrock outcrop was exposed throughout the majority of the base of the probe (Figure 34). Two strata were encountered: the O-horizon, which included the first 2-4 cm at the surface, a 5YR 4/4 reddish brown silt, and Stratum I to the base of excavation, a very compact 5YR 5/6 yellowish red silt, which contained small cobbles and decomposing bedrock and abundant roots and rootlets. No cultural material was encountered during the excavation. A profile was drawn of the southwest face. Photos were taken of the pit, pre- and post-excavation.

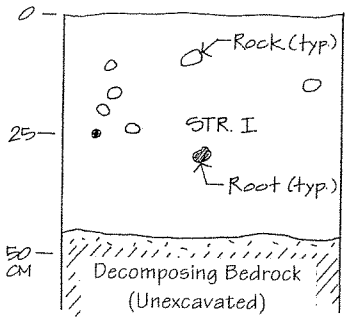
State Site # 50-50-10-4773 Feature CS

A 1 m x 50 cm test unit was excavated in the northern interior of Feature CS, a historic military C-shaped enclosure. A single stratigraphic layer was encountered that consisted of a very compact, fine grain, yellowish red (5YR 4/6) clay silt (Figure 35). The unit was excavated to a maximum depth of 70 cm. At approximately 25 cmbs the cobble content increased to 80%. The root content throughout the excavation was extremely high. Bedrock outcrop was encountered at the base of excavation. No cultural material was encountered during the excavation. A profile was drawn of the eastern face. Photos were taken pre- and post-excavation.



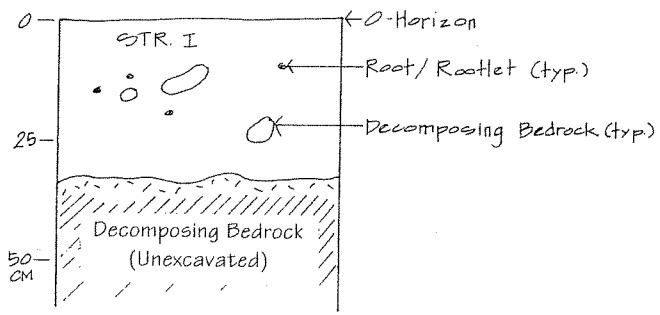
Stratum I: (0-BOE) Very compact, fine grain, yellowish red (5YR 5/6) clay silt

Figure 32 State site 50-50-10-4773: Feature U, Post excavation profile displaying test unit, view to north



Stratum I: (0-BOE) Very compact 5YR 5/6 yellowish red silt, containing small cobbles and abundant roots and rootlets.

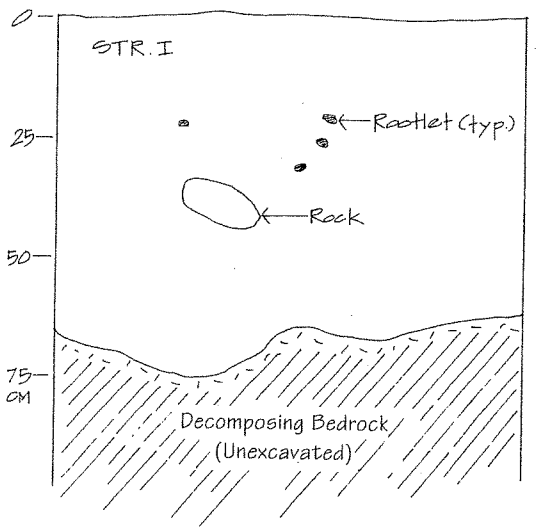
Figure 33 State site 50-50-10-4773: Feature AI, Post excavation profile displaying test unit, view to northeast



O-horizon: (0-2 cmbs) 5YR 4/4 reddish brown silt

Stratum I: (2-BOE) Very compact 5YR 5/6 yellowish red silt which contained small cobbles and decomposing bedrock and abundant roots and rootlets.

Figure 34 State site 50-50-10-4773: Feature AW, Post excavation profile displaying test unit, view to southwest



Stratum I: (0-BOE) Very compact, fine grain, yellowish red (5YR 4/6) clay silt.

Figure 35 State site 50-50-10-4773: Feature CS, Post excavation profile displaying test unit, view to east

State Site 50-50-10-4776

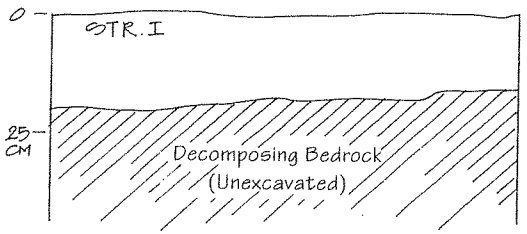
A 1 m x 50 cm test unit was excavated bisecting the eastern wall and extending into the eastern interior of the enclosure (Figure 36). The excavation was terminated at a maximum depth of 25 cmbs. A small pocket of a very dark brown (10YR 2/2) silt was observed in the northwest corner of the unit extending a maximum of 2 cmbs. No cultural material was observed in this darker stained surface pocket. Besides the pocket only a single stratigraphic layer was encountered throughout the rest of the excavation. No cultural material was encountered during the excavation of this unit. A profile was drawn of the south face. Photos were taken pre- and post-excavation.

State Site #50-50-10-5032

A 50 x 50 cm test unit was excavated at Site 5032. The unit had a maximum depth of 41 cmbs. A single stratigraphic layer (Stratum I) was encountered, a 5YR 4/6 yellowish red silt (Figure 37). Stratum I contained decomposing bedrock and abundant roots and rootlets. No cultural material was encountered during the excavation. A profile was drawn of the south face. Photos of the unit were taken pre- and post-excavation.

State Site #50-50-10-5033

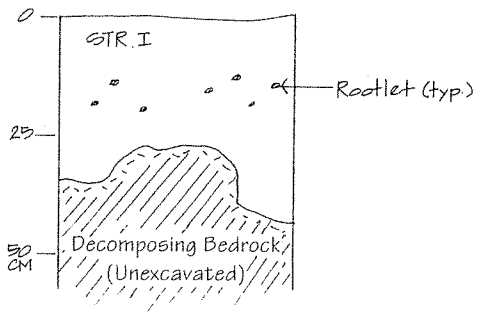
A 1 m x 50 cm test unit was excavated in the interior of Site # 5033, a rectangular temporary habitation enclosure. Three stratigraphic layers were encountered (Figure 38). Stratum I, consisted of a very compact, fine grain, yellowish red 5YR 5/6 clay silt. Stratum I contained no cultural material. Stratum I contained a high concentration of roots and rootlets. Stratum II consisted of a compact very fine grain dark reddish brown (5YR 3/2) silt which contained cultural material. Cultural material encountered consisted of 3.2 g of *Conus* sp., 12.4 g of *Cypraea caputserpentis*, , 0.1 g of *Nerita picea*, 1 g of *Isognomon* sp., 3.1 g of unidentified marine shell and a 146.7 g piece of coral. All cultural material encountered appeared very weathered and brittle. Stratum II was encountered between 18-25 cmbs. with both boundaries, with Stratum I and Stratum III, were gradual and wavy. Stratum III was encountered at approximately 25 cmbs and it extended to the base of excavation at 60 cmbs. Stratum III consisted of very compact fine grained yellowish red (5YR 4/6) silt which contained no cultural material. The cobble concentration increased throughout Stratum III so that at the base of excavation the cobble concentration was approximately 80%. The base of excavation unit was at depth of 60 cmbs. A profile was drawn of the southern face. Photos were taken pre- and post-excavation.



Stratum I: (0-BOE) Very compact, fine grain 5YR 4/6 yellowish red silt with decomposing bedrock and abundant roots and rootlets

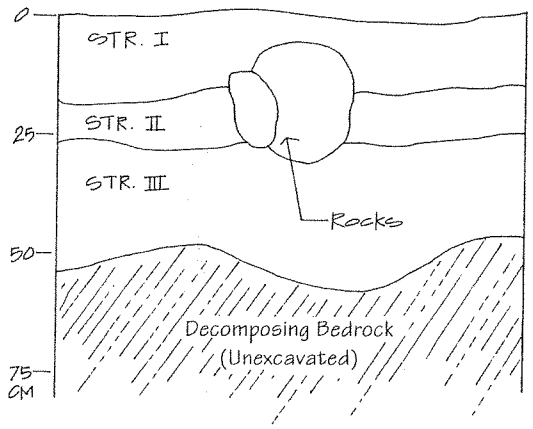
Pocket: A small pocket of a very dark brown (10YR 2/2) silt was observed in the northwest corner of the unit extending a maximum of 2 cmbs

Figure 36 State site 50-50-10-4776: Post excavation profile displaying test unit, view to south



Stratum I: Very compact fine grain 5YR 4/6 yellowish red silt with decomposing bedrock and abundant roots and rootlets

Figure 37 State site 50-50-10-5032: Post excavation profile displaying test unit, view to south



Stratum I: (0-18) Very compact, fine grain, yellowish red 5YR 5/6 clay silt with a high concentration of roots and rootlets.

Stratum II: (18-25) Compact very fine grain dark reddish brown (5YR 3/2) silt which contained cultural material.

Stratum III: (25- BOE) Very compact fine grained yellowish red (5YR 4/6) silt which contained no cultural material.

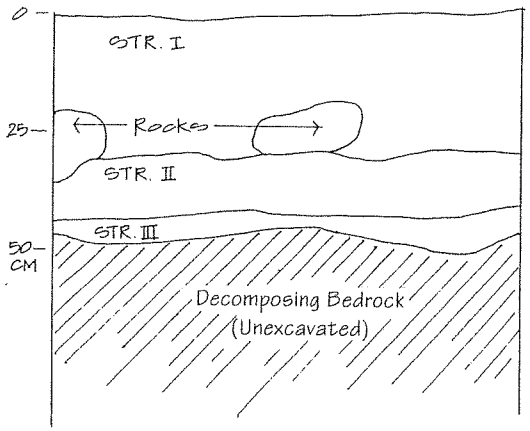
Figure 38 State site 50-50-10-5033: Post excavation profile displaying test unit, view to south

State Site #50-50-10-5034

A 1 m x 50 cm test unit was excavated in the interior of Site # 5034, a square temporary habitation enclosure. Three stratigraphic layers were encountered (Figure 39). Stratum I consisted of a very compact, fine grain, reddish brown 2.5YR 4/4 clay silt and contained no cultural material. Stratum I contained a high concentration of roots and rootlets. Stratum II consisted of a compact very fine grain brown (7.5YR 2/4) silt which contained cultural material. Cultural material encountered consisted of 0.5 g of unidentified marine shell. The marine shell encountered appeared very weathered and brittle. Stratum II was encountered between 29-42 cmbs. with both boundaries, with Stratum I and Stratum III, were diffuse and wavy. Stratum III was encountered at approximately 42 cmbs and it extended to the base of excavation at 51 cmbs. Stratum III consisted of very compact fine grained yellowish red (5YR 4/6) silt which contained no cultural material. The cobble concentration increased throughout Stratum III so that at the base of excavation the cobble concentration was approximately 80%. A profile was drawn of the northwestern face. Photos were taken pre- and post-excavation.

State Site# 50-50-10-5035

A shovel test probe was excavated within the interior of site 5035. The test probe was approximately 54 cm x 48 cm (at the surface), and was excavated to a maximum depth of approximately 29 cmbs. Two strata were encountered during excavation (Figure 40), Stratum I, a 2.5YR 4/4 to 4/6 reddish brown compact silt, and Stratum II, a 7.5YR 2/3 to 2/4 brown. Stratum II was only encountered in a small pocket in the northwest corner of the probe. Both strata contained plentiful roots and rootlets, and numerous basalt cobbles. Stratum II appeared similar to the weak cultural layers encountered at site 5033 and 5034, although no cultural material was encountered at site 5035. Decomposing bedrock was encountered at the base of excavation. A profile was drawn of the northwest face. Photos of the test pit were taken pre- and post-excavation.

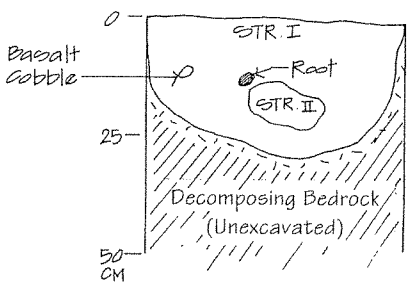


Stratum I: Very compact, fine grain, reddish brown 2. 5YR 4/4 clay silt with a high concentration of roots and rootlets.

Stratum II: Compact very fine grain brown (7.5YR 2/4) silt which contained cultural material.

Stratum III: Very compact fine grained yellowish red (5YR 4/6) silt which contained no cultural material.

Figure 39 State site 50-50-10-5034: Post excavation profile displaying test unit, view to northwest



Stratum I: Compact 2.5YR 4/4 to 4/6 reddish brown clay silt

Stratum II: Compact 7.5YR 2/3 to 2/4 brown clay silt. Stratum II was only encountered in a small pocket in the northwest corner of the probe.

Figure 40 State site 50-50-10-5035: Post excavation profile displaying test unit, view to northwest

VIII. SURVEY RESULTS

The study corridor is 300 ft wide, 150 ft on either side of centerline. An area 400 ft wide, 200 ft on either side of centerline, was surveyed to insure complete coverage of the study area. During the inventory survey a total of 126 structural and nonstructural features were identified within the study area. The archaeological features were organized into seventeen distinct sites. Of the seventeen sites encountered during the present study twelve are located within 150 ft of the corridor centerline. The other five sites (3729, 3743, 5029, 5031, and 5032) are located within 200 ft of the corridor centerline.

The seventeen sites are associated with a variety of functions, including traditional Hawaiian temporary habitation (3742, 3743, 3745, 5032, 5033, 5034, and 5035), agriculture (3727, 3728, and 4765) , symbolic (petroglyph sites 5029 and 5031), animal husbandry (5030), a marker (3729) and historic military training activities (4773, 4776 and 4778).

A portion of the Kīhei end of the corridor was subject to an inventory level survey by Xamanek Researches prior to the present study (Fredericksen et al 1994c). Six sites from the Fredericksen et al 1994c survey are located within our present project area, they are 3727, 3728, 3729, 3742, 3743, and 3745. Site type, function, age, significance and recommendations for the aforementioned six sites are taken directly from the Fredericksen et al 1994c report.

The results of the inventory survey reflect the broad range of land use varying from traditional Hawaiian temporary habitation and petroglyphs, to historic military, ranching and agricultural activities.

Traditional Hawaiian Sites

Temporary Habitation

Traditional temporary habitation sites were encountered from 45 to 460 ft. a.m.s.l. portion of the corridor above Kīhei within the *ahupua`a* of Waiakoa and Kaonoulu (Table 8). A total of six sites within the project area are interpreted as having functioned as temporary habitation sites. Sites types include surface scatters (3742, 3743, and 3745), three types of small enclosures (5033 (rectangular), 5034 (square), and 5035 (c-shape)) and finally a rather unique site that consists of a series of boulder alignments (5032). Generally we can place the temporary habitation sites into two broad categories: structural and none structural.

In general all of the non-structural temporary habitation sites (i.e. surface scatters of cultural material) were located between the elevations of 45 to 105 ft a.m.s.l., while all of the temporary habitation sites that contained structural elements (i.e. enclosure) were located at elevations between 205 to 460 ft a.m.s.l. Due to the fact that the majority of the cultural material from the three surface scatter sites (3742, 3743, and 3745) was collected during a previous inventory survey (Fredericksen *et al.* 1994c) it is difficult for us to re-evaluate those three sites based on the evidence observed in the field. Therefore sites 3742, 3743, and 3745 will not be discussed in detail here (see Fredericksen *et al.* 1994 for complete analysis).

Table 8: Comparisons of Temporary Habitation Sites

State Site # 50-50-10-	Type	Sub-surface Deposits	Cultural material on surface	*Ahupua`a*	Const. Style	Elev. ft a.m.s.l
3742	Surface Scatter	No	Yes	Kaonoulu	NA	65
3743	Surface Scatter	No	Yes	Kaonoulu	NA	45
3745	Surface Scatter	No	Yes	Kaonoulu	NA	105
5032	Alignments	Possibly	Yes	Waiakoa	Alignment	360
5033	Rectangular Enclosure	Yes	No	Waiakoa	Core	460
5034	Square Enclosure	Yes	No	Waiakoa	Core	235
5035	C-shaped Enclosure	Possibly	No	Waiakoa	Indeterminate	205

Site 5032, a series of boulder alignments, was determined to be a temporary habitation site based on the presence of cultural material observed on the surface which is typically associated with pre-contact Hawaiian culture. Items observed on the surface included a basalt net sinker stone, a basalt adz preform or core and a single piece of marine shell midden. The construction style of the site, which is an alignment, is typical of the two military sites within the project rather than the other structural temporary habitation sites. The size of 5032 is unique when compared to the other temporary habitation sites or military sites in that it is considerably longer (the western alignment at the site is approximately 26.0 m in length). 5032 is located 190 ft to the north of the study area centerline at approximately 360 ft a.m.s.l within the *ahupua`a* of Waiakoa. A 50 by 50 cm test unit was excavated at the site. No cultural material was observed during the excavation and only a single stratigraphic layer was observed.

Site 5033 is a rectangular enclosure that appears to be a traditional Hawaiian temporary habitation site that was modified historically either by the military or by hunters (see Figure 29). The unmodified portions of the sites enclosure wall are collapsed but appear to have been core filled at one time. This contrasts with the construction style of the military features at site 4773, which were normally alignments or rough stacking lacking core filling. No cultural material was observed on the surface at site 5033. A 1.0 m

by 50 cm test unit was excavated at the site. Traditional marine shell midden was encountered from a weak cultural layer during the excavation. A total of 29.8 g of marine shell midden was collected from the excavation. The site is located 150 ft north of the study area centerline at approximately 460 ft a.m.s.l.

Site 5034 is a square enclosure located 75 ft south of the study area centerline at approximately 235 ft a.m.s.l. The site appears to have been impacted by bulldozer, which appears to have crossed the northwest corner of the site damaging both the west and north walls of the enclosure. A 1.0 m by 50 cm test unit was excavated at site 5034 to better ascertain function. A very sparse amount (0.5 g) of marine shell midden was encountered from a weak cultural layer during the excavation. The construction style of the site is similar to site 5033 in that the walls are severely collapsed but appear to have been core filled.

Site 5035 is a C-shaped enclosure located 50 ft north of the study area centerline at approximately 205 ft a.m.s.l. No cultural material was observed at the site. A shovel test probe was excavated at the site. No cultural material was encountered during the probe but a darker stained layer, similar to the weak cultural layers at Sites 5033 and 5034, was encountered.

Temporary habitation sites were expected in the project area along former trails from the uplands to the coast (such as the Waiakoa Trail; See McGerty and Spear 2000:44). No physical evidence of a former trail was observed in the project area but it is probable that a trail traversed the Kaonoulu and/or the Waiakoa portions of the project area.

Petroglyphs

Petroglyphs were encountered in both Kalialinui and Waiakoa Gulches (5029 and 5031). Site 5029 consists of a panel of three historic petroglyphs pecked into the northern cliff face of Kalialinui Gulch. State site 5031 consists of at least three traditional petroglyphs of anthropomorphic figures located on the southern side of Waiakoa Gulch. The petroglyphs are pecked into the cliff face. Kalialinui Gulch has previously identified petroglyph sites located at higher elevations. Both petroglyph sites are located 200 ft from the study area centerline, site 5029 is 200 ft to the east of centerline and site 5031 is 200 ft west of centerline. Site 5031 was originally located 50 ft west of centerline, but the corridor was adjusted 150 ft to the east to avoid any impact to site 5031.

Agriculture and Marker

Three sites from the Kīhei end of the survey (i.e. Fredericksen *et al.* 1994c) are functionally associated with agriculture and a marker. All three sites consist of stone piles or stone cairns. All three sites are of an indeterminate age. Site 3728 and 3729 were almost completely excavated during the 1994 inventory survey (Ibid.) which makes re-evaluation difficult.

Historic Land Use

Military Sites

A large historic military site, State site 50-50-10-4773, was encountered between 500 and 740 ft. a.m.s.l. The corridor passes directly through the site. A total of 102 features were documented. Features were generally very simple boulder alignments of varying shapes including C-shape, U-shape, rectangular, square, oval and circular enclosures. In addition fox holes were encountered typically consisting of a hole excavated into the soil with a small stacking or alignment of boulders along one side. Two 1.0 m by 50 cm test units and two shovel test probes were excavated at four separate features from different areas of the site. None of the test probes or excavations at the site encountered any cultural material and only a single stratigraphic soil layer was encountered. The site extends well outside of both the east and west sides of the corridor. The overall extent of the site was not determined.

Site 4776 is a small oval enclosure located 50 ft north of the study area centerline at approximately 65 ft a.m.s.l. The feature is isolated with no other features of similar type within the area. A 1.0 m by 50 cm test unit was excavated at the site. A single stratigraphic layer was observed. No cultural material was observed at the site either on the surface or from the test excavation. The site is interpreted as a military site based on the construction style, size, location and lack of traditional cultural materials. It must be noted that there is a considerable evidence of bulldozing in the area of site 4776 so it is possible that it was not an isolated site and that the surrounding sites or features have been destroyed.

Site 4778 is a small L-shaped enclosure situated 75 ft east of the study area centerline on the southern edge of Waiakoa Gulch. The feature is similar to 4776 in that it is isolated and there is no observable cultural material on the surface. There does not appear to be the potential for subsurface cultural deposits in the area. The wall of the enclosure appears to be constructed partially on exposed outcrop and partially on exposed C-horizon. The site is interpreted as a military site based on the construction style, size, location and lack of traditional cultural materials. No cultural material of any kind was observed in the area.

Historic Sugar Cane Agriculture

Remnants of historic sugar cane cultivation infrastructure were observed and recorded in the section of the corridor between Pūlehu and Oma`opio Roads (site 4765). The corridor passes directly through the site. Recorded features included five inactive irrigation ditches that cross the corridor perpendicularly. The ditches are earthen. Each ditch is crossed by two to three small bridges. The bridges are constructed of concrete and lumber and are in poor condition. Two of the recorded features consist of clearing mounds associated with historic sugar cane cultivation. In addition to the recorded features barely discernable cross slope earthen sugar cane irrigation ditches were also observed.

Cattle Walls

Sections of cattle walls were encountered along the north side of Waiakoa Gulch. Site 5030 documents the sections of cattle walls within the corridor. The cattle walls are short sections that prevent the cattle from either entering or exiting Waiakoa Gulch. The walls were encountered throughout the corridor along the north side of Waiakoa Gulch.

IX. SIGNIFICANCE OF THE HISTORIC PROPERTIES

A total of seventeen sites of archaeological significance are present in the project area (see Table 6). Sites were evaluated for significance according to the broad criteria established for the National and State Registers. The five criteria are:

Criterion A Site reflects major trends or events in the history of the state or nation.
Criterion B Site is associated with the lives of persons significant in our past.
Criterion C Site is an excellent example of a site type.
Criterion D Site may be likely to yield information important in prehistory or history.
Criterion E Site that has cultural significance, such as religious structures (shrines, *heiau*) or human burial locations.

All seventeen sites recorded all are classified under significance criterion D. Two sites were also classified under significance criterion C.

Criterion D - "site may be likely to yield information important in prehistory and history" - is assigned to all of the sites. It is believed that these sites have yielded varying types of scientific data and contribute to some or all of the following analyses: (1) material culture; (2) site architecture and function; (3) chronology; and (4) settlement patterns. We believe that twelve of the seventeen sites lack any additional scientific data beyond what was acquired during the inventory survey (i.e. site configuration, description and plotted location.

Criterion C - "site is an excellent example of a site type" - is assigned to the two petroglyph sites (5029 and 5031). Sites 5029 and 5031 are considered excellent examples of smaller petroglyph sites in the lower *Kula* gulches.

X. RECOMMENDED TREATMENT

Of the seventeen sites recorded in the project area, it is recommended that three sites be subjected to a program of data recovery and two sites be preserved. The remaining twelve sites (3727, 3728, 3729. 3742, 3743, 4765, 4773, 4776, 4778, 5030 and 5034) in the project area are not recommended for further work. Based on documenting location, type, age and function sufficient data has been generated from the present inventory level survey that no further research appears warranted for the 12 sites.

The three sites (5032, 5033 and 5035) recommended for data recovery should be subjected to a program of additional data collection. All of the sites recommended for data recovery have been assigned a temporary habitation function. Data recovery at these sites will probably consist of further excavations in accordance with a data recovery plan, which will need to be approved by SHPD/DLNR.

The two petroglyph sites (5029 and 5031) are recommended for preservation. The specifics regarding preservation of the two sites will need to be addressed in a preservation plan.

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APPENDIX A: PHOTOGRAPHIC APPENDIX

The photographs selected for this appendix are representative of the site types present within the project area. For this reason, photographs of every site and/or feature are not included.

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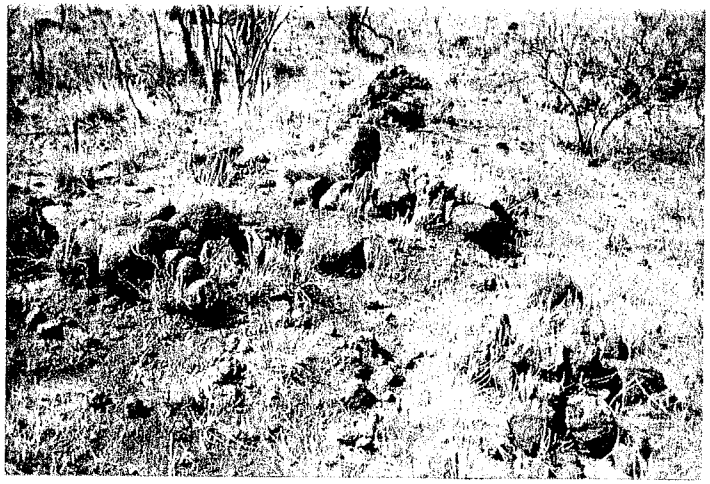

Figure 41 State site 50-50-10-3727, view to east

Figure 42 State site 50-50-10-4765, Feature A, view to south

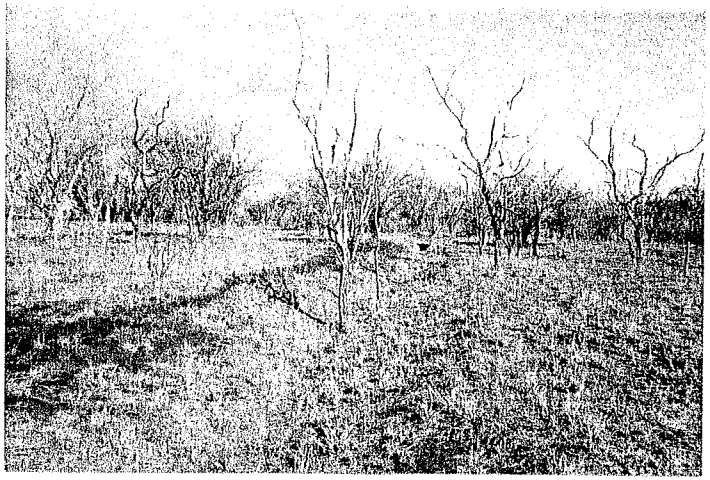

Figure 43 State site 50-50-10-4765: Feature B, view to west

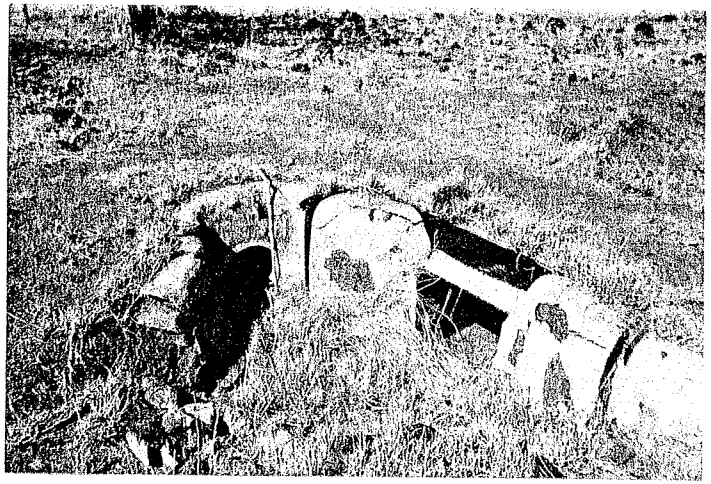

Figure 44 State site 50-50-10-4765: Feature C, view to west

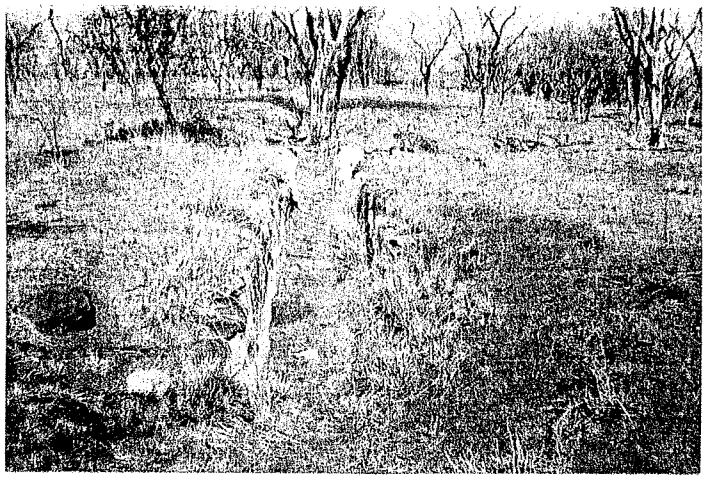

Figure 45 State site 50-50-10-4765: Feature D, view to west

Figure 46 State site 50-50-10-4765: Feature E, view to east

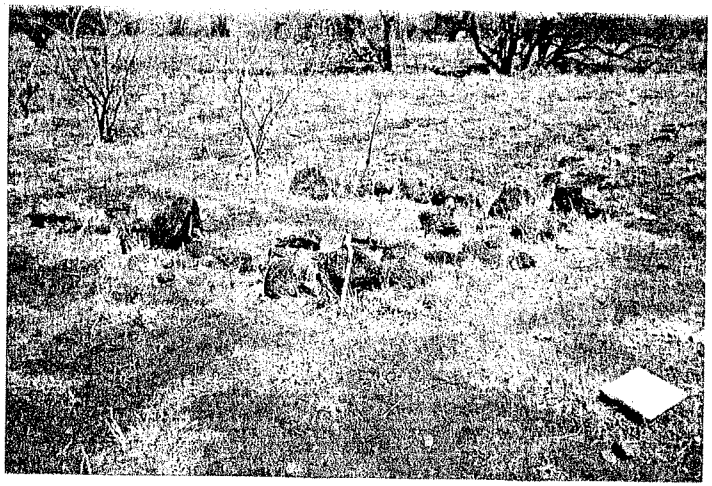

Figure 47 State site 50-50-10-4773: Feature E, view to north

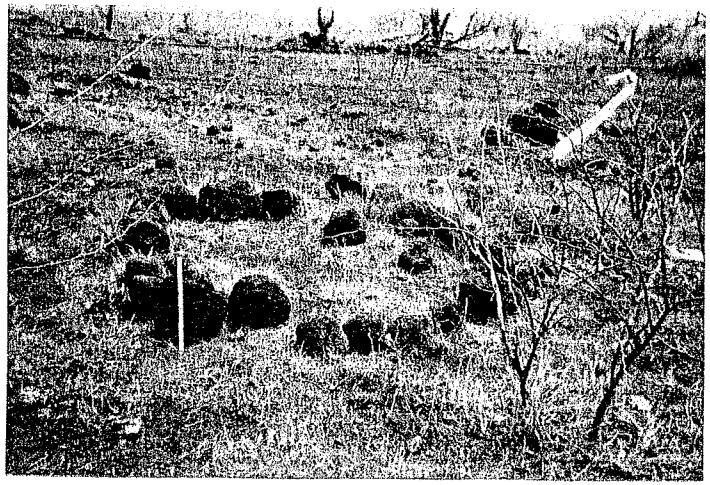

Figure 48 State site 50-50-10-4773: Feature L, view to south

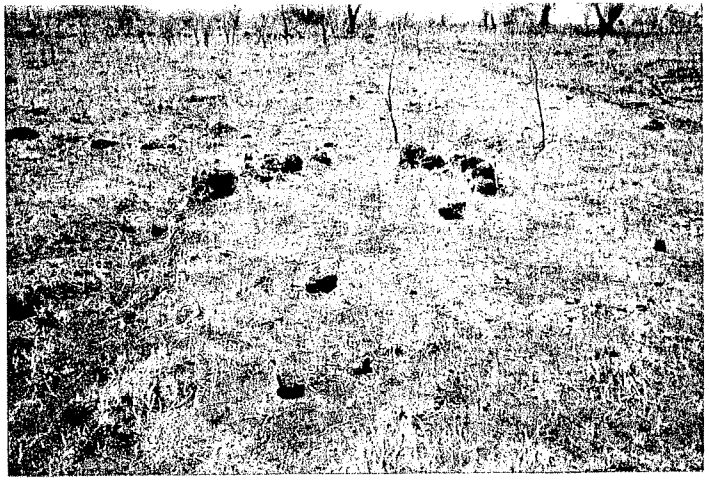

Figure 49 State site 50-50-10-4773: Feature H, view to south

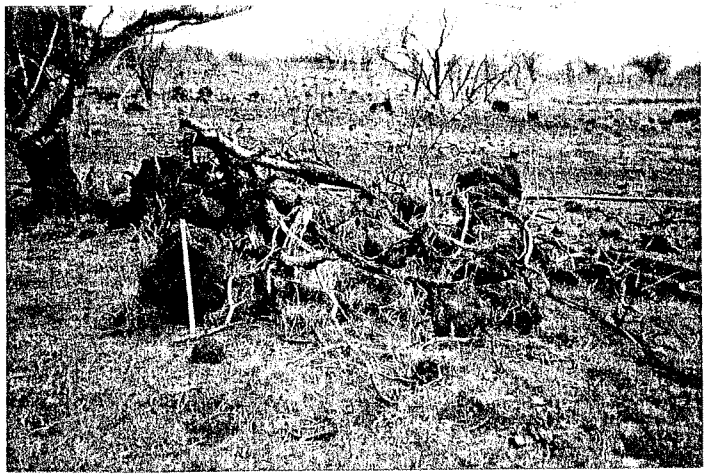

Figure 50 State site 50-50-10-4773: Feature M, view to south

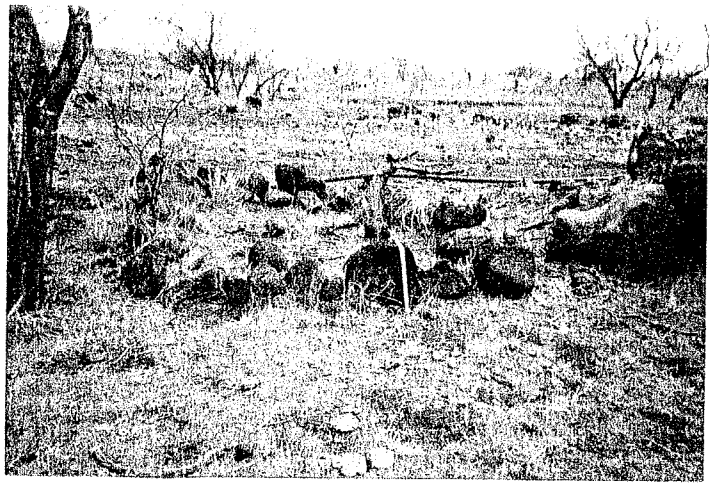

Figure 51 State site 50-50-10-4773: Feature N, view to south

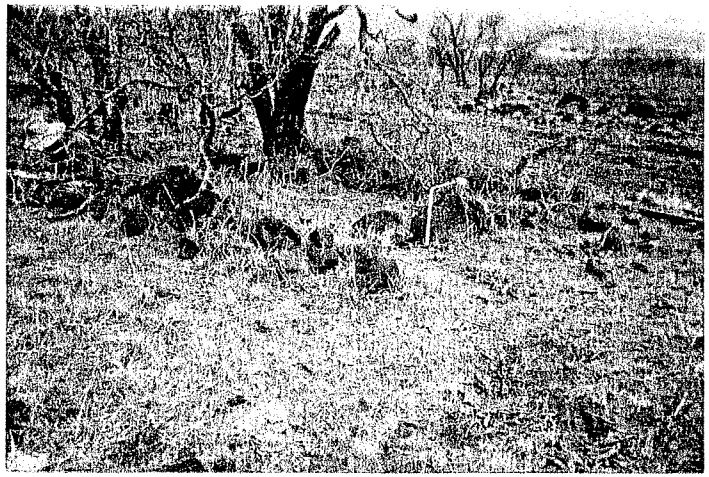

Figure 52 State site 50-50-10-4773: Feature O, view to southeast

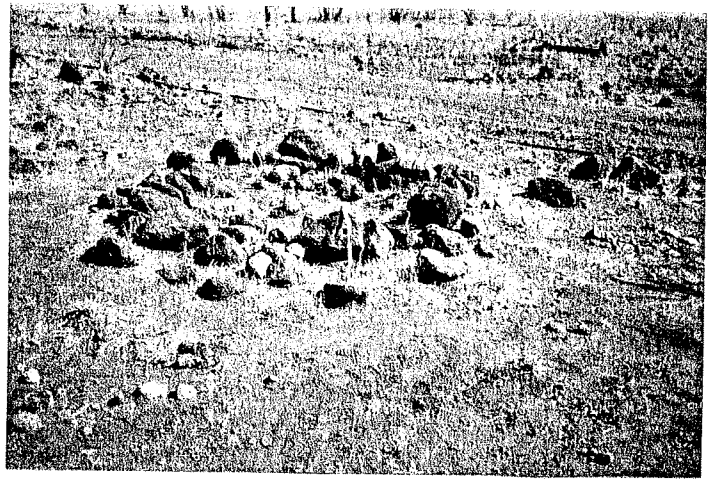

Figure 53 State site 50-50-10-4773: Feature Q, view to southeast

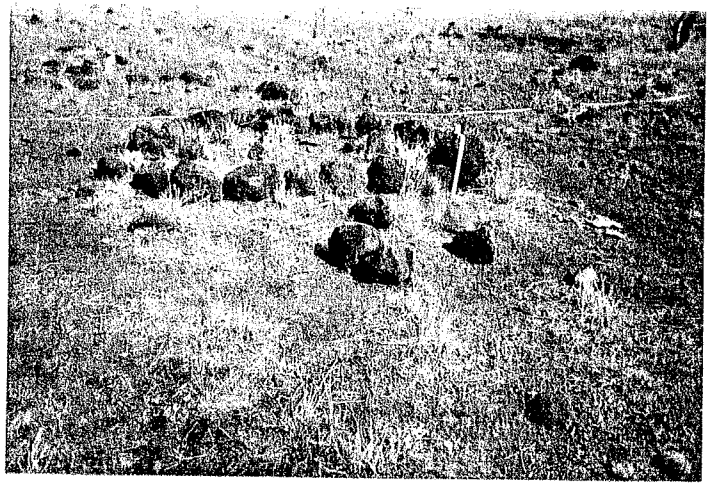

Figure 54 State site 50-50-10-4773: Feature R, view to east

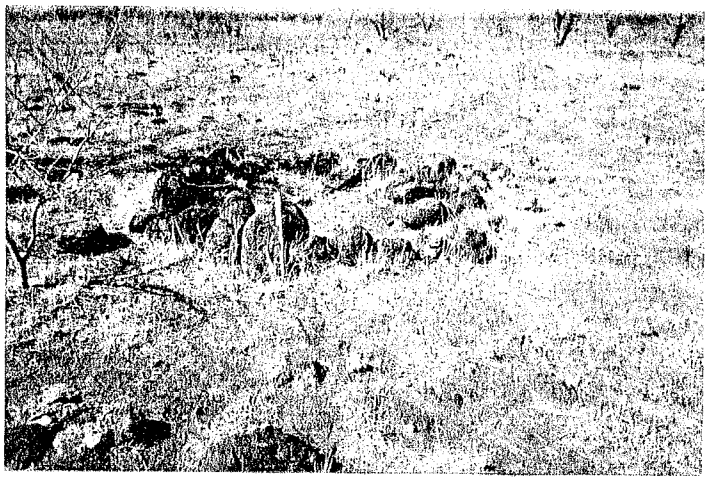

Figure 55 State site 50-50-10-4773: Feature T, view to north

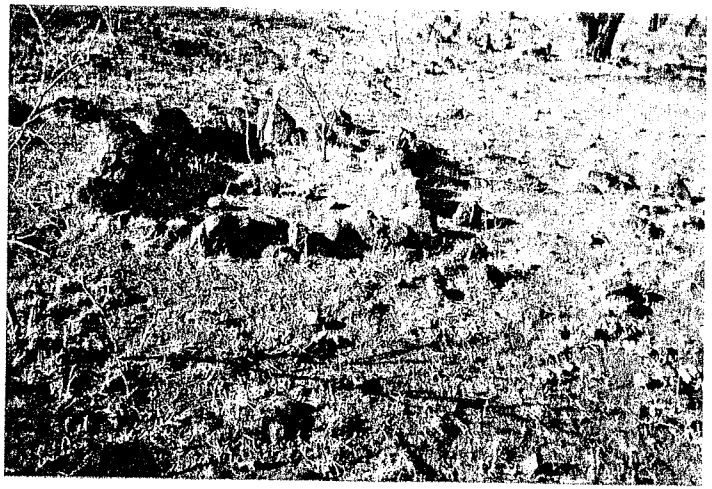

Figure 56 State site 50-50-10-4773: Feature Z, view to south

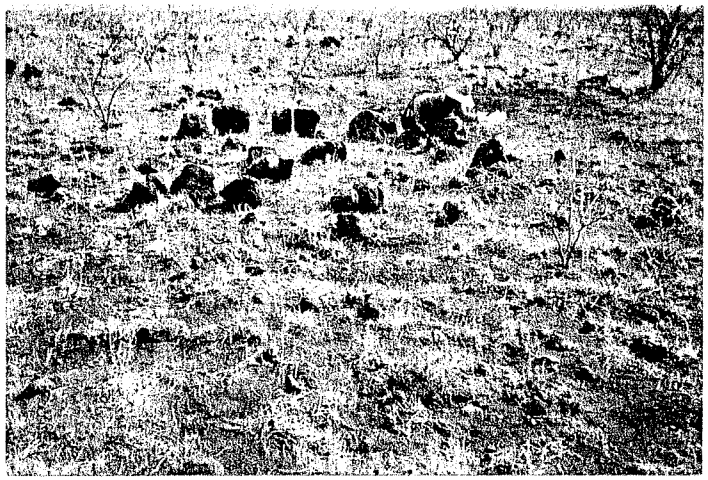

Figure 57 State site 50-50-10-4773: Feature BJ, view to south

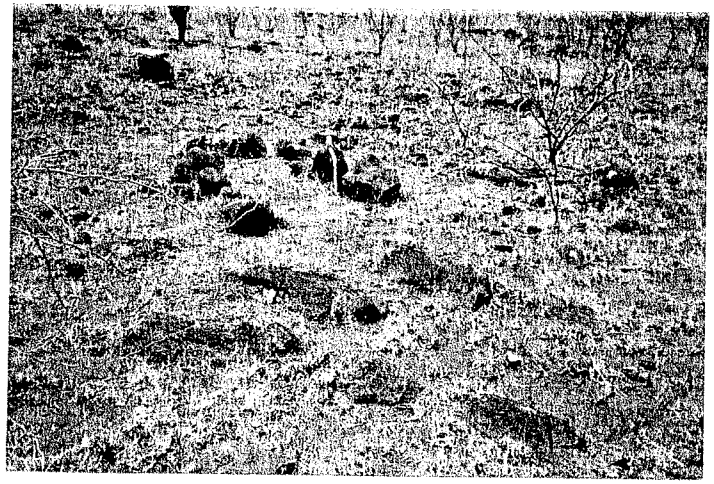

Figure 58 State site 50-50-10-4773: Feature CB, view to south

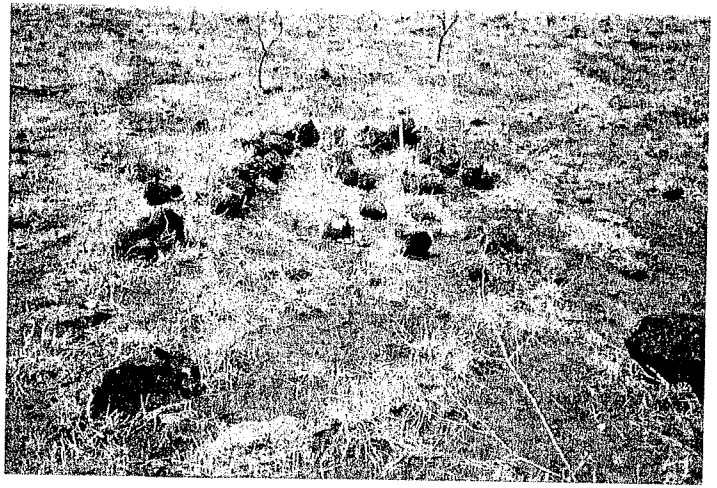

Figure 59 State site 50-50-10-4773: Feature CE, view to south

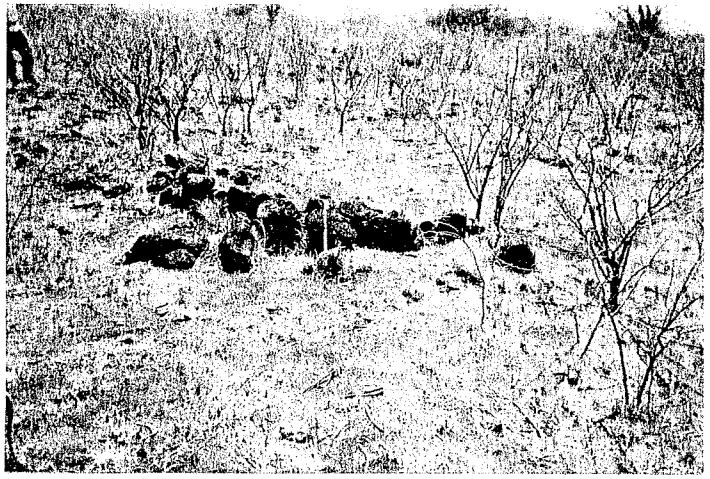

Figure 60 State site 50-50-10-4773: Feature CK, view to south

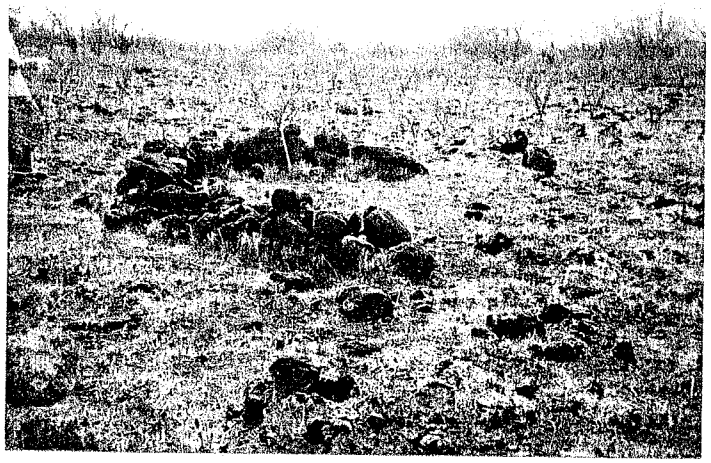

Figure 61 State site 50-50-10-4773: Feature CU, view to southwest

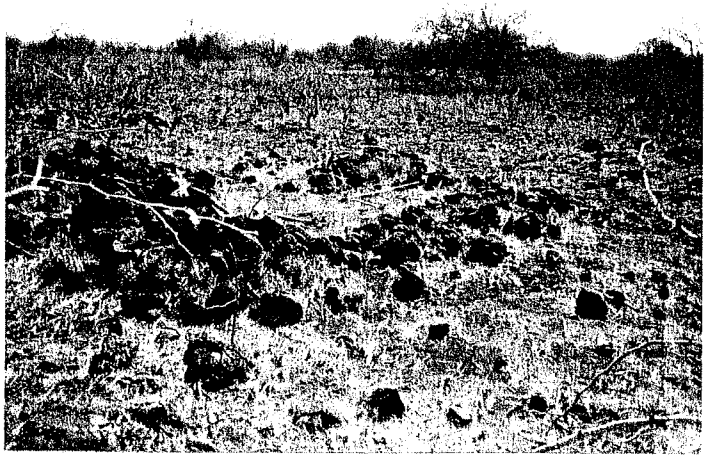

Figure 62 State site 50-50-10-5033, view to south

SCS Project Number 227-3

IDENTIFICATION AND ASSESSMENT OF POTENTIAL TRADITIONAL CULTURAL IMPACTS WITHIN THE KĪHEI-UPCOUNTRY MAUI HIGHWAY PROJECT AREA, MAUI, HAWAI`I [TMK: 2-2 AND 2-3]

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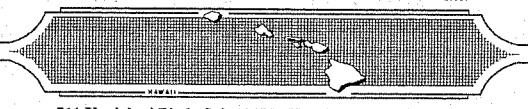
Revised October 2000

Prepared for:
Parsons Brinckerhoff, Inc.

SCIENTIFIC CONSULTANT SERVICES Inc.



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EXECUTIVE SUMMARY

At the request of Parsons Brinckerhoff, Inc., Scientific Consultant Services (SCS) conducted a Traditional Cultural Impact Study to be included within an Environmental Impact Statement for the Kīhei-Upcountry Maui Highway project (TMK 2-2 and 2-3).

This project contains several components which primarily include appropriate archival/background research, identification and consultation with a number of informants, and a synthesis and assessment of findings from applicable archaeological work, archival/background, and ethnographic research.

Many individuals were recommended to SCS through consultation with OHA (O`ahu and Maui Island representatives) as well as suggestions from long term Maui and Kula community Residents. Interviews were conducted on Maui between the dates of June 19 to August 4, 2000 with Charles Ke`au, Ed Uweko`olani, Henry Silva, Sonny Manoa, Randal Moore, Henry Rice, Nancy Purdy, Silvia Hunt, Ethel Nagata, and Frank Gouveia. Telephone interviews were also conducted.

Numerous cultural features were reported during this study including religious sites, trails, petroglyphs, and the general location of burial caves. Topographic anomalies associated with pre-Contact events, individuals, or recorded in legends and stories were also noted. Several of these sites are not located within the project area. Other sites are considered archaeological as they are no longer in use and their location is unknown.

Interviews with individuals did not lead to the identification of any specific Traditional Cultural Properties as defined by the National Register Criteria for Evaluation as:

> Any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in a community's history and contribute to maintaining the community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both. These properties include but are not limited to, some types of archaeological sites.

Presently, the only known culturally significant sites in the project area are the archaeological features that have been previously identified.

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INTRODUCTION

At the request of Parsons Brinckerhoff, Inc., Scientific Consultant Services (SCS) conducted a Traditional Cultural Impact Study to be included within an Environmental Impact Statement concerning the Kīhei-Upcountry Maui Highway project (TMK 2-2 and 2-3, Figure 1). The highway project presently incorporates eight combinations of two Kīhei and four Upcountry terminus options (Figure 2).

SCS provided Section 106 consultation for the project in the form of ethnographic interviews of local residents. Oral interviews were preformed to determine if there were spacial relationships between identified cultural properties and proposed locations for the road corridors, as well as defining the characteristics and classifying the associated cultural activities and uses of those potential properties.

As stated by the Procedures For Ethnographic Inventory Surveys (Draft) a Traditional Cultural Property is defined as:

> Any historic property associated with the traditional practices and beliefs of an ethnic community or members of that community for more than fifty years. These traditions shall be founded in a community's history and contribute to maintaining the community's cultural identity. Traditional associations are those demonstrating a continuity of practice or belief until present or those documented in historical source materials, or both. These properties include, but are not limited to, some types of archaeological sites.

Traditional Cultural Properties might include presently used ancient fishing *ko'a*, coastal zones providing edible shell fish and seaweed, land areas harvested for culturally significant plants, and structures associated with ceremonies conducted for graduates of *hula halau*.

It is also stated in National Register Bulletin No.38 that an eligible site may be:

> ...the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value of any existing structure.

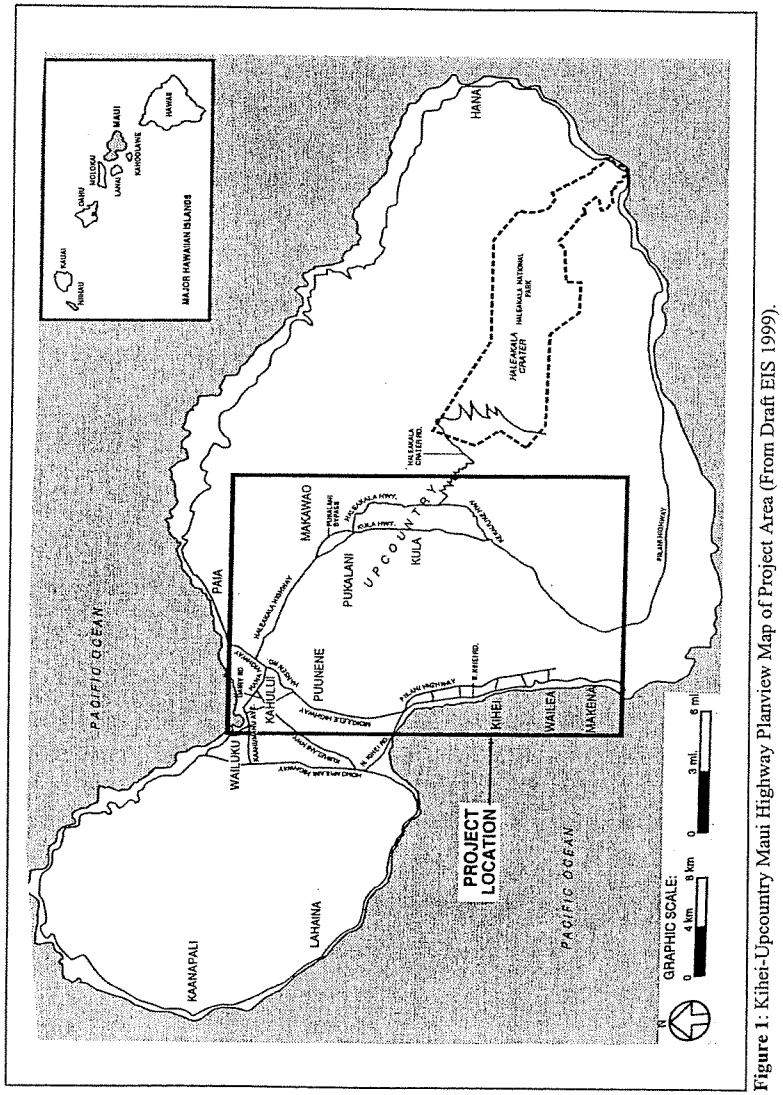

Figure 1: Kihei-Upcountry Maui Highway Planview Map of Project Area (From Draft EIS 1999).

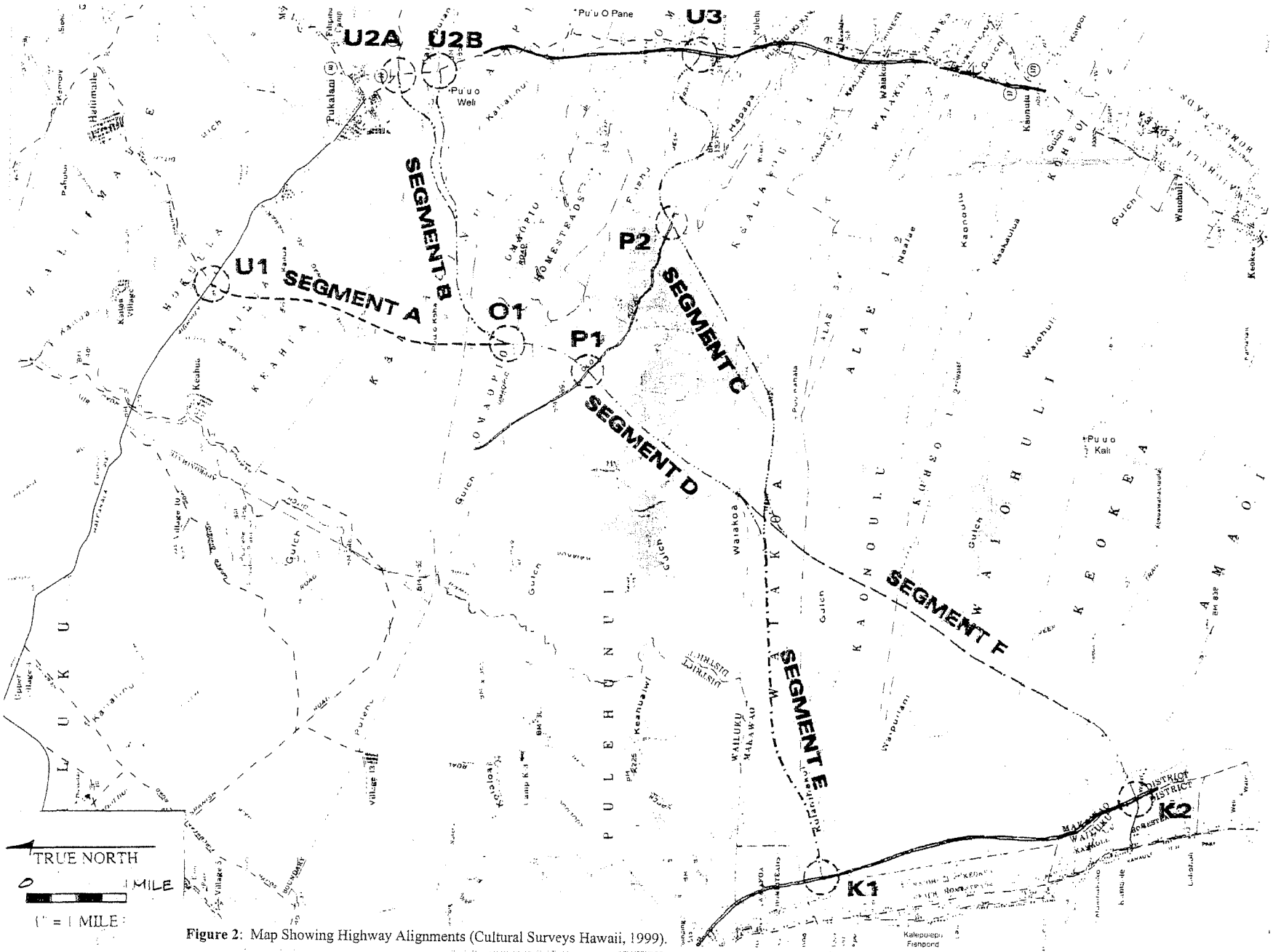

Figure 2: Map Showing Highway Alignments (Cultural Surveys Hawaii, 1999).

A property could be considered a cultural site and eligible for the National Register if association with a significant event or activity can be established, even if there is no tangible evidence of the event or activity (National Park Service 1990).

Although the National Register does not encompass intangible resources as actual "cultural properties", it recognizes the relationship between the property and the activities and beliefs associated with it as significant, in as much as it may be these activities and beliefs that give the property its importance.

According to the Guidelines for Assessing Cultural Impacts adopted by the State of Hawai'i (1997):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, including submerged cultural resources, which support such cultural practices and beliefs.

INTERVIEW GUIDELINES

Several publications pertaining to the process of evaluating and documenting Traditional Cultural Properties and for assessing cultural impacts provided guidance in gathering information for this report. The National Park Service was directed to prepare guidelines to assist in the documentation of intangible cultural resources and to encourage the identification and documentation of such resources by State and Federal agencies. National Register Bulletin No. 38 (National Park Service 1990) was developed and intended to be an aid in determining whether properties thought to have traditional cultural significance are eligible for inclusion in the National Register.

The National Register of Historic Places states:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting materials, workmanship, feeling, and association.

Criteria established within the National Register for evaluating a property's eligibility for listing in the National Register includes properties that:

(a) are associated with events that have made significant contribution to the broad patterns of our history; or
(b) are associated with the lives of persons significant in our past; or
(c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) have yielded, or may be likely to yield information important in prehistory or history. [36 CFR, part 60.4]

Guidelines adopted by the State of Hawaii's Environmental Council provide information concerning cultural practices and cultural features that may be impacted by certain activities, such as land development, and requires environmental assessment of cultural resources in determining the significance of a proposed project (OEQC 1997).

Consultation on February 10, 2000 with a State Historic Preservation Division (SHPD) representative resulted in guidance provided in the "Draft Procedures For Ethnographic Inventory Surveys" (pers comm. Holly McEldowney, State Historic Preservation Office 1999).

Preparation for the archival-historical section of this report included reviewing Hawaiian Land Commission Award (LCA) records from the Māhele (Land Division) of 1848; archival issues of *The Honolulu Advertiser*; *The Polynesian*; journal information recorded by Capt. King (in Beaglehold 1967), LaPérouse (1798), George Vancouver (1984), Archibald Menzies (1920); Sammuel Kamakau (1961); Abraham Fornander (1917-1919 and 1969); Isabella Bird (1974); Elspeth Sterling (1998); Inez Ashdown (1970); Daisy Kalaaupa and Mary Kawena Pukui'i (1983); and Craighill and Elizabeth Handy (1972).

An archaeological reconnaissance conducted within the proposed bypass highway segments identified 25 historic sites (Folk *et al.* 1997). Other archaeological projects through the years have contributed to our understanding of traditional settlement patterns and economic strategies. Preparation of this report included reviewing articles and documents describing archaeological data and surveys of the project area including those by Thomas Thrum (1906-18), John Stokes (1909-16), Winslow Walker (1931), and more recent scholars.

SCOPE OF WORK

The Scope-of-Work (SOW) for this project includes archival/background research, identification and consultation with a limited number of informants, a synthesis and assessment of the findings from appropriate archaeological work, and archival/background and ethnographic research.

The general intent of this Section 106 effect focused on a selected number of knowledgeable individuals to aid in determining the spatial relationships between potential Traditional Cultural Properties and locations for the proposed highway corridors and characteristics and uses of any potential properties. Of particular concern to the present project was the identification of places and/or natural features or objects that may not have been physically modified by humans and were, therefore, not readily recognized as historical properties during conventional archaeological work. In addition, the identification and description of associated cultural practices were deemed of utmost importance.

Archival/background research required accessing both published and unpublished sources including surviving recorded legendary and traditional accounts, early historical journals, narratives and other written accounts describing life-styles and noted events, missionary accounts, land records such as Land Commission Awards and their associated claims and testimonies, Royal Patent Grants, Boundary Commission records containing survey notes and maps; and information supplied by previous archaeological studies.

Informant interviews form a critical part of the assessment process. Individuals having knowledge of traditional practices and beliefs associated with a project area or knowing of historical properties within a project area are sought for interviews. Those persons whose knowledge is founded in a continuity of traditions passed down from preceding generations and the individual's personal familiarity with the project area, are important. Ethnographic inventory survey, which identifies and acceptably documents historic properties within the project area is founded on this information.

Preliminary contact was made to individuals recommended to SCS by OHA and Parsons Brinckerhoff, Inc. An announcement was sent over the Internet to members of the Hawaiian

Nation on Maui asking for contacts of individuals that were familiar with the project area. During this project, more than 50 people were contacted and interviewed pertaining to Traditional Cultural Properties and activities in the project area. Unless the interviewee indicated knowledge of Traditional Cultural Properties, the conversation was not taped. General points of interest were recorded in field notes and summarized below.

The proposed Kīhei-Upcountry Highway alignments mainly impact ranch and agricultural lands. Several avenues of investigation were, thus selected, including contacting individuals associated with the ranches and those previously living in plantation camps near the proposed highway alignments. A descendant of an upcountry Land Commission Award recipient whose family had remained was also contacted (Mrs. D. Purdy).

This report contains a cultural historical overview of the project area, a review of archaeological and ethnographic studies of the project area, land tenure history, the results of consultations with knowledgeable individuals in the community, and a synthesis and assessment of the findings.

GENERAL DESCRIPTION OF PROJECT AREA

The island of Maui encompasses 1,873 square kilometers (729 square miles) and ranks second in size of the eight main islands in the Hawaiian Archipelago. The island was formed by two volcanoes, Mount Kukui in the west and Haleakalā in the east. The younger of the two volcanoes, Haleakalā, soars 2,727 m (10,023 feet) above sea level and embodies the largest section of the island.

Unlike the amphitheater valleys of West Maui, the flanks of Haleakalā are distinguished by gentle slopes. Although it receives more rain than its counterpart in the east, the permeable lavas of the Honomanū and Kula Volcanic Series prevent the formation of rain fed perennial streams. The few perennial streams found on the windward side of Haleakalā originate from springs located at low elevations. Valleys and gulches, such as Waiohuli Gulch, were formed by intermittent water run-off.

Along the coastal side of the windward side of Haleakalā, rainfall has been measured to 4,000 mm a year and over 9,000 mm near the mountain's summit (Stearns and Macdonald 1942:35-42).

Kula, situated on the leeward slope, is located in the rain shadow of Haleakalā. On the leeward side of East Maui, rainfall averages range from 500 mm to 750 mm in the project's uplands to less than 400 mm in the coastal section. The combined arid conditions and lack of reliable water sources resulted in the importance of the expansive upland dryland field systems established within the project area. Kula consists of sloped plains with finger ridges and a`a outcrops (Figures 3, 4, and 5).

The boundaries of the project area extend from Pi`ilani Highway on the coast, west, to the western flank of Haleakalā and Kula Highway (Upcountry Maui). Project area elevation ranged from approximately 18 to 31 meters (60-100 ft.) above mean sea level (amsl) on the Kīhei coast to approximately 732 meters (2,400 ft.) amsl at terminus U3 in the upland *ahupua`a* of Pūlehunui (see Figure 2).

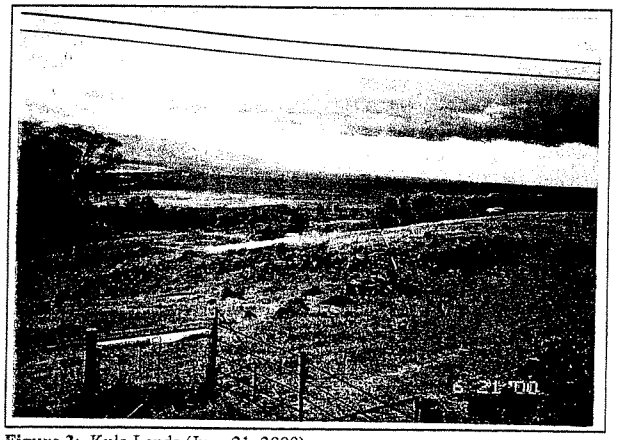

Figure 3: Kula Lands (June 21, 2000).

Figure 4: Photograph of Up-Country Kula Lands (June 21, 2000).

Figure 5: Photograph Showing Downslope Kula Looking Towards West Maui (June 21, 2000).

The north/south boundary extends from Kailua to Kama`ole Ahupua`a. A total of 13 *ahupua`a*, or portions thereof, are incorporated within project boundaries including Kailua, Keahua, `A`apueo, Kalialinui, Ōma`opio, Pūlehunui, Kealahou 3 and 4, Waiakoa, Ka`ono`ulu, Kōheo 1 and 2, Waiohuli, Kēōkea, and Kama`ole.

TRADITIONAL AND HISTORICAL LAND TENURE

Traditional Hawaiian subsistence was based on agricultural production, marine exploitation, animal husbandry, and wild plant and bird collecting. Extended household groups settled in various *ahupua`a*, smaller land divisions within a district, that customarily continued inland from the ocean. Within the *ahupua`a*, residents were able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). Many *ahupua`a* (Kōheo, Alae, Kamehame Nui, Pūlehu Iki, etc.), in the traditional Kula District were not typical as they were land locked (Figure 6).

In pre-Contact Hawai`i there were primarily two types of agriculture, wetland and dryland, both of which are dependent upon geography. Conditions in West Maui with its perennial streams were ideal for wetland *kalo (Colocasia esculenta)* agriculture incorporating pond fields and irrigation canals. Other cultigens such as *kō* (sugar cane, *Saccharum officinaruma*) and *mai`a* (bananas, *Musa* sp) were also grown and where appropriate, the production of such crops as *`uala* (sweet potato, *Ipomoea batatas*) occurred. This was a typical agricultural pattern seen during traditional times on all the islands of Hawai`i (Kirch and Sahlins 1992:5, 119; Kirch 1985).

Dryland agriculture was an important component of Kula's traditional economy. Although West Maui contained vast wetland pond fields, they produced the least amount of taro of the main Hawaiian islands. East Maui's extensive dryland fields are thought to have produced crops of sweet potato equal to Hawai`i Island, and outproduced O`ahu and Kaua`i (Handy and Handy1972:488).

An account of traditional planting methods from the newspaper *Ka Nupepa Ku`oko`a* began: "...rocky lands in the olden days were walled up all around with the big and small stones of the patch until there was wall (*kuaiwi*) about 2 feet high..."(March 24, 1922).

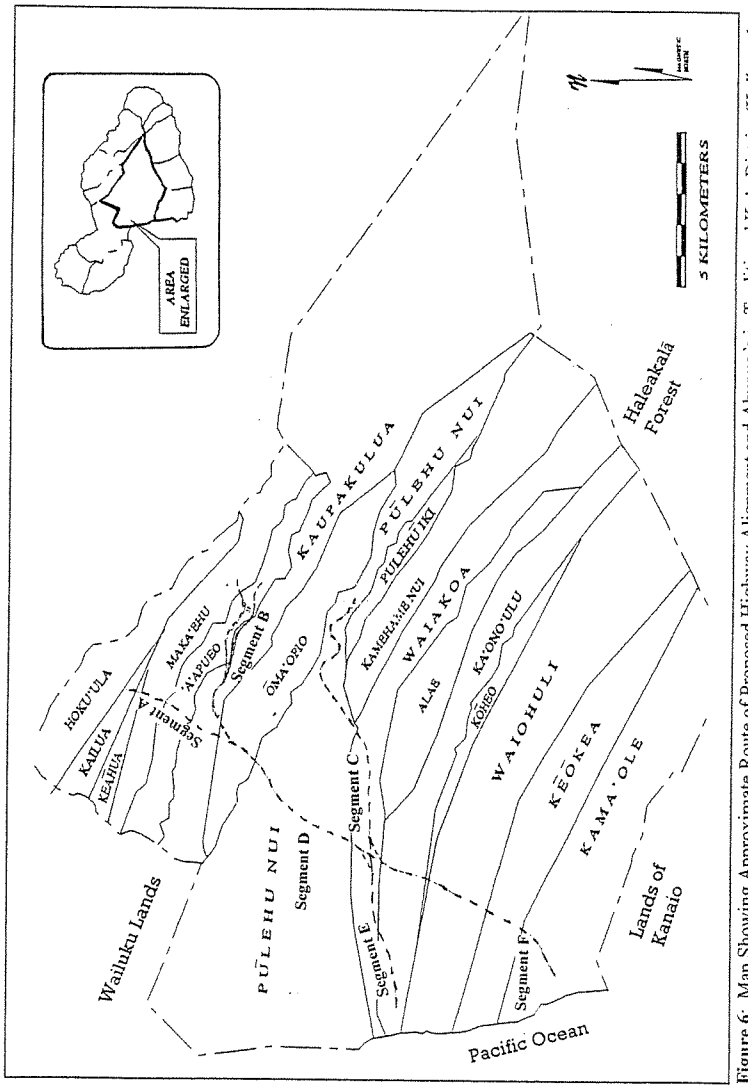

Figure 6: Map Showing Approximate Route of Proposed Highway Alignment and Ahupua`a in Traditional Kula District (Kolb *et* al. 1997:24).

More relevant to the project area is Handy and Handy's description of environmental conditions on the leeward side of Haleakalā:

> The great bulk and altitude of Haleakalā makes its southern flank practically a water less desert, and the southeast and west flanks relatively dry, so that there were no *lo`i* (pond fields) cultivation at all. The arid country below the west and south slopes of Haleakalā, including Kula, Honua`ula, Kahikinui, and Kaupo, were dependent on sweet potato (Handy and Handy 1972: 488).

Handy and Handy described planting methods in the drier sections of Kula:

> Where potatoes are planted in crumbling lava with humus, as on eastern Maui and in Kona, Hawaii, the soil is softened and heaped carelessly in little pockets and patches using favorable spots on slopes the crumbling porous lava gives ample aeration without much mounding (1972:131).

As the land was cleared for dryland agricultural fields, the upland native forest deteriorated. The forest was an important resource to pre-Contact populations as well as historic settlements as it provided medicinal plants, wood, and birds hunted for food as well as their feathers. However, as agriculture expanded, deforestation occurred. Traditional clearing methods are illustrated in the story of Kihapi`ilani, a chief of Maui in the 1600s. The chief went to the boundary of Kula and Makawao: " ...Seaward of this place, along the stream on the side adjacent to Kula...that is the place Kihapiilani set fire to. There he farmed and planted sweet potatoes" (Manu 1884).

A typical dryland forest might include a mixture of *mamane* (*Sophora chrysophylla*), *`ōhi`a lehua* (*Metrosideros polymorpha*), *naio* (*Myoporum sandwicense*), *koa* (*Acacia koa*), *`iliahi* (*Santalum* sp.), *lama* (*Diospyros hillebrandii*), *olopua* (*Nestegis sandwicensis*) and others. Avifauna valuable for feathers would have most commonly included *`amakihi* (*Hemignathus virens*), *`apapane* (*Himatione sanguinea*), *`i`iwi* (*Vestiaria coccinea*), and *`oma`o* (*Myadestes obscurus*). A number of flightless ground-dwelling birds, now extinct (*Porzana* sp.), were hunted as food as were other endemic and indigenous birds (Kolb *et al.* 1997:227).

Kula was always an arid region. In spite of this factor, a considerable population existed along its extended, low seashore (where the fishing was excellent) and the lower westward slopes of Haleakalā. So far as is known, the Kula region supported no Hawaiian taro and the fishermen in this section must have been dependent mainly on *poi* brought from the wet lands of Waikapū

and Wailuku across the plain. This supplemented their usual sweet potato diet: "... *`uala* was the staple of life here" (Handy and Handy 1972:511).

In spite of the dry, inhospitable conditions of Kula, many chose to settle on the coast as well as inland. An important component of the traditional Kula subsistence economy was fish ponds, several of which were constructed on the south Maui coast. The remnants of two ponds still exist: those of Kalepolepo and Waiohuli. Three other fishponds were identified in aerial photos along the coastline of Waiohuli and Kēōkea (Kolb *et al.* 1997:27).

Kalepolepo, located on the boundary of Ka`ono`ulu and Waiohuli Ahupua`a was a royal fishpond containing mullet. Although it is not known when it was first built, it is recorded that while acting as overlord on Maui in the sixteenth century, Hawai`i Island chief `Umi rebuilt the sea walls of three ponds one of which may have been Kalepolepo (Sterling 1998:251). When Kamehameha I ruled as chief over Maui, it is reported that he rebuilt the collapsed south side of Kalepolepo (Kamakau 1869).

PRE-CONTACT

The division of Maui's lands into districts (*moku*) and subdistricts was supposedly performed by a *kahuna* named Kalaiha`ōhi`a, during the time of the *ali`i* Kaka`alaneo (c., 1500s) (Beckwith 1940:383). Traditionally, Maui consisted of twelve political districts: Honua`ula, Kula, Hāmākuapoko, Hāmākualoa, Kahikinui, Kaupō, Kīpahulu, Hāna, and Ko`olau in East Maui and Wailuku, Ka`anapali, and Lahaina in West Maui (Figure 7).

In historic times, the original twelve traditional districts were reduced to four: Lahaina, Wailuku, Hana, and Makawao which included the former Hāmākuapoko, Hāmākualoa, Kula, and Honua`ula. Makawao is also the name of an individual *ahupua`a* located inland of the present town of Hāli`imaile.

Traditional boundaries occurring between Kula and Hāmākuapoko were the lands of Hāli`imaile and Hōkū`ula. These *ahupua`a* are not typical as they are land locked and do not extend to the sea.

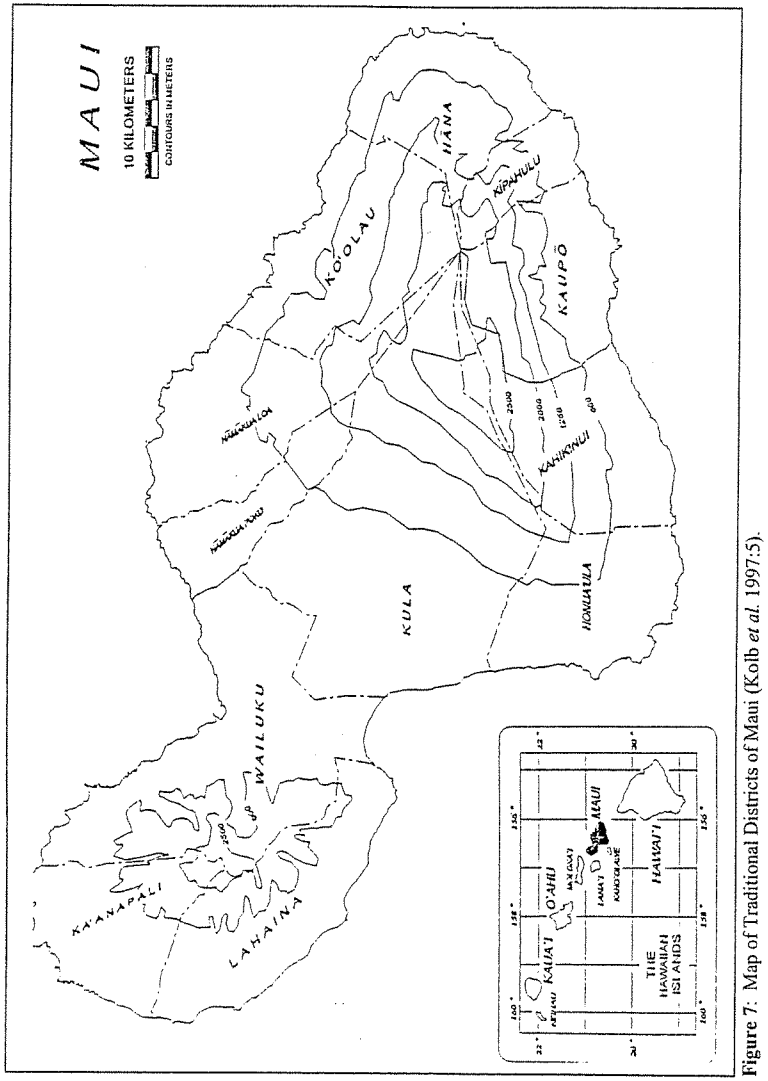

Figure 7: Map of Traditional Districts of Maui (Kolb *et al.* 1997:5).

Kula translates as "plain, field, open country, pasture" and is used to describe the country in back of the seashore or the name of a region near the base of a mountain (Pukui and Elbert 1957:164; Lucas1995). In 1884, a governmental act differentiated between dry or *kula* land and wet or *kalo* land (Pukui and Elbert 1957:164).

The few references to the Kula District found in traditional sources illustrates its relative lack of importance compared to Hana, Lahaina, Wailuku and other population centers on Maui. Most references to Kula are minimal even when describing important battles and their participants.

Traditional Legends and Associations

A chant from the 1800s reproduced in Sterling (1998:7) notes the names of the winds of Maui and Moloka'i, including mention of Kula:

> ...The cold wind travels over the uplands of Kula
> And tears down on the pili grass.
> The wind of Kula is the Nau [The kehau is of Kula]...(Fornander 1919:100).

Several historical and legendary sayings regarding Kula and the lands contained therein survived and were recorded by Mary Kawena Puku'i (1983). Some are derogatory and some compare natural phenomena of Kula to human qualities representing some of the traditional cultural values held by the Hawaiians of Maui.

According to surviving traditions, the skills of the people of Kula appear to have been confined to the upland environment. It was said that in their ignorance of fishing matters, they would try and scale the suckers off a squid's legs (Sterling 1998:243).

> *He aina o Kula ua kaulana*
> *Mai na alii kahido*
> *he aina i piha ka e`epa*
> *Kau na nahi i ka pikopiko i ka he`e*
>
> Kula is a land that is famous
> From the days of the ancient chiefs
> A land full of peculiarities
> For the scaling of the suckers of the octopus (Daisy Kalaaupa, in Sterling 1998).

Handy and Handy reported that Haleakalā crater was a final resting place for the people of Kula and Honua`ula of the "Clan of Pele" (1972:336). These devotees would travel at night to the edge of the crater and throw the bones of their dead into the volcano.

Kula, lying in the lee of Haleakalā, would periodically suffer from droughts resulting in famines. During a drought in the time of Kihapi`ilani (c., A.D.1500-1600s) people were forced to subsist on weeds such as *laulele*, *pualele*, and *popolo* (Kamakau 1961:23). They could restore their crops only by obtaining potato slips from neighboring Hāmākuapoko and Hāli`imaile.

The place names of political entities were often derived from legends, significant events, or land features. An example of this is the story of A`apueo, the owl.

According to legend, a female owl lived in the upland of Kula during the reign of Kanenenuiakawaikalu (n.d.). A man named Kapoi from Wailuku smashed her eggs inciting a battle between the owls and the people of Wailuku. A`apueo found revenge for the destruction of her eggs at the death of Kanenenuiakawaikalu during the battle (Uaua 1871:2). Thus, the origin of the name of one of the *ahupua`a* in Kula.

The sacred site of Pu`u Pane is located in the *ahupua`a* of `A`apueo (up slope of the project area). Located on a crest of a hill, east of Haleakalā Highway at approximately 2573 feet amsl, Pu`u Pane was described by M. Manu in an article in *Kuoko`a* (Feb 23, 1884). Manu stated that Pu`u Pane was declared by Kihapi`ilani as sacred and no commoner could climb the hill because it was a *heiau* for the high chiefs of Maui from ancient times to Kihapi`ilani. A *kahuna* lived at `A`apueo to guard the hill. Several one course high basalt rock alignments were identified on the hill in 1973 and may be the remains of the religious structure.

A small land division named Kohoilo located between Makaehu-Keahua and `A`apueo Ahupua`a appears on a map surveyed between 1872-1879 (W. D. Alexander and M. D. Monsarrat). Within this section is a hill named Pu`u o Weli. Although distinctive in form, no traditional references were found associated with it except that it was included in Grant No.1829 held by someone named Keawe in the 19th century.

According to Ashdown, Central Maui was known as the Kula o Ka Ma`omao, or the land of mirages. It was here that the lost souls wandered until they could find their way to rest (Ashdown n.d.). Ashdown recorded:

> In the area of Wahine`oma`o (now called the "Baseball Park" above the modern Poli-Poli camp) and nearby lua-ma-ma-ne in the ahupua`a of Kama`ole, was a structure said to be for bird catching ceremonies because that region was full of birds...The woman of `Omano dwelt at Mamane and she was called Mamao because she was of very high rank. She was so sacred that others must keep their distance...A handsome lesser chief tried to win her. Of course this was kapu. Her heart was heavy with the knowledge that because he came near to her shadow he had to be punished. A high priest conducted ceremonies of purification at the temple there and revived happiness...(1971:46)

Maui is home to important chiefly lineages and paramount chiefs of the Ulu-hema line. Leaders including Haho, who played an important role in formally establishing chiefly prerogatives of rulership and prestige by forming an archipelago-wide chiefly council, Pi`ilani and his son Kihapi`ilani, who began construction of public works, Kekaulike, paramount chief of Maui in the 1700s, the great warrior chief Kahekili, and Ka`ahumanu, *kāna wahine ali`i o ka `ili* (the favorite wife) of Kamehameha I, are but a few (Fornander 1969, vol. 2:28-29; Kamakau 1963; Desha 2000:49).

By A.D. 1400 to 1500, Maui's political districts were consolidated into two polities: East and West Maui (Fornander 1969, Vol. 2:79; Kolb *et al.* 1997:16). The ruling *ali`i* of each polity were from separate genealogical lines (Figure 8) which contributed to the mutual hostility which was frequently sustained by skirmishes and wars. The *ali`i* of East Maui traced their origins to Kalahuimoku, a Hawai`i Island chief who had emigrated to Hāna and those in West Maui to a much older Maui line (Fornander 1969, Vol. 2:78-79).

East Maui's ruling center was in Hāna but just as important were the districts of Ko`olau, Kīpahulu and Kaupō. West Maui had political centers at both Wailuku and Lahaina (Fornander 1969, Vol. 2; Kamakau 1961, Kolb *et al.*1997:15). Even by this early period, large settlements were appearing at Waihe`e, Waikapū, Honua`ula, Lahaina, and upcountry Kula, and the building of religious temples flourished (Kolb *et al.* 1997:17).

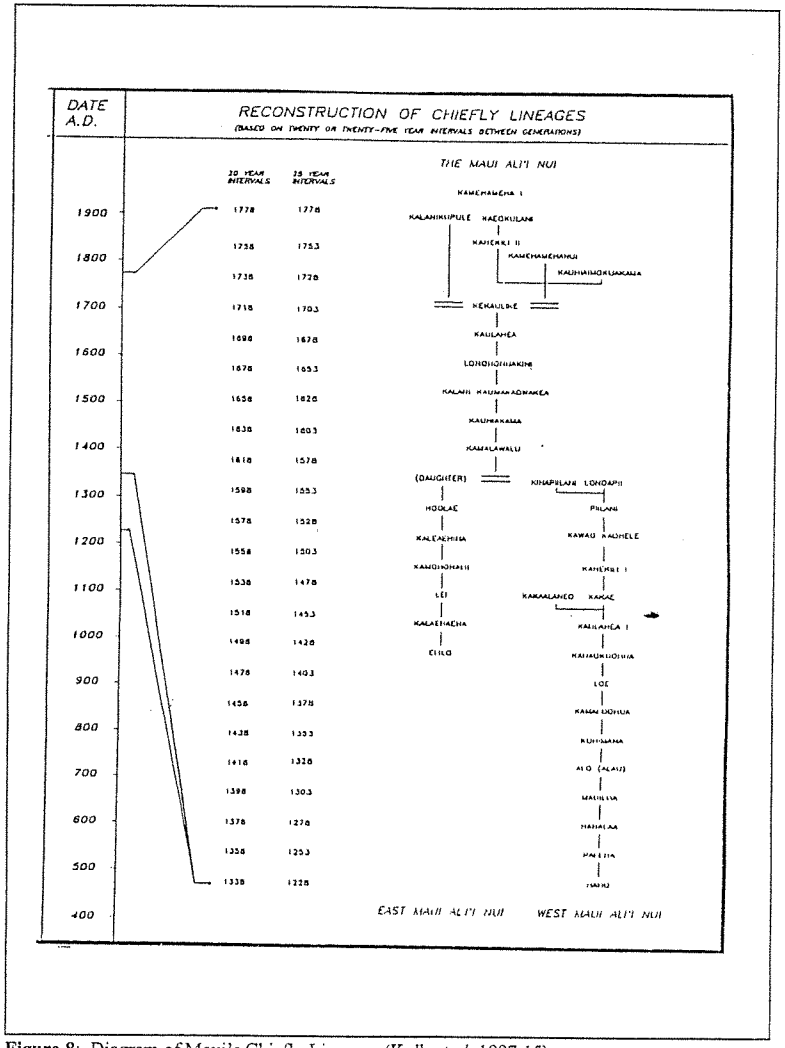

Figure 8: Diagram of Maui's Chiefly Lineages (Kolb *et al.* 1997:15).

Maui became a unified political entity during the seventeenth century by the marriage of Kihapi`ilani of West Maui to Kōleamoku, the daughter of an East Maui chief. Under the aegis of Pi`ilani, father of Kihapi`ilani, public works, such as an island-wide pedestrian highway and chiefly residential additions to temples, were built (Fornander 1969, Vol. 2; Kolb 1995, Kolb *et al.* 1997:19). During the reign of Kaka`alaneo, *ali`i nui* of this period initiated changes such as the reorganization of land tenure under the paramount chief.

Inter-island upheavals marked the period between A.D. 1650 to1820. Maui was often at war with Hawai`i Island and O`ahu with battles for supremacy fought back and forth. Kekaulike, rose to power in the 1700s with help from his son Kauhi, who was commander-and-chief of the army. Kauhi led attacks in the battles of Ki`imumuku and Kipuka-`ohelo at Kama`ole in Kula and of Ka-eulu and Ka-hale-mamalahoa at Kaupō, which brought about peace.

Kekaulike, Maui Island's paramount chief, built war temples (*mamala koa*) and proceeded to invade Hawai`i Island causing much damage to Kona, Kekaha, Kawaihae, and Kohala as he retreated from the defending forces of Alapa`i of Hawai`i (Kamakau 1961:66; Fornander 1969, Vol. 2:133).

Kekaulike was taken ill upon his return to Maui. Kamakau recorded the following:

> When Kekaulike heard that Alapa`i, the ruling chief of Hawaii was at Kohala on his way to war against Maui, he was afraid and fled to Wailuku in his double war canoe named Ke-aka-milo. He sailed with his wives and children..., his officers, war leaders, chiefs, and fighting men, including warriors, spear men, and counselors. Some went by canoe and some overland, and the fleet landed at Kapa`ahu [Kama`ole] at the pit of `Aihakoko in Kula. Here on the shore the chiefs prepared a litter for Kekaulike and bore him upland to Haleki`i in Kuahua. There Kekaulike died, and the sound of lamentation for the dead arose (Kamakau 1961:69).

Upon his death, Kekaulike's sons jousted for dominance with one enlisting the assistance of O`ahu chiefs and the other allied by Hawai`i Island chiefs. The resulting outcome was one of devastation to the land and the eventual dominance of a junior son named Kamehamehanui (*ibid*:141-142). Upon the death of Kamehamehanui, his half-bother Kahekili (II), ascended to power, maintaining his control until the invasion of Hawai`i Island chief, Kalaniopu`u around 1775. After a series of invasions by Kalaniopu`u, Kahekili successfully repulsed the Hawai`i Island chief from Maui and moved on to secure Moloka`i and O`ahu, establishing his residence at Waikīkī, and becoming the ruler of all the islands except Hawai`i.

While Kahekili was subduing O`ahu's population, all was not well in Kula. Kamakau says:

> During this period there were disturbances among the country people, not only on Oahu but also on Maui. The trouble arose through one of the lesser chiefs (*kaukauali`i*) named Ku-keawe, a favorite (*aikāne*) of Kahekili to whom Kahekili had given the privilege of letting his pigs run over the land of Kula and roasting them as he needed them. But he seized also the pigs belonging to the country people of Kula, Honua`ula, and Kahikinui, as far as Kaupo, and went with a large party to rob them of their wealth even with violence. This was the cause of the uprising of the country people called the "Battle of the pig-eating of Ku-keawe" (*`Aipua`a-o-Ku-keawe*) (1961:142).

Both Maui and Hawai`i, now under the leadership of Kamehameha I, continued their war for dominance with Maui eventually being annexed by Kamehameha as he consolidated the Hawaiian Islands under his rule.

TRADITIONAL SETTLEMENT PATTERNS

Kula can be divided into four environmental zones (Kolb *et al.* 1997:147). The first is the coastal zone which includes the shoreline and surrounding area up to approximately 0.25 miles inland. The second is the "barren" or intermediate zone which is the largest and least agriculturally productive. The third is the upland zone located above the 30 inch rainfall line and extending into the fourth, or forest zone. Gardens were cultivated here during traditional times. The project area extends through portions of the first, second, and third environmental zones.

Archaeological investigations indicate a large amount of permanent settlement in the upland, at elevations above the 30 inch rainfall line in Kula (1997:191). Based on the feature types, number and size of *heiau* (9), rock art sites, and ancient agricultural fields found in this part of Kula (vicinity of alignments K2, U3, U2B), a large, permanent population is indicated.

Coastal settlement was also common. The existence of fish ponds (three at Kalepolepo in the vicinity of terminus K1) and coastal *heiau* (2) confirm the presence of a stable population relying on coastal and marine resources. Agriculture may have been practiced behind the dune berms in low-lying marsh land in the vicinity of Kealia Pond (*ibid*:101). It is suggested that permanent habitation and their associated activities occurred from A.D. 1200 thru the present in both the uplands and coastal regions (*ibid*:101)

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. Several trails were identified and described in a study of Waiohuli and Kēōkea conducted in 1997 (Kolb *et al.*1997:33). A trail known as the *alanui* or "king's trail" was located along the coast and traversed all the major communities of Kula. An upland trail running from `Ulupalakua in Honua`ula to Olinda, extended through the same communities at an altitude of 700 m amsl. Two community trails linked the coast to the uplands. One trail called Kekuawaha`ula`ula or the "red mouthed god," extended from upcountry Kēōkea down to the Kīhei coast. It extended very near Pu`u o Kali. Kalepolepo Trail is the second coastal/upland trail network that extended from upland Waiohuli down to Kalepolepo fishpond. It also, followed a course very close to Pu`u o Kali, in the *ahupua`a* of Waiohuli.

The documented agricultural system of Waiohuli and Kēōkea can serve as a model for traditional settlement and cultivation in the Kula region (*ibid*:99). Based on archaeological studies and early historic records, this would include small sets of linear terraces descending down intermittent drainages and informal agricultural features on rocky ridges along the swales. The latter were indicated by short irregularly-shaped terraces, mounds, modified outcrops, short walls, oval and irregularly-shaped alignments and enclosures near house sites often consisting of several structures. Agricultural features extended downslope as far as 460 meters amsl (1,500 feet) in Kēōkea and Waiohuli.

HISTORIC PERIOD

Much knowledge of traditional land use patterns is based on what was recorded at the time of, and shortly after, known Western Contact (1778). Early records (such as journals kept by explorers, travelers and missionaries), Hawaiian traditions that survived long enough to be written down, and archaeological investigations have assisted in understanding the past. However, early descriptions of the project area are brief and infrequent.

Captain King, Second Lieutenant on the *Revolution* during Cook's third voyage, briefly describes the coastal portion of the project area from a vantage point of "eight or ten leagues" out to sea as his ship departed the islands in 1779 (Beaglehold 1967). He mentions "...a small hillock to the Southward off which there is a fine sandy bay with several huts on the shore and a number of cocoanut trees growing about them." It is probable that the hillock was Pu`u Olai located south of Kīhei. King describes the island, enumerates the observed animals, thriving groves of breadfruit, the excellence of the taro, and almost prophetically, says the sugar cane is of an unusual height.

The next reference to the southwestern coast occurs eight years after Cook's initial arrival in the islands.

In 1786, LaPérouse sailed up the western coast of Maui, stopping and recording his impressions while anchored in Keone`ō`io (south of the K2 terminus). Although the leeward section of the island appeared hot, dry, and rough, the visitors were offered "...hogs, potatoes, bananas...tarro, with cloth and some other curiosities..." (LaPérouse 1798:345). Landing on the morning of the 21st of May, he was greeted by approximately 120 natives. LaPérouse notes the soil is "...wholly composed of lava and other volcanic matter". Water was scarce and the villagers drank from a shallow, brackish well.

LaPérouse continues:

> "During our excursions we discovered four little villages, each containing about ten or twelve houses, which are not only covered but built with straw and shaped like those of our poorest peasants; the roofs being in the form of a penthouse. The door, placed at the gable end is only three feet and a half high, admits of no entrance without stooping, and is shut only with a hurdle which anyone may open. The furniture of these islanders consists of mats, strewed like carpets on which they sleep; and their only kitchen utensils are very large gourds which they shape at pleasure while green. They varnish and delineate various designs on them in black...Their cloths, of which they have a great quantities, are made like those of the other islands, but not withstanding, they are variously painted yet in manufacture they are not equally skillful with the latter." (*ibid.*:113-129).

Nathaniel Portlock and George Dixon sailed down the southern coast in 1786 without landing and missing LaPèrouse, who was at that moment anchored in Keone`ō`io. Vancouver recorded his impressions of the southern and then the western coast of Maui during his second visit in 1793:

> ...it may be useful to remark, that the part we were abreast of [east of Pohakueaea Point] at day-light in the morning, though terminating very abruptly in the ocean, and though its surface was very uneven, had yet a verdant and fertile appearance, and was seemingly in an advanced state of cultivation. From the number of villages and distinct houses, we were let to consider it as tolerably well inhabited. This pleasant scene was shortly changed on our advancing a few miles to the westward. The face of the country became totally different, the shores and sides of the hills had no indications of being inhabited and were almost destitute of vegetable productions. They appeared to be a rude mass of naked barren rocks, broken into many deep gulleys, that extended from the mountains to the water side. Beside these, were many small circular hills that appeared to be composed either of sand or stones, and had acquired a very smooth surface of a light brown colour.

> Perpendicular veins separated the different strata, and descended down the mountains; these, so far as our glasses enabled us to distinguish, betokened this part of the island to have undergone some violet effects from volcanic eruptions (1984:850).

Vancouver was greeted by some of the inhabitants who paddled out to meet the foreign ship:

> We passed the south point before mentioned at the distance of about half a mile; it is formed by rugged craggy rocks, and the sea breaks at a little distance to the north west of it...Whilst in this situation, we were visited by a few of the poor natives from a small sandy cove, where they had some miserable habitations. The poverty of these people was apparent, by their bringing only a few small packages of salt to dispose of, and by their canoes being very small and out of repair...In the afternoon, we were visited by a chief in the only decent canoe we had yet seen at Mowee. From him I learned, that he was sent by *Titeeree* [Kahekili] to inquire who we were and if we had friendly intentions towards the island...He informed me that the best anchorage was near the north-west part of the Island, called Raheina [Lahaina], and that if I would proceed thither, Titeeree would not hesitate, under this, and my other assurances of friendship, to pay us a visit (*ibid.*:855).

Archibald Menzies, a naturalist accompanying Vancouver stated "...We had some canoes off from the latter island [Maui], but they brought no refreshments. Indeed, this part of the island appeared to be very barren and thinly inhabited" (Menzies 1920:102). According to Kahekili, the extreme poverty in the area was the result of the continuous wars between Maui and Hawai`i causing the land to be neglected and human resources wasted (Vancouver 1984:856).

Other explorers and traders followed. Lahaina, which provided a sheltered roadstead and where the *ali`i* were in residence, was the hub of activity. The importance of Hawai`i to merchants increased with the discovery of sandalwood and the growth of the trans-Pacific fur trade. Subsequently, the whaling industry, lasting to ca.1860, brought hundreds of ships every year to Lahaina. The winter months would find ships replenishing their supplies from the produce grown on Maui, much of it from the upcountry Kula region.

Cultivation of Irish potatoes in the Kula District began shortly before 1840. The Kula area became known as "the potato district" because of the great success in their cultivation. The most extensive potato cultivation area in the Hawaiian islands was Kula. In the 19th century, during Kula's peak potato producing period, dryland gardens in the uplands extended all the way from Kula to Kaupō. The resulting deforestation for potato cultivation adversely affected the amount of rainfall in the district and periods of drought became more common. Before the mid

1800s, the forest began just above the Kula Highway, approximately 1,036 meters amsl (3,400 feet) in Kēōkea and Waiohuli (Kolb *et al.* 1997:99).

Jarvis describes the potato fields as they appeared in 1846:

> It ranges along the mountain (Haleakalā) between 2000 and 5000 feet elevation, for the distance of 12 miles. The forest is but partially cleared, and the seed put into the rich virgin soil. The crop now in the ground is immense. The fields being all in blossom have a fine appearance, spreading as they do, over the broad surface of the mountain (*Polynesian*, Feb. 20, 1846).

It was estimated that by the spring of 1847 the crop would amount to 20,000 barrels and in 1854, G. D. Gilman stated that the local Hawaiian market including the whale ships would consume about 20,000 barrels of Irish potatoes (*ibid.*)

In 1849, the California gold rush opened a new market for Hawaiian produce. Along with potatoes and other vegetables, sugar, molasses, and coffee were suddenly in great demand (Kuykendall 1968:321).

In November of 1849 an article in the *Polynesian* stated:

> The call for [potatoes] is loud and pressing, as some vessels bound for California have taken as many as a thousand barrels each. The price is high, and the probability is that the market can not be supplied this autumn. Kula, however, is full of people. Strangers from Wailuku, Hamakua and Lahaina are there preparing the ground and planting, so that if the demand from California shall be as urgent next spring as it is now the people will reap a rich harvest...They often repeat the saying of a foreigner, who, after having visited the mines of California, came back to Maui quite satisfied, and said to his neighbors at Waikapū, "California is yonder in Kula. There is the gold without the fatigue and sickness of the mining country." (November 24, 1849).

The Honolulu Advertiser describes the changes to Kula brought about by extensive cultivation:

> Before 1850 Kula was supplied with moisture naturally through the existence of a large forest. "That forest was cut down when land was cleared in Kula to open farm plots in 1850. This was in answer to the demand for food in California during the gold rush... [and] by ranchers clearing for pasture." Secondary result of clearing forests was destruction of existing fresh water ponds in Kihei on the Maalaea Bay coast below Kula. When forest was cleared, water was free to rush down the mountains carrying soil from Kula and filling with mud, the ponds for which Kihei was once famous. Meanwhile Kula is dependent on Pipe for Waikamoi watershed (1962 A:15).

A small whaling station had previously been established at Kalepolepo in Kīhei. John Halstead built his residence and a store referred to as the Koa House in 1849. The store flourished due to the whaling and potato industry and providing an accessible port for exported produce.

The privy council voted to sell government lands in one to ten acre sections to Hawaiians at three dollars per acre to support the growing economy. In 1851, 43,923 barrels of Irish potatoes, along with 56,717 barrels of sweet potatoes, were exported. In 1851, as California endured several disasters and Hawai`i suffered a drought, the potato industry continued to excel (Kuykendall 1968:321). It was not long before potatoes were being grown in California and Oregon and by the fall of 1851, the potato boom was over in Hawai`i.

In reply to partitions from his subjects, Kauikeaouli had made experimental efforts to sell some land to Hawaiian subjects on O`ahu (Mānoa Valley) and in Makawao, Maui. In 1845 and '46, while the king was at Makawao, it was announced that the entire district would be offered for sale at $1 per acre (except for McLan's plantation). Reverend Green handled the sale of land and Reverend Armstrong contributed by making surveys of the mostly five to ten acre sections. The bought parcels were registered as Grants and were not listed in the Indices of Land Commission Awards beginning in 1848. Eventually, approximately 9000 acres were sold and the experiment was pronounced a success (Kuykendall 1968:283). However, this was an isolated instance and it soon became necessary to revamp the traditional land tenure system.

The Chinese in Kula

The expanding agricultural markets opened by the growing whaling fleet and the California gold rush attracted many Chinese to Kula in the 1840s. Government lands were leased to ranchers who then subleased the lands to the Chinese.

Initially, the Chinese were accepted on their own merit, as were all new comers, by the native Hawaiians. In fact, their association with the people of Hawai`i was congenial with, in some cases, Chinese men marrying *ali`i* women. Land was made available to Chinese by the Governors of Maui and Hawai`i for sugar cultivation. Often, the governors would arrange for Hawaiian laborers to work in the cane fields (Glick 1980:328). With the rising influence of the Caucasians and the influx of larger numbers of Chinese as servants and laborers, the status of the Chinese in Hawai`i changed for the worse (*ibid.*:329).

The Chinese moved to Kula lands from Makawao, Pa'ia, and Wailuku on Maui, from Kohala on Hawai'i Island, and from Honolulu. Many went directly from China to Kula. About 95% of the Chinese were Hakkas from Kwangtung Province. As stated, Much of the Kula land was owned by the government which leased it to the ranchers, who would then sublease to Chinese. Payment was often made in farm produce, as exemplified by a farmer leasing from 'Ulupalakua Ranch who paid five bags of corn for every acre of land he farmed (Mark 1975).

Even as the demand for potatoes declined the Chinese population continued to grow. Between 1880 and 1910 there were approximately 80 Chinese families living in Kula. There were some 700 Chinese living in Kula by 1900 (*ibid.*). By this time, Kula had become cosmopolitan supporting such activities and institutions as Chinese and English schools, Christian churches, the Hung Men Society, gambling houses, opium dens, and general stores along with the cattle ranches and vegetable farms (*ibid.*).

The Chinese and other Kula farmers planted corn, beans, onions, Chinese cabbage, round cabbage, sweet potatoes, wheat and other grains, and cotton. Much of the produce was transported to Mākena harbor where it was then sent to Honolulu where it would be sold by markets in Chinatown (*ibid.*, Figures 9 and 10).

Water was not piped into Kula until 1905. Farmers depended mostly on rainfall, as was done in pre-Contact times. When droughts occurred every few years, water was brought from Polipoli Springs or from the beach at Olinda in barrels on the back of mules (*ibid.*).

The Māhele

In the 1840s a drastic change in traditional land tenure resulted in a division of island lands, this system of private ownership was based on western law.

While a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kauikeaouli (Kamehameha III) was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Daws 1968:111; Kuykendall Vol. I, 1938:145 footnote 47, 152, 165-6, 170; Kame`eleihiwa 1992:169-70, 176; Kelly 1983:45).

Figure 9: Photograph of a Chinese Society Building in Kēōkea Kula (June 21, 2000).

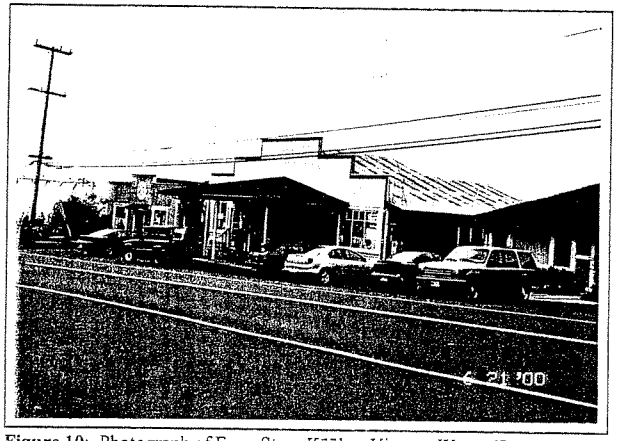

Figure 10: Photograph of Fong Store Kēōkea View to West. (June 21, 2000).

Among other things, foreigners demanded private ownership of land to insure their investments (Kuykendall Vol. I, 1938:138, 145, 178, 184, 202, 206, 271; Kame'eleihiwa 1992:178; Kelly 1998:4). Once lands were made available and private ownership was instituted, the *maka'āinana* (commoners) were able to claim the plots on which they had been cultivating and living, if they had been made aware of the foreign procedures (*kuleana* lands, Land Commission Awards, LCA). These claims could not include any previously cultivated or presently fallow land, *'okipu'u*, stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame'eleihiwa 1992:295; Kirch and Sahlins 1992). This land division, or Māhele, occurred in 1848. The awarded parcels were called Land Commission Awards. If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA, issued a Royal Patent number and could then take possession of the property (Chinen 1961:16, Figure 11).

Figure 11: Photograph of Post-Māhele Boundary Walls in Kula (June 21, 2000).

Individual LCA claims within the present project area are discussed in detail by Folk *et al.* (1999) and will only be briefly considered here. The thirteen *ahupua'a* impacted by the alternative termini were acquired by various individuals and the government. (LCA information from Waihona Aina Corporation, 1998 Database, Honolulu).

Kailua (U1 terminus), Ōma'opio (O1 intersection), and Makaehu-Keahua (U2A terminus) were *ahupua'a* included among Kula lands controlled by Miriam Keohokalole, mother of Kalākaua and Lili'uokalani (see Figure 7). She transfered these *ahupua'a* to the government in lieu of commutation fees and retained A'apueo (U2B terminus) and Kamehame Ahupua'a, both containing eight claims. A large portion of Makaeha was eventually sold to the Maui Land and Pineapple Company. Keohokalole also received Kealahou (3&4) which had 22 land claims.

Kēōkea was Crown land from the beginning and had 46 LCA claims. Waiohuli was made Crown Land in 1890 by Kalākaua and had 41 land claims. Kōheo Ahupua'a (1&2) with 11 land claims, Pūlehu Iki and Nui (P1, P2 intersection and U3) and Waiakoa Ahupua'a with 17 land claims each, were government lands.

In the Indices of Land Commission Awards, 25 LCAs were claimed for Ōma'opio. Most of these LCAs were located in the area of the Ōma'opio Homesteads between the Hamakua Ditch and Kula Highway. Forty-six LCAs were claimed in Kēōkea and forty-one in Waiohuli. The majority are listed as *kula* land and house lots suggesting dryland agriculture. Based on the testimony for the *ahupua'a* of A'apueo, primary usage was pasturage (LCA 9026, Native Testimony Vol. 7:53).

The *ahupua'a* of Kalialinui was awarded to Kamaikaaloa and had 14 LCA claims and Kama'ole (K2 terminus), received 49 claims. Hapakuka Hewahewa, whose family had supported Kamehameha I, received the *ahupua'a* of Ka'ono'ulu (K1 terminus) which had 35 land claims.

Traditional settlement patterns are reflected in the land records of the 1800s. A total of 254 *'āpana* (section, parcel) were granted by the Land Commission in Kula to 187 claimants. No located claims were identified within any of the road alignments which were surveyed to a width of two hundred feet either side of the center line (Folk *et al.* 1999:7). The majority of claims

were located upland, between the 610 meter (2,000 foot) and 1,219 meter (4,000 foot) elevation along the old Kula road (which was called the *ala aupuni*), and extending down to the 700 meter (2,300 foot) elevation in Kama`ole and the 335 meter (1,100 foot) elevation in `A`apueo. Only a few coastal claims were awarded (15, represented by black dots on Figure 12). They were clustered in close proximity to, and slightly inland from, Kalepolepo Fishpond (east of K1 terminus).

The historic records of both awarded and unawarded claims suggest that many individuals had house lots on the coast as well as an upland residence. Some potato and banana plots were claimed in conjunction with some coastal house sites. The majority of the claims were for *kula* lands to be used for sweet potato or Irish potato. There were some claims for "dry *lo`i*", "winter *kula makai*" (a term particular to Maui-Kula), bananas, and house lots. A number of claims was for *moku mau`u*, suggested to mean small arable pockets of stony soil (by the Native Register translator; see Folk *et al.* 1999:21).

Ranching

Ranching was present in Kula prior to the 1840s (Land Court Awards, State Archives). Large sections of Crown Lands were leased for grazing cattle and by the 1880s, lower Kula consisted primarily of pasture land for ranching (Figure 13). The Māhele awards list large portions of Kama`ole Ahupua`a as government cattle ranges with Irish potato being cultivated on other parcels.

In 1888, Edwin H. Baily, Lorrin A. Thurston, W. H. Baily, and Henry P. Baldwin met in Honolulu and purchased Maui ranch lands owned by Charles Alexander for $50,000. The resulting ranch included 33,817 acres with 400 to 500 acres set aside for corn cultivation. A dairy was started in 1896 which eventually evolved into Haleakalā Dairy. The land of Kēōkea, particularly the lowland/coastal portion, was historically used for ranching activities by Haleakalā Ranch Company. Segment E of the proposed highway extends through these ranch lands. In addition to Haleakalā Ranch, large land portions were used for cattle by Ka`ono`ulu Ranch Co., Ltd. and `Ulupalakua Ranch, Inc.

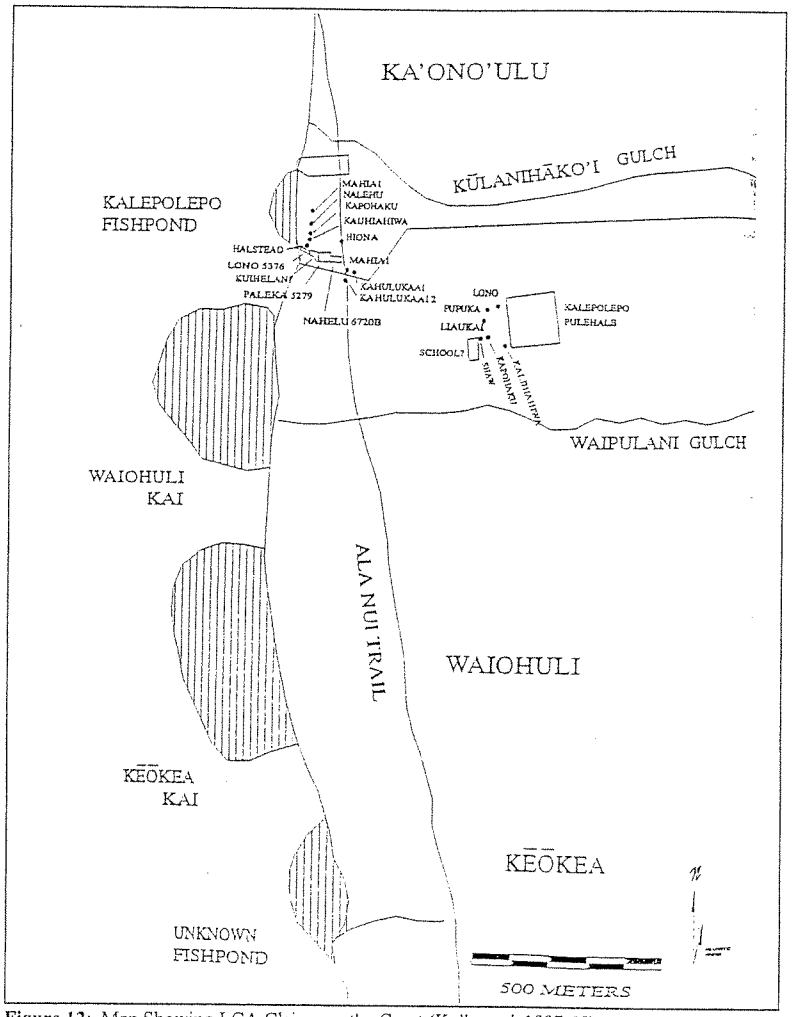

Figure 12: Map Showing LCA Claims on the Coast (Kolb *et al.* 1997:65).

Figure 13: Photograph Showing Kēōkea Historic Pasture Lands, Mauka (June 21, 2000).

By the late 1800s, the changes occurring in Kula lands were dramatic. While surveying in Kula, E.D. Baldwin recorded his impressions of the terrain. He stated:

> During 1888, Kula was an open country, there were no fences to stop you from riding in any direction that you wished, even as far as Makawao or Wailuku. There were none of the owners of Waiakoa kuleanas living above the Government Road and only a few makai of said road (Sterling 1998:252).

He continued:

> ...Waiakoa had been over run with cattle for years and about a mile above the Government road Chinamen had planted Irish potatoes and corn for years so that the location of the numerous kuleana had been almost obliterated. We found only one old kamaaina left on mauka Waiakoa, old "Puanau," who knew approximately the location of the kuleanas. But he piled many of them on top of each other and as we had to lay out the Government portion of the land in Homesteads, there was only one thing to do and that was to give each kuleana its location, bathed as close as necessary, as the land seemed all of equal value; this we did and they have ever since stayed where we located same...[we] appraised it from 3, 5 to 6 dollars an acre (*ibid.*:253).

Sugarcane

As early as 1828, sugar was being grown on Maui by two Chinese merchants who formed the Hungtai sugar works in Wailuku (Speakman 1981:114). Sugarcane was cultivated in Honua'ula in 1845 by a man named Torbert who had purchased large portions of several *ahupua'a*. The Torbert Plantation holdings included a road and landing at Mākena to expedite the shipping of potatoes, animal stock, and sugar. Captain James Makee, owner of Rose Ranch, purchased the Tolbert Plantation in 1856 and continued stock raising and sugar cultivation (Barrère 1975:70; Kuykendall 1968:316).

With the discovery of the less expensive kerosene for lamps and a number of shipping disasters in the late 1850s came the end of the whaling industry. The Civil War provided the next agricultural niche for Hawai'i to fill with its growing sugar industry. As southern U.S. sugar disappeared from the market, sugar plantations in Hawai'i could make an ever-growing profit exporting their product to the continental United States.

In 1873, Isabella Bird traveled by inter-island schooner to Hawai'i Island, stopping at Mākena which was bustling with activity:

> We called at Maaleia, a neck of sandy scorched, verdureless soil, and at 'Ulupalakua [Mākena Landing], or rather at the furnace seven times heated, which is the landing of the plantation of that name, on whose breezy slopes cane refreshes the eye at the height of 2,000 feet above the sea. We anchored at both places, and with what seemed to me a needless amount of delay, discharged goods and natives, mats, and calabashes were embarked... It was all glorious, this fierce bright glow of the Tropic of Cancer, yet it was a relief to look up the great rolling, featureless slopes above 'Ulupalakua to a forest belt of perennial green, watered, they say, by perpetual showers, and a little later to see a mountain summit [Haleakalā] uplifted into a region of endless winter, above a steady cloud-bank as white as snow (Bird 1974:32, 33).

After her ascent of Haleakalā in 1873, Isabella Bird journeyed to Makee's 'Ulupalakua Ranch (then called Rose Ranch) while still in sugar and before it was converted to a cattle ranch:

> The plantation is 2000 feet above the sea, and is one of the finest on the islands; and owing to the slow maturity of the cane at so great a height, the yield is from five to six tons an acre. Water is very scarce; all that is used in the boiling-house and elsewhere has been carefully led into concrete tanks for storage, and even the walks in the proprietor's beautiful garden are laid with cement for the same purpose. (*ibid*:228).

Sugar had been established in the Makawao area in the late 1800s and by 1899, the Kihei Plantation Company (KPC) was growing cane in the plains above Kīhei. In 1878, Claus Spreckels founded the Hawaiian Commercial Company which was located in Pu`u Nene. In 1882, it became known as the Hawaiian Commercial and Sugar Company (HC&SC). The Kihei Plantation was absorbed by the Hawaiian Commercial and Sugar Company (HC&S) in 1908, which continued to cultivate the most productive KPC fields. Nineteen years later, HC&SC was bought by investors who replaced the plantation's agents with Alexander and Baldwin. Lands under the new management expanded and in 1948, HC&SC acquired the Maui Agricultural Company located in Pā`ia (Conde and Best 1973:208-210, 213). Portions of the U1 alignment of the proposed highway extends through HC&SC land (Figure 14).

Abraham Fornander toured Maui in 1865 as Inspector General of Schools. His visit to the southwestern coast included a stop at a school at Kalepolepo, Mākena Bay attended by many children from Upcountry, Kanahena, Keone`ō`io, and Kanaio. In his report, Fornander, praised the benefits brought to the Hawaiian people through commercial farming of sugar:

> It may not be amiss, here to remark briefly on the influences which the establishment of the sugar plantations on the island of Maui is exercising on the material and social condition of the Hawaiian people in the immediate vicinity and within reasonable distance of said plantations. They furnish steady and remunerative employment to all, male or female, who wish to work. The work thus obtained sets large sums of ready money in circulation among those who formerly, even if disposed to work, had no way of obtaining a dollar except at the expense of immense labor, time, and trouble. The engagements are short, the pay fixed and sure. The health of the laborers is well attended to-on the Makee plantation not one had died in five years.-In many and increasing instances the money thus obtained goes to build better houses, improve the homesteads and to clothe themselves and their children better. In places where the sugar mills grind for others the cultivation of the cane among the native population and others is systematically pursued and rapidly increasing, adding largely to the wealth and comfort of the people, and they begin to appreciate the value of their lands and take a pride in their culture. It keeps the people more at home and diminishes that roaming, loafing propensity, which was engendered after the breaking up of the feudal system, from unbounded and ill-directed liberty, want of means and ignorance and inability to obtain them [sic]. Even those who do not choose to engage as laborers on the plantations, feel the influence of them in the remotest valleys, stimulating to labor to furnish poi, firewood and many other things of which the plantations are constantly in need, and for which fair prices and ready cash are always paid...(Fornander in Barrère 1975:58).

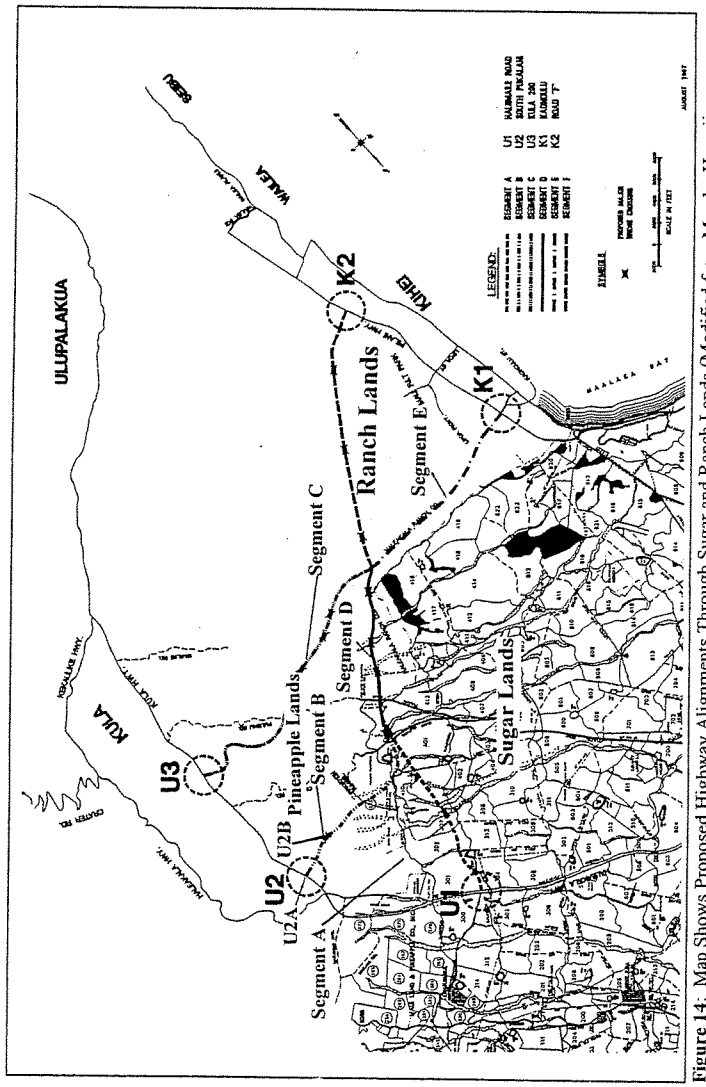

Figure 14: Map Shows Proposed Highway Alignments Through Sugar and Ranch Lands (Modified from Map by Hawaiian Commercial and Sugar Company).

Pineapple

In addition to sugar, conditions on some Kula lands were ideal for cultivating pineapple. The same Baldwin who developed the sugar lands became a company called Baldwin Packers which evolved into Maui Pineapple Company (MPC), the largest producer of pineapple on Maui (Speakman 1984:130). When the Cameron family took control in the mid-20th century, the name was changed to Maui Land and Pineapple Company (ML&P Co.). Kailua Ahupua`a and Hāli`imaile Plantation have been under cultivation by ML&P Co. or Baldwin Packers for over 30 years (Donham1990a). Pineapple was being grown in the *ahupua`a* of A`apueo as late as 1979 and is still being grown in western portions of the project area. Portions of proposed segments B, C, and D extend through pineapple fields (see Figure 14).

20th Century

Living conditions deteriorated in Kula during the 1910s and 1920s and many families moved to other places. Severe drought, poor crops due to exhausted soil, and the promise of better opportunities elsewhere depleted the population. Much of the upcountry land had been parceled into homesteads with the previous tenants losing their farms. A large portion of the Kula land had become pasture for cattle ranching by the early 1900s. In 1918, forty more families left as their leased lands were purchased by Harold Rice for use by the Ka`ono`ulu Ranch (Speakman 1978:143). Ka`ono ulu Ranch, Haleakalā Ranch, and `Ulupalakua Ranch, are still in operation.

Twentieth century activities in the Kula District included a significant WW II military presence along the beach of Ma`alaea Bay, a Combat Demolition training Station at Kama`ole, two naval air stations at Pu`unēnē and Kahalui, and Army camps and hospitals in the Kula and Makawao area.

In the 1970s, Kula was producing 35% of Hawai`i's vegetables. There were 35 family-operated farms of five to fifty acres that produced Kula crops of various vegetables and flowers. Large acreage was used for livestock breeding for approximately 20 full and part-time cattle ranchers comprising the majority of the land use (Mark 1975). Rapid commercial resort development and private residences, especially in the Kīhei area, has occurred in the Kula coastal section since the 1970s.

PREVIOUS ARCHAEOLOGY

Archaeological studies have been conducted in both upland and coastal Kula. For an in depth discussion of the archaeology of Kula the reader is referred to Folk *et al.* (1999) and Kolb *et al.* (1997). Some of the findings are mentioned below. Table 1 is a list of archaeological studies conducted in the project area.

Table 1: Previous Archaeology Within The Kula/Makawao Districts.

Name	Area	Type
Cox 1976	Pūlehu Nui, Kama`ole	Inventory Survey
Cordy 1977	Pūlehu Nui, Kama`ole, Paeahu	Inventory Survey
Mirua 1982	Kēōkea-Waiohuli	Inventory Survey
Riford 1987	same as above	Inventory Survey
Brown and Haun1989	Waiohuli-Kēōkea	Inventory Survey
Hammatt and Shindeler 1989	Kama`ole	Inventory Survey
Donham 1990a	Kailua, Makaeha	Inventory Survey
Donham 1990b	Kēōkea	Inventory Survey
Kolb 1991	Kēōkea	Data Recovery
Fredericksen and Fredericksen 1991, 1992	Hōkū`ula	Data Recovery
Fredericksen and Fredericksen 1993	Waiohuli	Data Recovery
Folk and Hammatt 1993	Ōma`opio	Data Recovery
Fredericksen *et al.* 1994	Kana`ono`ulu	Inventory Survey, and Botanical Survey
Fredericksen and Fredericksen 1995	Hōkū`ula	Inventory Survey
Burgett and Spear 1995	Ka`ono`ulu	Inventory Survey
McPhatter and Rosendahl 1996	`A`apueo	Reconnaissance Survey
Wulzen 1996	`A`apueo	Inventory Survey
Kolb *et al.* 1997	Waiohuli and Kēōkea	Data Recovery
Dunn *et al.* 1999	Waiohuli	Data Recovery
Folk et al. 1999	Kula	Reconaissance Survey

The earliest archaeological studies of the Kula region were conducted by Thomas Thrum between 1906 to 1918, John Stokes in the early 1900s, and Winslow Walker in 1931. The primary focus of these reports were identifying religious sites. In total, 33 *heiau* from Olinda to Kanaio at the 526 to 915 meter (2,000 to 3,000 ft.) elevation amsl were recorded (Walker 1931).

A few of the more significant sites within the relative vicinity of the proposed road segments and termini are noted below.

Several petroglyph sites were identified in Kalialinui Gulch (State Site 1061) and Kaluapulani Gulch (State Site1062, vicinity of segment B) in the 1970s and relocated as part of archaeological reconnaissance survey for the proposed Kīhei to Kula Road corridors (Cox and Stasack 1970; Folk *et al.* 1999, Site 4178). Additional petroglyphs and religious structures are mentioned by Inez Ashdown for Ōma`opio, Ka`ono`ulu, Pūlehu, Waiakoa, Kēōkea, and Kama`ole Ahupua`a (1971). Folk and Hammatt (1993) also re-identified 20 petroglyphs in Upper Pūlehu Gulch (State Site 1268), east of terminus U3 , a small rock shelter with 15 pictographs and approximately 139 petroglyphs downstream was delineated State Site 1267. A sailing canoe petroglyph site (State Site 4178) was identified near the U2A terminus in `A`apueo during a 1996 inventory survey (McPhatter and Rosendahl 1996). This survey also extended the boundaries of the Kaluapulani petroglyph site to the south side of the gulch and further *makai*.

A large burial cave (State Site 1264) was located at the southwestern edge of Pukalani town along the cliffs of Kalialinui Gulch near its intersection with Hamakua Ditch (between segment B and C). It is an approximately 33 meter long lava tube containing the remains of between 30 to 50 individuals.

An extensive survey of 1,025 acres of pastureland in Kēōkea and Waiohuli between 1,800 and 3,000 ft amsl identified 159 sites including 335 features representing agricultural, residential, and ceremonial complexes, trails, and "footprint" petroglyphs (Figure 15). The study, conducted in the 1980s, resulted in 16 radiocarbon dates providing overlapping ranges from A.D. 1270 through A.D. 1955 for activities in *mauka* Kēōkea (Brown 1989, Brown and Haun 1989).

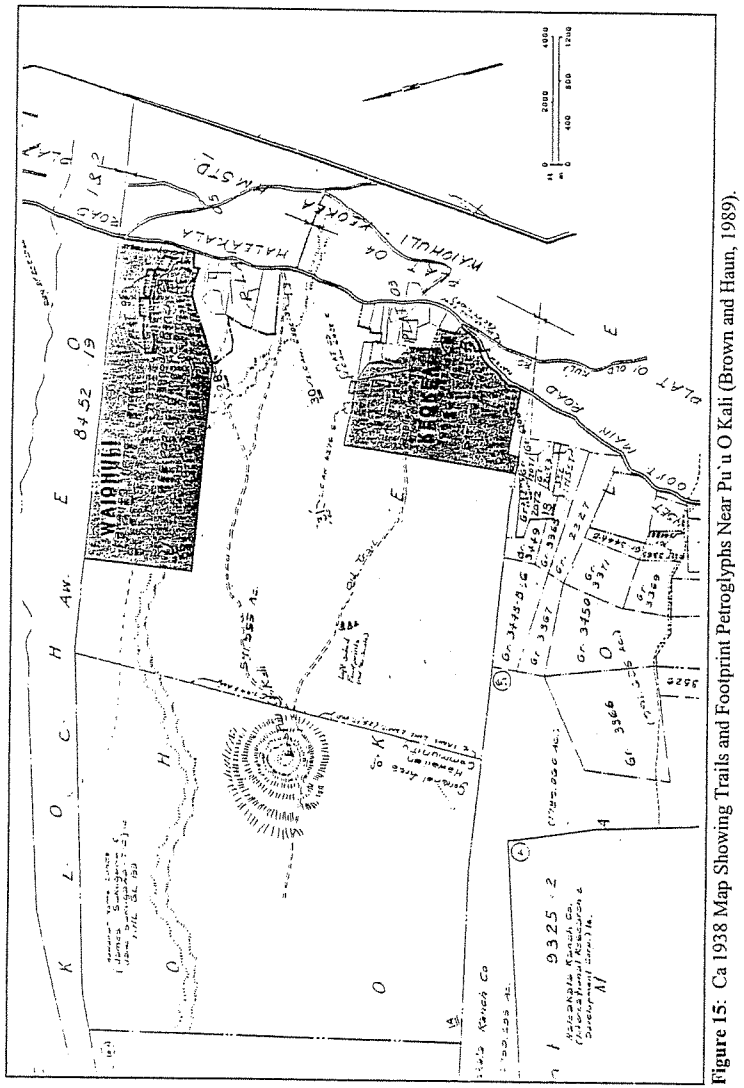

Figure 15: Ca 1938 Map Showing Trails and Footprint Petroglyphs Near Pu`u O Kali (Brown and Haun, 1989).

Traditional references to bird-catching sites are found in recorded oral histories concerning Kula upcountry (Ashdown 1971:46). Corroborating evidence for bird-catching was recovered from Molohai, Kēōkea in a small temporary habitation at approximately 700 meters amsl (2,200 feet). A variety of extinct forest bird species were recovered from the earliest occupation level and dating between A.C. 1057 and 1440 (Kolb 1994).

Data from the same project indicated that initial permanent habitation and agricultural pursuits in the Kula region began as early as ca. A.D. 1200 to 1400 (*ibid.*). Radiocarbon and pollen analysis suggests a settlement pattern including expanding agricultural fields and habitations through the 1600s to 1700s when less desirable lands both *mauka* and *makai* of the prime upland region were utilized.

Archaeological data recovery was conducted at ten permanent habitation sites and one agricultural site (Dunn *et al.* 1999). Fifteen charcoal samples were submitted for radiocarbon dating from ten of the sites. Dating results indicated that the first of the permanent habitation sites between 549 to 915 meters (1,800 to 3,000 ft) in Waiohuli dated to the A.D.1400s, slightly later than those suggested by earlier studies (Kolb *et. al* 1997). However, it was concluded that the small sample size precluded having strong confidence in the results of the distributional analysis (*ibid.*).

A total of 25 archaeological sites were identified within the various segments of the proposed bypass highway (Figure 16). Five archaeological sites were identified in Segments A, D, and E of the proposed bypass corridor during the initial reconnaissance (Folk *et al.* 1999).

Site 4765, located between Pūlehu Road and Ōma'opio Road, contained an historic irrigation ditch, historic agricultural clearing mounds, and a small road segment. Site 4773, located in segment E , consisted of two square enclosures and seven U-shaped enclosures interpreted as WW II temporary military command post and rifle positions. Site 4776, located in segment E near the K1 terminus, consisted of a midden and lithic scatter/mound that was interpreted as recurrent habitation and agriculture. Site 4777, located along the north side of Kalialinui Gulch in segment A, consisted of a wall interpreted as a field boundary or animal control. Site 4778, located on a southern edge of Waiakoa Gulch in segment D, was an L-shaped enclosure interpreted as a temporary habitation.

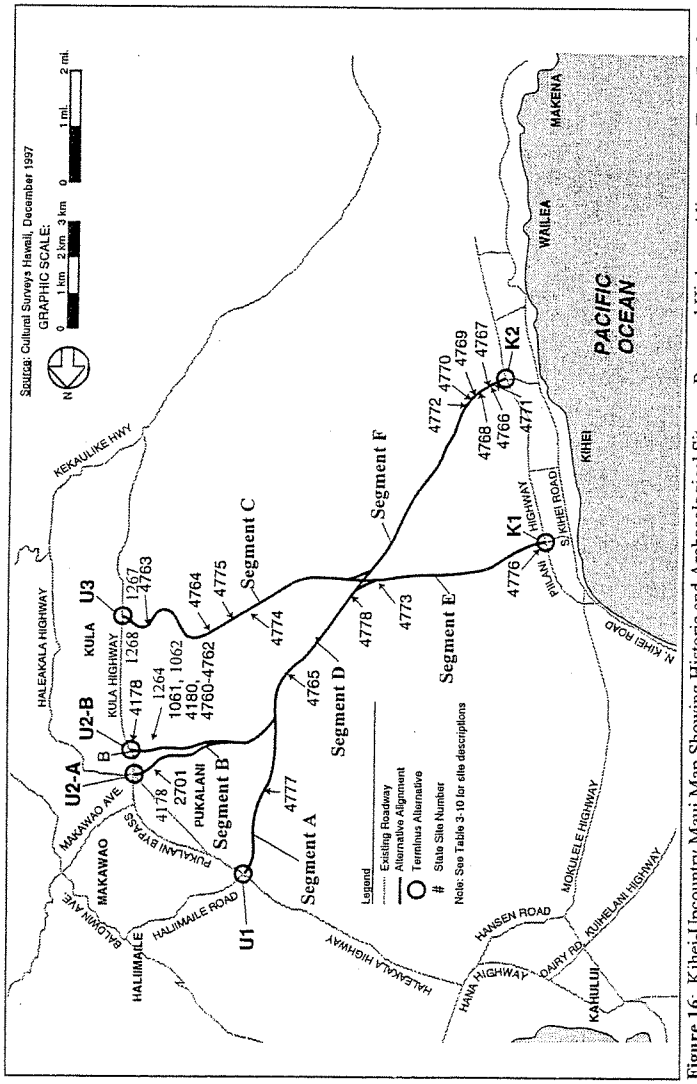

Figure 16: Kihei-Upcountry Maui Map Showing Historic and Archaeological Sites on Proposed Highway Alignments (From Draft EIS 1999).

METHODOLOGY

Initial assistance was provided by a number of organizations and many individuals including the Office of Hawaiian Affairs (OHA), O`ahu and Maui branches, the Hawai`i Sugar Museum, Hawaiian Commercial & Sugar Company, Maui Historical Society, State Historic Preservation Division Maui and O`ahu Branches, Haleakalā Ranch, `Ulupalakua Ranch, Ka`ono`ulu Ranch, Maui Land and Pineapple Co., Kona Historical Society, the Hawai`i State Archives, State Survey Office, and the Hawai`i State Library. A list of the contacted individuals can be found in Appendix A.

Preliminary contact was made to individuals recommended to SCS by OHA and Parsons Brinckerhoff, Inc. General points of interest were recorded in field notes. Unless the interviewee indicated knowledge of Traditional Cultural Properties, the conversation was not taped. As a result, only one interview was recorded (Appendix B). Several individuals demonstrated reluctance at being taped. However, their information did not lead to the identification any Traditional Cultural Properties. None of the interviewees knew of any specific Traditional Cultural Properties although they supplied the names of more contacts, suggesting additional avenues of investigation. Several had interesting anecdotes concerning life in Hawai`i in the early 1900s.

An announcement was sent over the Internet to members of the Hawaiian Nation on Maui asking for recommendations of individuals that may be residents, may be familiar with the project area, or know of those who were, to e-mail responses and suggestions to a Maui contact.

As the proposed road alignments mainly impact ranch and agricultural lands, several avenues of investigation were selected. All three of the large ranches, Haleakalā, Ka`ono`ulu, and `Ulupalakua, were contacted and asked for names of long-time cowboys who would be the most likely familiar with the land in the project area and its history.

The mapping department of Hawaiian Commercial & Sugar Company, under the jurisdiction of Randal Moore, was most helpful in supplying maps of the fields and locations of the former plantation camps. It was hoped that individuals that lived in some of these camps near the proposed road alignments could be interviewed as they also may have special knowledge of Traditional Cultural Properties in the project area vicinity.

Cultural Surveys Hawai`i, Inc. (CSH), was contracted by Parsons Brinckerhoff, Inc. to conduct an archaeological investigations for the proposed highway alignments. To save time and prevent repetitive interviews, a list of questions from CSH were presented to the interviewees when appropriate, along with the inquiries concerning Traditional Cultural Properties.

INFORMANT INTERVIEWS AND TRADITIONAL CULTURAL PROPERTIES

An archaeological report (Brown and Haun 1989) includes a previous interview with two former employees of Ka`ono`ulu Ranch, William Poepoe and Henry Kekiwi. The information was summarized here as it refers to land features in the vicinity of the road alignments.

Mr. Poepoe, an employee of Ka`ono`ulu Ranch for 46 years before he retired in 1983, reported that in the past people grew corn near Pu`u Kali (Red Hill). According to Mr. Poepoe, there was once a Hawaiian settlement, including sidewalks and grave sites, on the border of Kama`ole and Kēōkea. He also added that within the caldera of Pu`u Kali is a fence that the Army erected during WWII for target practice.

Mr. Kekiwi, an employee of Ka`ono`ulu Ranch for 42 years before he retired, stated that the ranch had previously run 2,500 head of cattle. Stone walls to contain the cattle had been built in 1800s on the ranch lands. Land use necessitated that cattle be kept at lower elevations near Pu`u o Kali in winter and then moved to *mauka* areas in June. Due to heat, Hawaiian and Chinese inhabitants would also move from the Pu`u o Kali area further upland to Kēōkea during the summer months. Mr. Kekiwi pointed out many *heiau* to the archaeologists in the general vicinity of Molohai and Papakea in Kēōkea and in Waiohuli and identified three left footprints imprinted in the lava rocks on the way to Pu`u Kali (see Figure 16).

Additional information is presented in Kolb *et al.* (1997:30) concerning Pu`u o Kali:

> ...the most prominent landmark in Kula is the cinder cone of Pu`u o Kali, or "Hill of Waining.' It is located at an elevation of 300 m AMSL (1000 ft) and marks the border between the *ahupua`a* of Waiohuli and Kēōkea. Commonly called "Red Hill" in modern times, this cinder cone has a prominent history. It is associated with the Goddess Pele, who was reputed to smite those who spoke evil from this very place (Ashdown, n.d.).

A major component of the pre-historic upcountry settlement landscape is located upslope of the Pu`u. Walker identified three *heiau* in the upcountry Waiohuli section and three *heiau* and a rain shrine in Kēōkea.

Conversations with several cowboys of Haleakalā Ranch on June 19 and 20, 2000, revealed that information concerning significant places was most likely known by those of the previous generation who had since disappeared. Sonny Manoa, Henry Silva, and Ed Uweko`olani were aware of old stone foundations and walls within the ranch boundaries, but none with associated stories. A road extending off Na`alae Road in Kēōkea was reportedly called the Army Road and had originally been an old horse road to the coast. This closely followed a traditional Hawaiian trail known as the Waiakoa Trail. Mr. Merlin Kekiwi and Michael Purdy of `Ulupalakua Ranch referred the author to older residents of Kula for further information. Unfortunately, a field trip within the boundaries of the Haleakalā Ranch that was tentatively scheduled for the beginning of August was unable to be completed due to ranching activities occurring at the same time.

Although only 64 years of age, Mr. Uweko`olani described a very traditional Hawaiian upbringing in Kanaio including seasonal living locations (*makai, mauka*), planting methods, water procurement, and instruction from his parents, who were native speakers, as to *ahupua`a* protocol. He moved to the mainland at the age of 17 and did not begin work as a cowboy on Haleakalā Ranch until ten years ago (Figure 17).

Figure 17: Photograph of Mr. Ed Uweko`olani of Haleakalā Ranch (June 19, 2000).

An interview was conducted in Kahului on August 4, 2000 with Mr. Henry Rice, owner of Ka`ono`ulu Ranch. Mr. Rice descended from a *kama`āina* family long established in Hawai`i. The ranch consists of approximately 9,000 acres of land that has been held by the Rice family since 1916.

Mr. Rice revealed that land use on the three main holdings in Kula (Haleakalā, Ka`ono`ulu, and `Ulupalakua) are similar and may vary only slightly in timing of ranching activities throughout the year. Land at all elevations is used for pasturage with rotation of sections according to vegetation growth. Yearly ranch activities range from calving, branding, weaning, moving calves to better pasture, picking replacement heifers, and shipping of yearlings to market. In the 1950s, most of the breeding herds were kept on the *makai* lands, with *mauka* lands being used for pasture for the cows. Presently, breeding herds are kept both *mauka* (above the Kula highway) and *makai* with the yearlings in between.

Calves from the *makai* herd are born in October and November when the winter rains brings grasses providing for successful lactation of the cows. Calves from the *mauka* herd fall (are born) in April and May and benefit from the rains that can still occur as late as March. Water is brought down for the cattle from the Upper Kula Line which provides water for agriculture and residential use in Kula.

Mr. Rice knew of a foot-print near Pu`u o Kali and had been told it was a that of a child's, imprinted and preserved in lava (See Brown and Haun 1989). No old trails or other traditional properties on ranch lands were known to him. He reported that in the late 1800s, people from Kula were obtaining fish from the still viable Ka`ono`ulu fishpond in Kīhei (*makai* and in close proximity to the project area).

An interview was held with Mrs. Nancy Purdy on August 3, 2000 at `Ulupalakua Ranch where she now lives (Figure 18). Mrs. Purdy was raised on family (Wilcox) *kuleana* land located about one mile *makai* of Kula Highway in `Ulupalakua. Her great grandfather was a farmer growing such crops as corn, sweet potato, beans, and Irish potatoes. People would walk down the dirt road of what is now Kula Highway to Kēōkea to catch a bus when they needed to go to Kahului. The family would walk down the Old Mākena Road to the beach at Mākena for swimming and fishing. She also remembers fish being sold door-to-door by the Japanese. The Chinese peddlers would bring big bags of *poi* several times a week. Although Mrs. Purdy has spent her entire life in the region, none of her comments indicated knowledge of any specific Traditional Cultural Properties in the area.

Figure 18: Photograph of Mr. and Mrs. D. Purdy of 'Ulupalakua Ranch (August 4, 2000).

An interview was held with Mr. Frank Gouveia in Hāli'imaile on August 3, 2000 (see transcript of Mr. Gouveia's interview and release form in Appendix B)(Figure 19). Mr. Gouveia, now 85 years old, began his career as a water boy for the pineapple company at 10 cents a day. His family originally came from the Madeira Islands off Portugal in the late 1800s. Once his family had settled on Maui they "never looked behind." One of 16 children, Mr. Gouveia's father worked for the pineapple company and later, at the dairy at Pu'unēnē. While at the dairy, Mr. Gouveia remembers the Chinese bringing their vegetables by donkey from Kula down an old county road, skirting what is now Pukalani and meandering through the cane fields to the landing at Kīhei. While Mr. Gouveia was an excellent source of information concerning life on Maui, he did not know of any Traditional Cultural Properties.

Mr. Bob Hobdy, District Manager of Forestry for the Department of Land and Natural Resources on Maui, was contacted to obtain more details on Mr. Gouveia's trail/county road information. Mr. Hobdy knew of three *mauka-makai* trails in Kula. The Waiakoa trail extended from the bottom of Na'alae Road in Kula and was a horse and wagon trail in the 1800s. The old Mākena Road zig-zagged from 'Ulupalakua Ranch to the landing in Mākena and was used for animal and produce transportation. This trail would also date from the 1800s. The third trail extended from Kalama to 'Ulupalakua. All of these trails are evident on an 1885 map drawn by W. D. Alexander, Surveyor General for the Hawaiian Islands.

Figure 19: Photograph of Mr. Frank Gouveia at Home in Hali'imaile (August 3, 2000).

Mr. Hobdy noted that an Old Government Road is still shown on tax map keys for the region of Kula extending from Haleakalā Highway just below what is now Pukalani, through the cane fields and eventually disappearing in cane field 13, directly *mauka* of Kīhei where the landing would have been. A 1929 map of the island of Maui, surveyed by W. E. Wall and compiled from all previous available data, identifies the same road (Figure 20). This is most likely the trail/road referred to by Mr. Gouveia.

A telephone interview was conducted with Mr. L. Douglas MacCluer, manager of the Maui Pineapple Company, Ltd. (a subsidiary of Maui Land and Pineapple Company, Inc.). Before pineapple cultivation, land parcels near Pūlehu Road on the Kīhei side were used for pasture. In the early 1900s there had been small farms growing corn and onions in the vicinity of what became known as Commill Camp. Maui Pinapple brought their own water for irrigation in

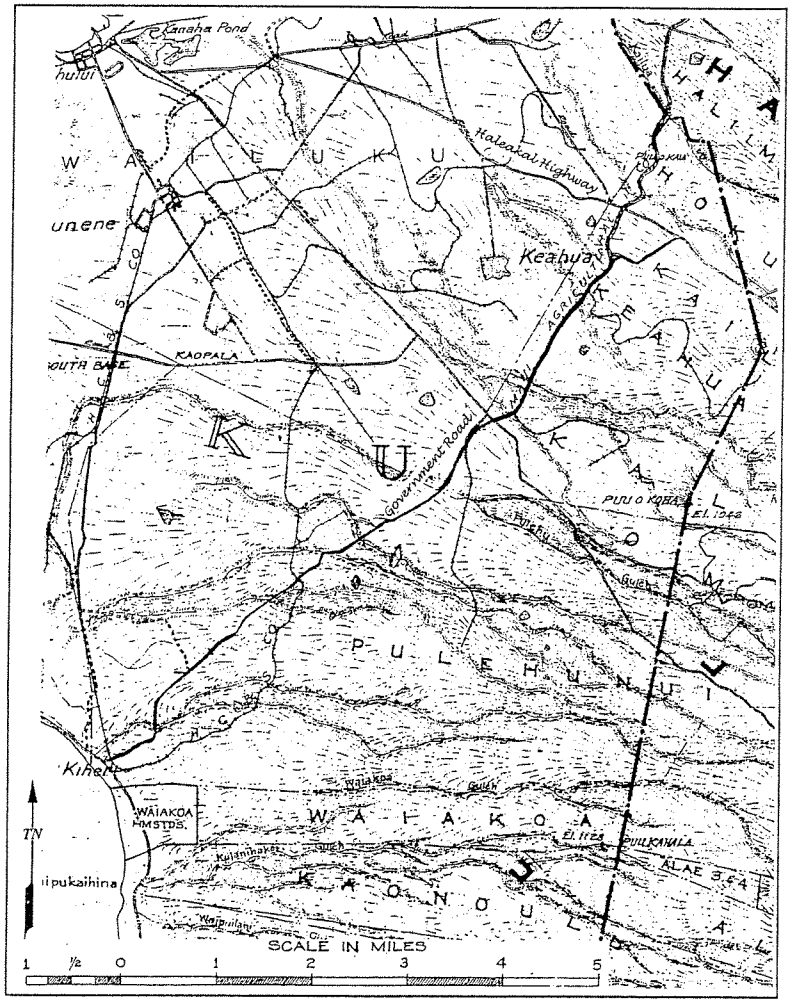

Figure 20: Ca. 1929 Map of Maui by W. E. Wall Showing Old Government Road from Kula to the Coast.

ditches from Nāhiku starting in the 1950s and 60s. Water was also brought from `Ōpana `Awalau, above Pi`iholo, but was discontinued in 1963. Although unable to identify any Traditional Cultural Properties, Mr. MacCluer had first-hand knowledge of several archaeological sites on lands leased from them by Haleakalā Ranch. According to him, a large stone structure is located on a bluff above Sandalwood Golf Course in the Anaweo pasture on the boundary of Haleakalā Ranch and Hawaiian Homes land. Another site, a large enclosure approximately 150 feet wide, is located within Waiakoa pasture.

Mrs. Ethel Nagata (80 years old), who had spent part of her childhood in Keahua sugar camp, was interviewed in her Kahului Barber Shop on August 4, 2000 (Figures 21 and 22). One of four children, Mrs. Nagata parents arrived from Fukushima, Japan to work in the cane fields. The family moved to Waikapū in 1929 where Mrs. Nagata's parents farmed for 55 years. Her mother lived to be 101 years old. Her experience living in the camp was relatively short but she remembers the closeness of the various groups of workers and their families.

Figure 21: Mrs. Ethel Nagata at Her Shop in Kahului (August 4, 2000).

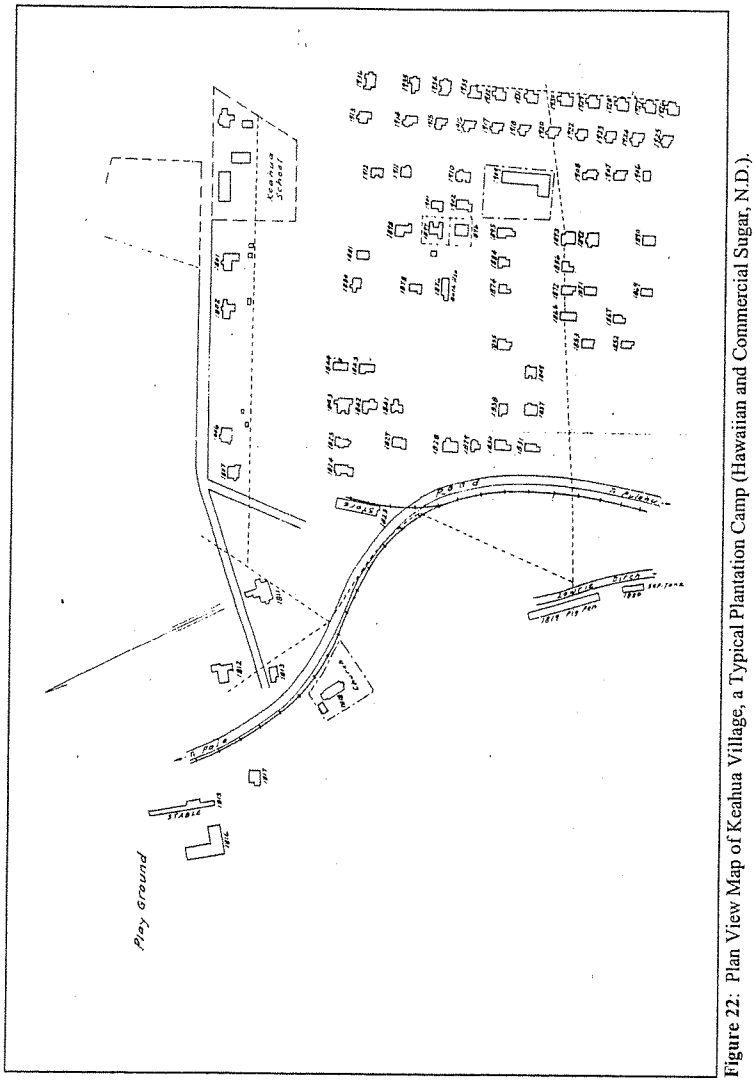

Figure 22: Plan View Map of Keahua Village, a Typical Plantation Camp (Hawaiian and Commercial Sugar, N.D.).

Okinawans, Japanese, Filipinos, and Portugese all lived, shared, and helped each other there. Not only would they work together, but celebrations and picnics were held where everyone was welcome. Mrs. Nagata feels there is more separation between cultural groups today than there was amongst the first generation of immigrants.

Camp life was basic and nothing was wasted. Piles of newspapers were sewn together as disposable mattresses for babies. There was a communal toilet for several families where the Sears and Roebuck catalogue was an important item along with the highly prized, soft tissue paper used to wrap individual fruits. These valued items were collected from the plantation store. Colorful comics were saved for special wrapping paper and soda cans, bottle tops, magazine pages, and even the large Saloon crackers, were modified for festive Christmas decorations. Dried shrimp stored in wooden barrels was a special treat from the plantation store. There was no electricity so firewood and kerosene were delivered to the camps. In the camp was a Catholic church, a plantation store, and a Japanese school for the children.

Mrs. Nagata's family was hard working but very poor. None of the children could go to high school except for the youngest, who everyone in the family supported through dress making school at the Community College. Tragically, this sister died at only 53 years of age. Mrs. Nagata's grandfather was buried at Waiakoa Cemetery near the Waiakoa sugar camp. Later, his remains were moved to the Buddhist church in Pā`ia.

There were no Hawaiians in Keahua camp and it was not until they had moved to Waikapū that Mrs. Nagata remembers seeing Hawaiian people. She spoke highly of the traditional *kuleana* water rights instigated by the Hawaiians that allowed her family to farm for so many years, as well as the excellent rock walls built and fitted together with out mortar. However, Mrs. Nagata was not aware of any Traditional Cultural Properties within the vicinity of the camps in Kula.

A telephone interview was conducted with Mr. Charles Maxwell on 1 August 2000. He confirmed information previously recorded as testimony that in general, both Kaluapulani and Kalialinui Gulches, as well as those in Ōma`opio and `A`apueo, contain numerous petroglyphs and sealed burial caves which were not mentioned in the archaeological reports. Mr. Maxwell said he had personal knowledge of six sealed caves in these gulches. Two wooden images (*ki`i*) previously recovered from a cave in one of the gulches are now on display at the Bishop Museum.

According to Mr. Maxwell, the area of Kamehameha Schools in `A`apueo is associated with a female goddess of the same name and past agricultural plots were associated with Maui's *Ali`i*, Kihapi`ilani. He reported that Kenneth Emory of the Bishop Museum had referred to the area impacted by the proposed termini U2A and U2B (and upper portions of segment B) as "most likely a place where the annual Makahiki were held". A *heiau* has been identified close to the U2A terminus (Site 2701). It was Mr. Maxwell's opinion that it would be, "a cultural and spiritual insult to have a highway impacting (visually) a site such as this."

IMPACT ASSESSMENT

Numerous cultural features were reported during this study including religious sites, trails, petroglyphs, and the general location of burial caves. Topographic anomalies associated with pre-Contact events, individuals, or recorded in legends and stories were also noted. Several of these sites are not located within the project area. Other sites are considered archaeological as they are no longer in use and their location is unknown. Based on the previously presented definition for a Traditional Cultural Property stated by the Procedures For Ethnographic Inventory Surveys (Draft), no specific Traditional Cultural Properties were identified.

Archaeological sites and features associated with traditional legends, stories and important individuals were identified and reviewed during this study, including Pu`u Pane, Pu`u o Kali, the *alanui*, ancient trails, and various fishponds.

As religious and cultural significance are associated with archaeological features such as *heiau* and Makahiki sites, it is necessary to apply the criteria of adverse effect to properties such as those mentioned by Mr. Maxwell (36 CFR Part 800, Sec. 800.5). Adverse effect is found when:

> . . .an undertaking may alter, directly or indirectly, characteristics that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association...(National Preservation Institute 1999:49).

Examples of adverse effects include physical damage to all or part of the property, and the "...introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features " (*ibid.*:50).

It appears that the alignment involving segment B may have an adverse impact on the integrity of the *heiau* site, both visually and aurally. Therefore, any alignment using segment B may need to be re-routed so as not to affect this archaeological feature. However, the *heiau* along with the other archaeological sites are addressed by Folk *et al.* (1999).

Pu`u Pane, located in the *ahupua`a* of A`apueo, was declared sacred by the paramount chief, Kihapi`ilani. Commoners were not allowed to climb the hill as it was considered a *heiau* for the high chiefs of Maui (Sterling 1998:258). This site will not be impacted by the proposed highway alignments as it is situated out of the project area (see Figure 2).

None of the informants or archival material provided any information concerning Pu`u o Weli located in close proximity to the U2 terminus (see Figure 2).

Several old trails were discovered in the course of research. However, none of them were Traditional Cultural Properties because they are no longer used. Some of these archaeological features are found out side of the immediate project area and would, therefore not be impacted by any of the proposed alignments. For example, situated in the vicinity of Pu`u o Kali, located in the *ahupua`a* of Waiohuli, are two trails and petroglyph foot prints. These archaeological features will not be impacted by the proposed highway alignments as they are situated outside the project area (see Figure 2).

The ancient *alanui* coastal trail (Site 572) and the upland trail, only portions of which are now visible, are also archaeological features that will not be impacted by the proposed highway alignments as they are located outside of the project area. The fish ponds, such as Kalepolepo and others, are archaeological sites listed with the State Historic Preservation Division and will not be impacted by the proposed highway alignments as they are situated along the coast outside of the project area (see Figure 2).

A Map of Kula, Maui, surveyed by W. D. Alexander and M. D. Monsarrat in 1872-1879, shows a trail extending from the bottom of the present Na`alae road in Alae Ahupua`a downslope where it splits, one leg continuing in Alae, and the other crossing into Waiakoa Ahupua`a (north). Another split occurs and continues a short distance into Pūlehunui. The two original trails eventually intersect and continue as a single trail until sightly more than half way between Kula Highway and the coast (Figure 23).

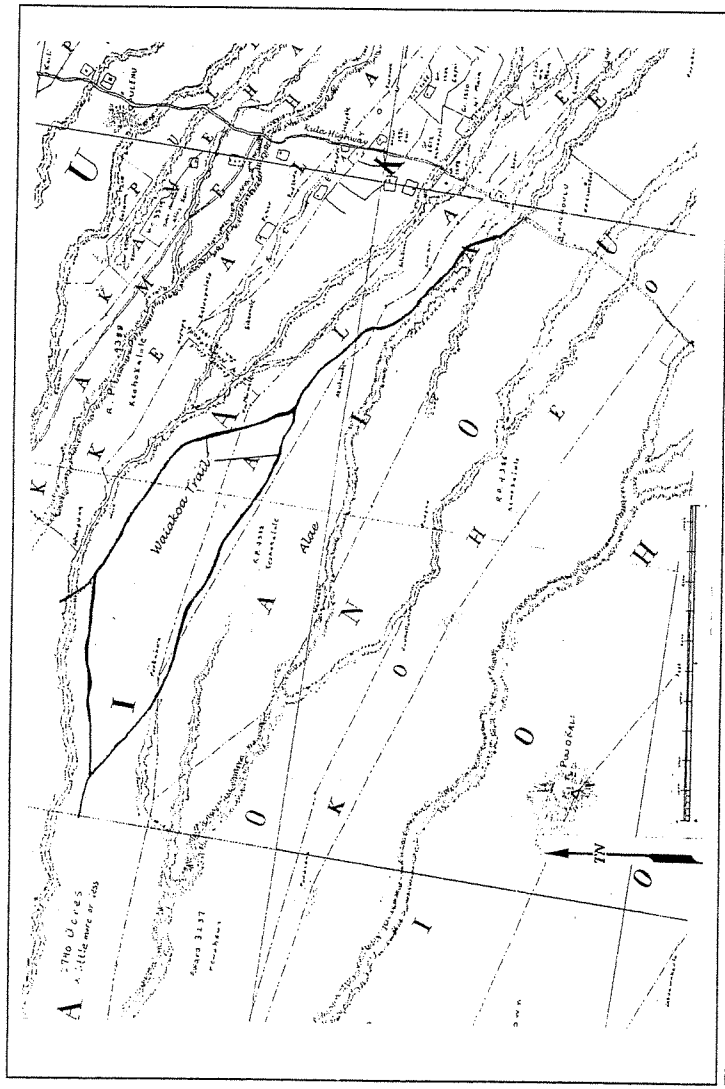

Figure 23: Ca. 1872-1879 Map of Kula by W. D. Alexander and M. D. Monsarrat Showing Waiakoa Trail.

Sometime between 1879 and 1929 the north fork of the same1872-1879 trail is intersected by a trail from Palauea and continues all the way to Kīhei, becoming a road and eventually joining the coastal highway (Figure 24). The southern fork of the trail on the earlier map disappears. The remaining trail was the Waiakoa trail mentioned by Mr. Hobdy and known to Mr. Manoa as an old horse trail. On a current USGS map, a jeep road loosely follows in the direction of the old Waiakoa trail to the coast. Physical evidence of the Waiakoa trail today has not been identified but it is shown on the 1929 map to be in close proximity to the K2 terminus in the western portion of the project area.

Other ancient foot trails reportedly extending from Kēōkea to Kīhei (Kekuawaha`ula`ula) and from Waiohuli down to Kalepolepo fishpond (Kalepolepo Trail), would be intersected by segment E and segment F of the proposed highway, as would the old trail/government road through the upland cane fields to Kīhei referred by Mr. Gouveia. However, because none of these trails are still in use, and archaeological surveys have not identified physical evidence of their routes, these trails are not Traditional Cultural Properties. For the proposed alignments to be in close proximity to these trails would not constitute a cultural impact.

CONCLUSIONS

Interviews of appropriate individuals were conducted by SCS. These informants were recognized by other community members as knowledgeable, long-time residents of Maui and the Kula region. Conversations with these individuals did not identify any specific Traditional Cultural Properties within the project area as defined in the Criteria for evaluation. Presently, the only known culturally significant sites are the archaeological features that have been identified within the project area. Mitigation of these resources are discussed within the archaeological report presented by Folk *et al* (1999).

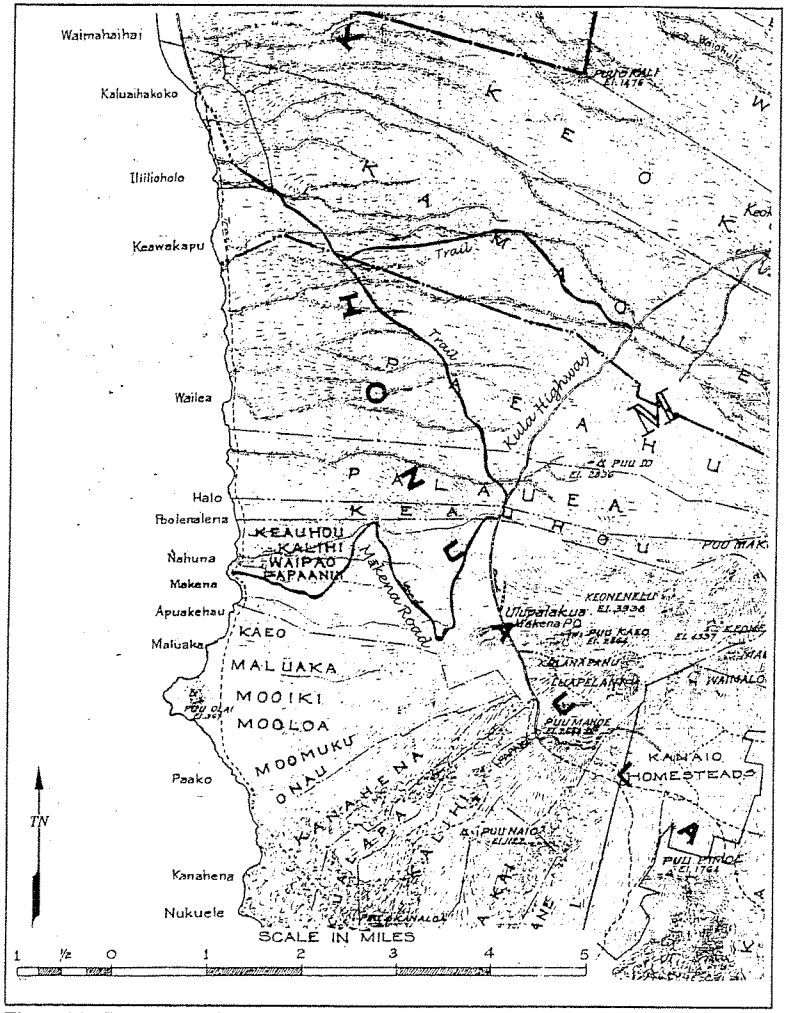

Figure 24: Ca. 1929 Map by W. E. Wall Showing Trail from Kama`ole to the Coast.

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APPENDIX A

Individuals contacted regarding the Kīhei-Upcountry Maui Highway

Individuals contacted regarding the Kīhei-Upcountry Maui Highway:

Name	Residence	Title or Association
Lynn Lee	O`ahu	Office of Hawaiian Affairs
Thelma Shimaoka	Maui	Office of Hawaiian Affairs
Isaac Harp	Maui	Hawaiian Nation Information
Mahealani Davis	Moloka`i	Kula resident
Charles Ke`au	Maui	Kula resident
Marion Kelly	O`ahu	University of Hawai`i, Dept. of Ethnic Studies
Lucíano Minerbi	O`ahu	University of Hawai`i, Dept. of Urban and Regional Studies
Lisa Hamilton	Maui	Maui resident
Art Medeiros	Maui	Ethno-Botanist
Mary Evanson	Maui	Former president of Sierra Club
Elizabeth Russel	Maui	Kula resident
Kathy Riley	Maui	Maui Historical Society
Henry Lau	Maui	Chinese Oral History
Hugh Star	Maui	Real Estate Agent
Melissa Kirkendall	Maui	State Historic Preservation Division
Gaylord Kubota	Maui	Hawai`i Sugar Museum
Marvin Shim	Maui	Kula resident
Holly McEldowny	O`ahu	State Historic Preservation Division
Nathan Nāpokā	O`ahu	State Historic reservation Division
Linda Howe	O`ahu	Sugar Company Public Relations (A&B)
Steve Holiday	Maui	Gen Manager Hawaiian Commercial and & Sugar Company.
Randal Moore	Maui	Hawaiian Commercial & Sugar Company-mapping division
Elliot Krash	Maui	Kula Community Association
Meilani Abihar	Maui	Kamehameha Schools
Daryl Yagodich	O`ahu	Hawaiian Homes Planning Commission
Henry Rice	Maui	Ka`ono`ulu Ranch
M. J. Hardin	Maui	Author, Kula resident
Eric Nakashima	Maui	Kula Community Association
Hokulani Holt-Padilla	Maui	Kaho`olawe Island Reserve Commission
Kala Tau`a	Maui	Kula resident
Barbra Brandt-Fernadez	Maui	Tau`a's friend
Ki`ope Raymond	Maui	Hawaiian Language Teacher, Maui Community College

Camile Lyons	Maui	Haleakalā Ranch
Sonny Manoa	Maui	Paniolo, Haleakalā Ranch
Ed Uweko`olani	Maui	Paniolo, Haleakalā Ranch
Henry Silva	Maui	Paniolo, Haleakalā Ranch
Tony Durso	Maui	`Ulupalakua Ranch
Sumner Erdman	Maui	`Ulupalakua Ranch
Merton Kekiwi	Maui	`Ulupalakua Ranch

Name	**Residence**	**Title or Association**
Dan Purdy	Maui	`Ulupalakua Ranch
Kevin Kihara	Maui	Fong Store, Kula
George Ito	Maui	Pa`ia Plantation Camp
Charles Maxwell	Maui	Cultural Specialist
Laurel Murphey	Maui	Author, historian
Silvia Hunt	Maui	Former records keeper for Maui Pineapple Co.
Doug MacCluer	Maui	Manager, Maui Pineapple Co., Ltd.
Frank Gouveia	Maui	Former employee Maui L. and P. Co.
Ethel Nagata	Maui	Keahua Plantation Camp
Nancy Purdy	Maui	`Ulupalakua-Kula resident
Bob Hobdy	Maui	District Manager, Forestry, Dept. of Land and Natural Resources

APPENDIX B

Interview with Frank Gouveia

Interview with Frank Gouveia August 3, 2000, Hali`imaile, Maui
Conducted by Leann McGerty of SCS, Inc.

Leann: ...I was just over with Sylvia [Hunt, former Records keep of Maui Land Pineapple Company) who lives on your street. I thought that Laura was going to arrive when I was talking to Sylvia. I'm hoping that this is going to start working...[referring to tape recorder]

I would like to ask you a few questions [formally]. Your name please.

Frank: Frank Gouveia and I'm 85 years old. We started working for ten cents an hour and worked for 46 years. I started as a water boy and worked my way up to the department head of transportation.

Leann: Ten cents an hour!...was it six days a week?

Frank: Sometimes six sometimes seven, depending on the pineapples. No overtime.

Leann: So if you worked twelve hours a day you got the same?

Frank: Yes, the same thing.

Leann: Were you born here?

Frank: I was born in Kokomo and raised in Maui.

Leann: What about your family? Are they also here?

Frank: My mother and father came from Madeira, Portugal. When the plantation was looking for workers, they [looked for workers in] went to Portugal. They didn't plan what kind of people they needed to do the work. The people in Madeira did everything from clothing to all kinds of labor, just like here. My grand father, [was a] Gouveia, and I'm [a] Gouveia, rode the sailing boats and vessels and came to Maui. Then they started to work in the plantation.

Leann: Do you know what year that was?

Frank: In the 1880's. That's how the Portuguese came here mostly from there. Mostly working people. Madeira, where my parents came from, is just like West Maui mountain. Right around the island there is blue water. There is two places where you can go to the ocean. The rest is blue water.
You take a basket of grapes and all that up to the road on the top of the mountain. I went there on a bus tour.

Leann: Oh, you went?

Frank: Yes, I went there. The old people never wanted me to go back. They never talked about Portugal.

Leann: Really?

Frank: Yes, once they got here nobody would go back. The only time we would go was when we retired. My wife and I went when I retired. I'm glad that we never looked behind. It took three months to get here and a lot of people died when they originally came here.

Leann: Very difficult. Did you find relatives? [when you went back to Madeira]

Frank: Yes, I did. They thought that they died on the way here. Then we talked about Portugal.

Frank: My father said, you don't have to know about Portugal. I'm glad you're in America.

Leann: Did they speak Portuguese to you?

Frank: I had a hard time because my grandmother was the last one to speak. We understood each other a little bit with English, etc. in between. They said they were poor and worked hard just like us.

Leann: How many brothers and sisters do you have?

Frank: I had sixteen. Five girls and eleven boys.

Leann: Where were you in that?

Frank: I was number eight. We were in a different group. The other group left when we moved to Hali`imaile, the rest all got married or something. We went to Hali`imaile in 1926 or so.

Leann: Where was your family before?

Frank: We lived right across the gym. When you came down, one of the big houses over there [referring to the gym in Hali`imaile]. The house on the hill, we moved into that house. In the meantime we were living in the Grove Ranch.

Leann: What was that, the Grove Ranch?

Frank: It was a big ranch for cattle. Harry Baldwin was the head of the Maui Agriculture of Pa`ia so he had Maui Pine and Sam Baldwin had Haleakalā Ranch and Frank Baldwin had H. C. & S., Puunene. Then Harry broke away from Maui Pine and we broke away from the sugar but he was the head man yet and then his daughter married Walter Cameron. Walter Cameron was brought in by Sam Baldwin out from Haleakalā. Haleakalā pineapples were up there and we were down in this area. All the pineapple would be brought in from Pukalani. This is pineapple here.
Where are we now? Hali`imaile. This is pineapple here and Maui Pineapple Company came up. They combined and became one. Anything above Pukalani and Honolua is owned by the Cameron's.

Leann: What was the pineapple land before? What was it used for?

Frank: It was pastures for Haleakalā Ranch and Grove Ranch and Honolua Ranch, and then pineapple came.

Leann: What about Pukalani?

Frank: It was just pasture land.

Leann: Where is Honolua Ranch? It's up in Kula. (Mr. Gouveia is showing the map to the south of Pukalani).

Frank: The Rice's had a slaughter house and they had a corn [mill] and their headquarters was up in Kula. They had land up there where the government had ____. That was Rice's Ranch. Then pineapple began to take place over here. The Camerons own their own land and Haleakala is owned by the Camerons, too.

Leann: Oh yes, as well as Baldwins?

Frank: Yes. Maui Pine is also Camerons. I think they still own 51% of that and other historical places.

Leann: Oh yes, trails. Were you aware of some old trails that might have gone across the land that somebody told you, "You know what, before this..."

Frank: Yes, Hali`imaile Road. Right up here. This is Pukalani. This is all pineapple field. Right in here there was a trail that went to Sudas place where the wharf was right down through Oma`opio Road. The wharf would be down here. Do you know who used the trail? The Chinese with their cargo and their donkeys and all that and would come to Kīhei. Right here by the wharf.

Leann: And it [the trail] would go all the way down [to the coast]?

Frank: Yes, someplace in the canefield and all that.

Leann: Wow!

Frank: And there is a county road that goes down to it. Then they used to use the Pūlehu Road and other roads to go to Kahului. There was one that came to Kīhei.

Leann: How come they used that road instead of the one more towards `Ulupalakua? [referring to the Old Mākena Road].

Frank: This wharf takes you to Kaho`olawe or Lāna`i. The boat would stop here and Ma`alaea.

Leann: And this is where you would load the sugar?

Frank: No, the sugar would be in Kahului.

Leann: So this would be cattle down there? What I was wondering is why they took that road (the Chinese) instead of the one by Haleakala Ranch but then it would not go to this wharf?

Frank: Some would go to Kahului and go to Lāna`i.

Leann: And even in your time when this road was still being used?

Frank: No. So that was the Chinese road. There were a lot of donkeys. We lived in Kahului when my dad was running the Pu`unēnē Dairy. They unload, go to Kahului and load what they buy, that I remember.

Leann: How long did it take them? It would take them about three hours to go down and three hours to get back?

Frank: Yes, about that.

Leann: Where was the dairy?

Frank: Remember the dairy road? The airport road that goes to Lahaina and that, that's why its called the dairy road because it was right around here.

Leann: I see. What did they do for water in these pineapple fields? Did they have *auwai* or just depended on the rain?

Frank: The rain. We never had ditch irrigation in those days and we had a lot of rain, Kona rains that took care of the dry lands. But today there's no rain so we had to go back to drip irrigation.

Leann: Yes, its been really bad the last couple of years too. What about the pipeline that came in 1905? The Kula pipeline in 1905–was that anywhere near the pineapple land?

Frank: Above. Above the pineapple lands.

Leann: Where did that take water to? The sugar?

Frank: The Kula guys. The forest over there. That's where we get some of our water from. We pick it up from Nahiko-Hana and goes to right above us. The ditch is right above us.

Leann: I see, I see. That would take water to the Kula farmers.

Frank: What they did, they always gave us bad time with water. All these people.

Leann: Still yet, huh?

Frank: But they're showing big improvement...

Leann: I had some questions written down here so the water was rain, ... pineapple was used for grazing and pasture. Did you have anything to do with any of the ranching activities at all?

Frank: No, we'd use some cane land and rotate, but not too much of that.

Leann: Sometimes cane, sometimes pasture... I'm wondering what things happened at different elevations like up here, you have pasture. What about Kīhei? What do they do down there?

Frank: They wait for the Kona rain–November, December, January, February. This would soak them and last for the whole year. They had nice *keawe*, a lot of beans, and it was all pasture land.

Leann: So it was all pasture land.

Frank: So today you only see stones. No grass.

Leann: Well, I'm wondering if there were any–when people wanted to get fish, what do they do, do they go down to Kīhei? Did they go down to Pa`ia?

Frank: People on this side, they go to Pa`ia or Kahului.

Leann: I know that the land was in cane and in ranching over 100 years so many of the stories are gone. They're lost.

Frank: They're lost.

Leann: I'm wondering if you recall anything besides the trail. That was very good information because I didn't know about that trail. Again, any areas that you recall had a special meaning, any caves, you don't even have to know [exactly] where they were–you may say, "I remember in this area there were someinteresting places..."

Frank: Up in the gulches–the pineapple field up in the Homokea there was a big house and guys said they saw artifacts in there. But the water would end up in Kahului. They covered all these streams in Kihei. When the gully up there comes down, it will be trouble.

Leann: There's going to be trouble. The water used to feed the fishponds long ago but not now. They did the same thing in Waikiki...[a brief discussion concerning Waikīkī followed]

Frank: I remember Waikiki in 1940, when I was in the National Guard. We joined in 1940. When we went on maneuver in Waikiki, there were all swamps over there. These Honolulu boys would enter there and we couldn't get to them. We didn't know the streets. All the swampy areas I remember, today has buildings.

Leann: I understand there were some military World War II activities over in this area somewhere. Do you know where that might be?

Frank: That was in Pu`unēnē.

Leann: Which is gonna be in this area [referring to map].

Frank: The army was right in this Pu`unēnē area too. They had a big airport over there. The navy moved their original airport over there. It is now the Kahului airport. The other people were stationed at Haiku.

Leann: So what were they doing? Maneuvers and war games?

Frank: They did go up this area–Kīhei and all that, and practice over there. And they did all that Training practice up in all in that area. Jungle in the Pacific.

Leann: Oh, really, all the way up to Kokomo?

Frank: They went to Hana, and stayed there for three months because we were too much from one area that's...

Tape stops and then picks up.

Frank: ...that is the right many gulches and plenty private lands. This is to deal with the plantations.

Leann: So the main thing you remember of course is this trail that the Chinese used all the way down to Kīhei by Suda Store.

Frank: Suda Store is an old landmark. That is where the wharf used to be. You haven't been to Kihei lately?

Leann: I have been. I go there now and I don't-I don't like it.

Frank: All the big hotels down there, its terrible.

Leann: Terrible, I know.

Frank: The local people had the right of way and these haoles come and close it up.

Leann: Its really too bad because there was such good fishing areas and they're doing the same on the Big Island. They're doing the same in Kona too.

Frank: Kaua`i and the Big Island has to start thinking for their own. You have these people around here run you, you're going to be nothing.

Leann: We're gonna loose all of it. Yes, I agree. I can't think of anything else [to ask] because, as I said, I'm aware that this has been so long in sugar cane and ranching.

Frank: They used to have a lot of villages scattered in this area.

Leann: You mean, the cane [plantation] camp villages?

Frank: Transportation was a hard thing so the villages Keahua, Kekania Camp, and they would have Keahua camp numbers-camp 1, camp 2, camp 3, etc.

Leann: I actually have a list of some of the [plantation] camps that were near this area. Are there people living now in Hali`imaile that used to live in some of the sugar camps?

Frank: I only know some of them-they might be grandchildren living but not the older

people.

Leann: I'm going to go tomorrow and see at Mrs. Nagata, who I guess was in Keohua [plantation camp]. She has a barbershop in Kahului but she was raised in Keohua camp where she lived for a long time.

Frank: Hipako was a big camp where Maui High used to be. It was a very big camp. Pa`a was a big camp too.

Leann: But the pineapple didn't have the camps like the sugar did, yeh?

Frank: We had a little camp in Ha`ikū and we had a little camp up in Kapalua and we started off in a gulch over here-Kaluanui gulch. That's where the first ___ camp started. .

Leann: In the gulch itself?

Frank: That's where the camp first started. It used to be bungalows.

Leann: Which gulch is that?

Frank: Kaluanui. And then they consolidated everybody. We had pineapple and then they moved the whole thing.

Leann: Was this only pineapple people? Or pineapple and sugar people too?

Frank: No just pineapple. Local people stayed over there. Then after the war, sugar people put camps all over. Plantation got to do more modern things-weed killing, H-1, and all that. Kahului was all keawe trees so they made a village out of that and sold them for $7,000 and today they are $3,000 houses and they didn't want to go. They had a problem to move people away from camps.

Leann: Up here is nice and cool. I'd rather be here than Kahului.

Frank: We had a plantation sugar camp right next to us and that would be the thing that would be effecting the ____line. Outstanding things is all out of our hands.

Leann: Do you know where Pu`uoweli is? Is that familiar to you at all?

Frank: No. Maybe they have a different name.

Leann: I don't know...They say the land form Pu`uoweli translated as "hill of fear". I looked at my [modern] map and I couldn't find it but ...

Frank: Kiholu [Pi`iholo?] is way up here by Makawao.

Leann: Kiholu, do you know what that means? Do you hear any stories about it?

Frank: No. These people from the mainland come here with the number of the streets and the name and all that and they find the place. People here say, turn right, turn left, etc.

Leann: It's because we live by landmarks. I know...

Frank: Yes. I have a daughter that works in the Ha`ikū Post Office. They say "...how long more are we going to get to Lahaina? You gotta go down the other way... [back around through Kahului].

Leann: Oh, no!

Frank: Then you get some bad people that say you take this road and go right to Lahaina.

Leann: I guess they do...

Frank: All these young people that moved because of too much rain, they go there and they like it and they're building houses. They like that. They call it "valley", we called it "gulches".

Leann: There was a big Portuguese community here then. How big a community was it? Do you remember? Do you how old?

Frank: Yes, lots of standard houses. My cousin came here and moved to Pā`ia. Some of them stayed in Pā`ia and my grandfather worked for the sugar. So his house was close to the water where they start ditches to get water. My father live in ___ where we always went. And then we moved to Olinda when they opened Homestead land. That's when we went to Kahului about 1930 and then we came back up. Makawao was a big Portuguese town.

Leann: It wasn't just ranching?

Frank: Most ranches were small ranches I think they had a two year contract and after they finished that, where would they go? Up there. Like Madeira over there. H Coco was a big Portuguese camp, and Pu`unēnē had a lot of Portuguese, Wailuku had the rich Portuguese. Big businessmen, and all the big guys. Those were the businessmen. Actually all businessmen, they went into merchants.

Leann: Did all of the Portuguese men come from Madeira?

Frank: Yes, several different islands–600 miles from Portugal. I have a sketch like this. But their on the same equator right?

Leann: So this was like home to them.

Frank: Yes, everything is the same. You walk down the street and you say, "Damn, I know this guy". I gotta know this guy, he look a Decoites, he looks like a Santos and could be. Then the old people wear white shirt and black pants. The ladies would wear dresses and the girls started to wear slacks. For the first time they dressed like that, and I had to talk to them.

Leann: Do you still speak Portuguese?

Frank: I can understand if they talk but sometimes you meet some tourist and they say they're Portuguese and they start talking to me. But they speak Portuguese on the mainland more than they do in Hawai`i. I can see why the people didn't want to tell us off–because the king over there at that time. What we have here its over there–coffee, potatoes, tomatoes everything that we have here, came from there. I like to see these young Portuguese boys throw 'em back to them.

Leann: It's a different way of life. Is that a picture of your mother and father?

Frank: Yes, it is. This one is my wife's mother. This came from Portugal, my grandfather and grandmother. My grandmother outlived my grandfather. That's how they were dressed when they came from Portugal.

Leann: Oh my, that's wonderful.

Frank: All the Castros, not too many of them have a long life, but the Gouveias have long life. I have three brothers that died back home and they didn't reach 70. My father lived until 81, my aunty lived until 100 and 6 months, another aunty until 98. I had a sister that lived until 94.

Leann: [Its] the genetics–something genetic. Do they still live here? [referring to his brothers and sisters]

Frank: No, they're all gone. There's only four of us left, one sister and three brothers.

APPENDIX J

Botanical Screening Reconnaissance Study

Botanical Survey

Additional Botantial Surveys -- U2-A and U2-B Alignments

BOTANICAL SCREENING RECONNAISSANCE STUDY
KIHEI-UPCOUNTRY MAUI HIGHWAY ALTERNATIVE ALIGNMENTS

by

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March 1996

BOTANICAL SCREENING RECONNAISSANCE STUDY
KIHEI-UPCOUNTRY MAUI HIGHWAY ALTERNATIVE ALIGNMENTS

INTRODUCTION

On 28 December 1995, a helicopter flyover was made along the corridors of the alternative alignments for the Kihei-Upcountry Maui Highway project. Accompanying the botanical investigator were David Atkin and Deneitra Hutchinson, Parsons Brinckerhoff representatives working on the project. Windward Aviation, Inc., provided the helicopter service.

The primary objectives of the aerial reconnaissance were to identify the general vegetation types along the alternative alignments and to search for sensitive areas which might harbor native plant communities, that is, lowland dry forests and shrublands. In general, these native plant communities tend to be associated with the stonier soils and the more rugged topographical features such as steep-sided gulches, large rocky outcroppings, and pu'us where grazing animals are less likely to visit. An important component of these lowland communities is wiliwili (Erythrina sandwicensis), an endemic member of the legume family. The distinct branching pattern and orange-yellow colored bark of the wiliwili is easily picked up from the air. Thus, most areas with native plant communities can be quickly identified by looking for this indicator species.

Alternative alignments which support native plant-dominated communities are identified and the rationale for eliminating them is discussed. For the remaining alternatives, a comparative ranking is provided.

RESULTS

The plant names used in the following discussion are in accordance with the most recent treatment of the Hawaiian flora by Wagner et al. (1990).

Uncultivated Lands

Three broad bands of vegetation can be recognized on the uncultivated slopes of this portion of Haleakala, their distribution influenced primarily by rainfall, substrate type, and human activities.

From Pi'ilani Highway and upslope to about the 1,500-foot elevation contour, the vegetation consists of an open forest composed of kiawe trees (Prosopis pallida). Buffel grass (Cenchrus ciliaris) is the most abundant ground cover with the amount of grass cover varying with the season, i.e. rainy vs. dry. This vegetation type occurs where there is soil, although shallow and stony. Annual rainfall is about 15 to 20 inches in these areas.

Scattered through the kiawe forest are areas with 'a'a lava flows; these are mapped as "Very Stony Land" (rVS) on the soil maps (Foote et al. 1972). These very stony lands support large stands of wiliwili trees and other native species. Alternatives 6A and 6B cross over a portion of the large 'a'a flow around Pu'u o Kali. Two listed endangered species, the ko'oloa'ula (Abutilon menziesii) and ma'o hau hele (Hibiscus brackenridgei), and two candidate 2 endangered species, the 'awikiwiki (Canavalia pubescens) and koaia (Acacia koaia), are known from the dry forest on this 'a'a flow (U.S. Fish and Wildlife Service 1994a, 1994b). Alternative 7 crosses a large flow also identified as "rVS" on the soil maps. A small portion of the flow was surveyed for the Maui Wailea 670 project (Char and Linney 1988), and plants of the 'awikiwiki as

well as maiapilo or the Hawaiian caper (Capparis sandwichiana), a candidate 2 species, were found. The occurrence of other listed and candidate endangered species on this flow are likely to be very high.

Above the 1,500-foot contour, the vegetation changes to an open scrub community composed of patches of lantana (Lantana camara) and panini cactus (Opuntia ficus-indica) with scattered kiawe trees. A mixture of various grass species and smaller, mostly weedy species fills in the matrix between the woody components (Char 1994).

At about the 2,000-foot elevation contour to just above the Kula Highway, the vegetation changes to kikuyu grass (Pennisetum clandestinum)-dominated pastures interspersed with large blocks of black wattle (Acacia mearnsii) forest. Smaller stands of various Eucalyptus species are also common. The soils in this area are deeper and rainfall increases to about 30 inches per year.

Cultivated Lands

Portions of Alternatives 1 to 4A and 4B as well as Alternative 8 will cross over actively cultivated sugar cane (Saccharum officinarum) and pineapple (Ananas comosus) fields. A few smaller vegetable and flower farms may also be within or close to these alignment corridors.

RECOMMENDATIONS

Alternatives Recommended for Elimination

Alternatives 6A, 6B, and 7 will cross over sensitive native lowland forests dominated by wiliwili trees. On Alternatives 6A and 6B, two listed and two candidate 2 endangered species are

known from the lava flow around Pu'u o Kali. Two candidate 2 species are known from a portion of the 'a'a flow along Alternative 7, and it is highly likely that this flow also harbors other endangered plants.

Besides the direct impact of the construction itself on these dry forests, there are a number of indirect impacts which include the increased chance of fires with more human activity in the area, pollution from petrochemical products, and an increased chance of invasion by weedy alien species. Many of these dry forests also provide habitat for native invertebrates, primarily insects, some of them candidate endangered species.

If Alternatives 6A, 6B, and 7 are considered, the U.S. Fish and Wildlife Service as well as the State's Division of Forestry and Wildlife would require a review of the possible impacts and long-term mitigation measures, including a fire plan. A Section 7 Consultation and a biological assessment will be required if the project involves Federal funding. These requirements would increase the cost and time of completion for the proposed highway.

Comparative Ranking of Remaining Alternatives

From a botanical perspective, Alternatives 1 to 5 and 8 are the least likely to have a significant negative impact on the native botanical resources. These alignments cross over vegetation types dominated by introduced or alien species such as kiawe, buffel grass, black wattle, kikuyu grass, panini, etc., and actively cultivated agricultural lands. There are no 'a'a lava flows ("rVS") mapped along these alignments.

A comparative ranking among these alternatives, with justification, is presented below. The alternatives are arranged numerically with "1" being the most preferred and "5" the least preferred.

Rank	Alignment	Rationale
1	Alt. 1	Both Alternatives 1 and 2 cross kiawe forest with buffel grass along their lower sections. The remaining portions cross actively cultivated sugar cane fields. These fields do not support rare or endangered species and sensitive native plant communities. Portions of the kiawe forest appear to have been burned at one time.
1	Alt. 2	
1	Alt. 8	This alternative will remove the most cultivated lands. Because most of this corridor is cultivated or disturbed, it is very unlikely to support any rare or endangered species and sensitive native plant communities.
2	Alt. 3	This alternative crosses kiawe forest with buffel grass and disturbed and cultivated lands from Omaopio Road to Pukalani. Portions of the kiawe forest appear to have been burned at one time.
3	Alt. 4B	Both 4B and 4A cross kiawe forest with buffel grass and open scrub which has long been used for grazing cattle and horses. Thus, there is little native vegetation left, primarily in the larger, deeper gulches. A higher ranking is given 4B as it passes through some disturbed, weedy areas below the reservoir and portions of the kiawe forest along its lower corridor appear to have been burned at one time.
4	Alt. 4A	
5	Alt. 5	This alternative crosses kiawe forest and scrub vegetation as well as several fairly large and deep gulches. Near its Kula Highway terminus, the alignment corridor is fairly narrow (there are more developed areas then is shown on topographic map). If rare plants or archaeological features are present, it may be difficult to avoid them.

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BOTANICAL SURVEY

KIHEI/UPCOUNTRY MAUI HIGHWAY

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SUMMARY

Field studies to assess the botanical resources found on the proposed Kihei/Upcountry Maui Highway alternative termini and alignment segments were conducted in January and February 1997 by a team of three botanists. The termini and centerline for the alignment segments were staked and flagged prior to the botanical field studies. A corridor 200 feet wide, that is, 100 feet on each side of the centerline, was surveyed. Where the alignment segment crossed over a large gulch, then a corridor 500 feet wide was surveyed. Remnant populations of native plants are more likely to occur on steep, inaccessible areas such as gulch walls and rocky outcroppings away from agricultural disturbances and out of the reach of grazing animals.

Actively cultivated lands occur on the upper elevation portions of the alignments. Sugar cane fields and their associated network of canehaul roads and irrigation systems are found primarily on Segment A and the lower portion of Segment B. Pineapple fields are found along portions of Segments B, C, and D. A portion of Segment C crosses through the Kula Agricultural Park near Pulehu Road.

Uncultivated lands through which the alignments pass are covered primarily by a kiawe/buffelgrass association. Kiawe trees (Prosopis pallida), native to tropical America, and buffelgrass (Cenchrus ciliaris), native to Africa and tropical Asia, are the dominant components of this vegetation type. The kiawe/buffelgrass association occurs along all of Segments E and F, and along the greater length of Segments C and D. The remaining smaller sections of uncultivated lands support Kikuyu (Pennisetum clandestinum)/ mixed grass pasture lands (Segments B and C), and gulch vegetation.

Gulch vegetation is found along all of the segments where they cross large, steep-walled gulches such as Waiakoa, Pulehu, and Kalialinui gulches. Most of the uncultivated lands are used for grazing cattle and horses.

One population of the endangered ko'oloa'ula (Abutilon menziesii), a member of the mallow or hibiscus family, is known from Kalialinui Gulch. Three small clusters of plants are found between 690 and 750 feet elevation. None of the plants occur on the alignment segments; Segment A crosses Kalialinui Gulch high above the ko'oloa'ula population at about the 840-foot contour.

Almost all of the vegetation on the proposed termini and alignment segments is composed of introduced or alien plant species. Introduced species are all those plants which were brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact, i.e. Cook's discovery of the islands in 1778. A total of 173 plant species were recorded during the field studies. Of these, 153 (88%) are introduced species; 4 (2%) are originally of early Polynesian introduction; and 16 (10%) are native. Of the natives, 8 are indigenous, that is, they are native to the Hawaiian Islands and also elsewhere. Eight species are endemic, that is, they are native only to the Hawaiian Islands. The 8 endemic species are the kumu niu fern (Doryopteris decipiens), nehe (Lipochaeta rockii), Sicyos hispidus, wiliwili (Erythrina sandwicensis), nama (Nama sandwicensis), pua kala (Argemone glauca), Panicum pellitum, and kakonakona (Panicum torridum).

None of the plants found during the survey is a listed, proposed, or candidate threatened and endangered species; nor is any plant a species of concern. There are no areas on or adjacent to the termini and alignment segments which support sensitive native plant-dominated communities.

None of the alternative termini and alignment segments are "more favorable" or "least favorable" from a botanical perspective. Use of any of the termini and alignment segments for the construction of the proposed highway is not expected to have a significant negative impact on the botanical resources. However, there is some concern for fires and soil erosion. Segments which cross the kiawe/buffelgrass association should have wide, gravel-lined shoulders. This vegetation type is especially fire-prone during the dry summer months. On the upper elevation portions of the proposed highway where it is wetter and the topography somewhat steeper, areas cleared of vegetation during construction should be revegetated as soon as possible to prevent soil loss.

Where landscaping is needed, it is recommended that native trees and shrubs be considered. These plants are already adapted to the local growing conditions and would require less water and soil amendments. Some native species which could be used include wili-wili (these occur naturally in some of the larger gulches along the alignment segments); naio (Myoporum sandwicense) -- a glossy, dark green shrub with fragrant white flowers; nehe -- a member of the daisy family (it occurs on Segment C); 'ilima (Sida fallax) -- a small shrub with bright orange flowers and used in landscaping; and 'akia (Wikstroemia uva-ursi) -- a low, mat-forming shrub and excellent ground cover already in use for landscaping. The Maui Native Plant Society and the Division of Forestry and Wildlife's Na Ala Hele program should be contacted for additional suggestions for planting as well as planting material.

BOTANICAL SURVEY
KIHEI/UPCOUNTRY MAUI HIGHWAY

INTRODUCTION

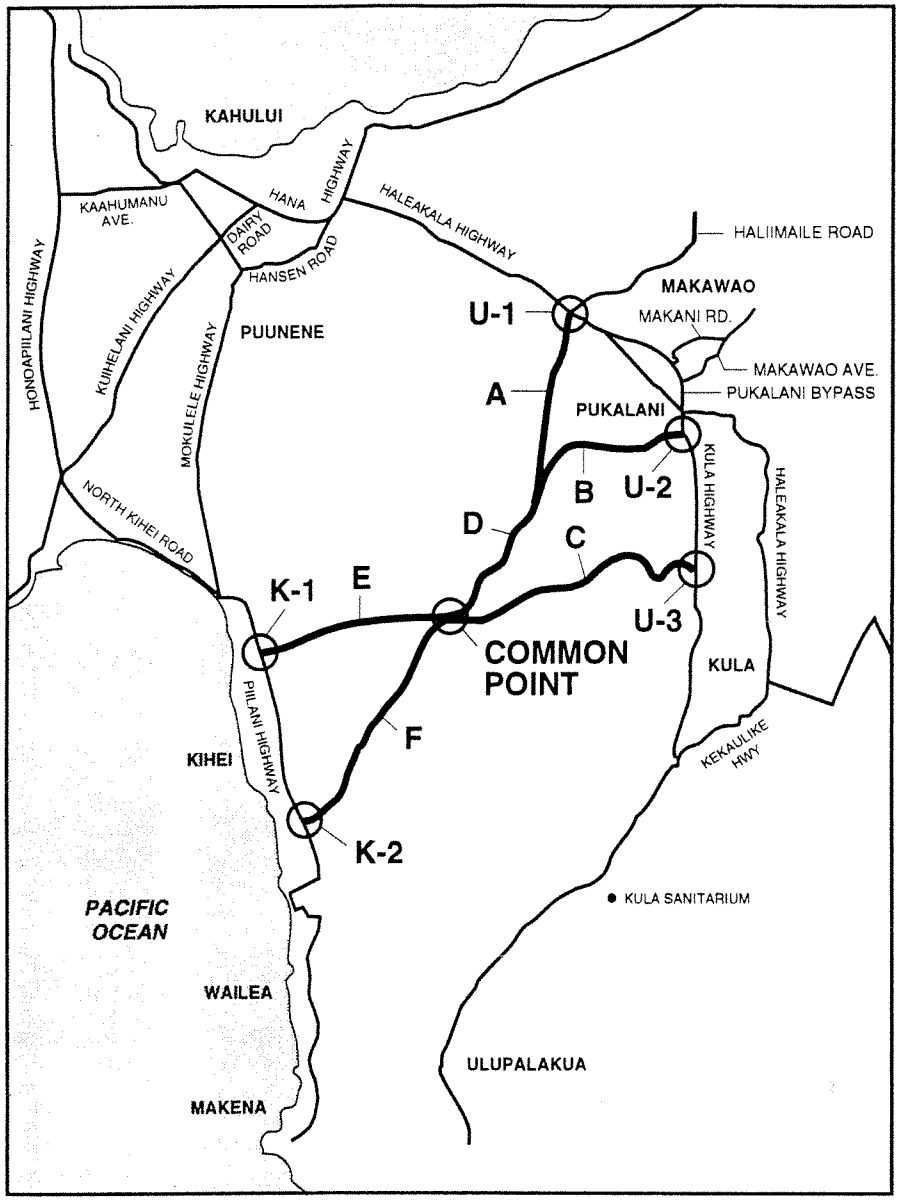
A four-lane highway which would link Kihei and Upcountry Maui is being proposed. Three termini are being studied for the proposed Upcountry portion and two termini are being considered for the Kihei portion. A total of six alternative alignments made up of six segments, Segments A through F, are being evaluated (Figure 1).

Field studies to assess the botanical resources found on the alternative termini and alignment segments of the proposed Kihei/Upcountry Maui Highway were conducted by a team of three botanists. The field studies were made on 07 to 10 January, 10 to 14 February, and 26 February 1997. The primary objectives of the botanical studies were to:

1) provide a general description of the vegetation types found on the alternative termini and alignment segments;
2) inventory the flora;
3) search for threatened and endangered species as well as species of concern; and
4) identify areas of potential environmental problems or concerns and propose appropriate mitigation measures.

SURVEY METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Topographic maps as well as black and white aerial photographs with the alignments plotted on them were examined to determine



Location of Alternative Termini and Alignment Segments
KIHEI-UPCOUNTRY MAUI HIGHWAY
Botanical Survey
FIGURE 1

vegetation cover patterns, terrain characteristics, access, boundaries, and reference points.

The termini and centerline for the alignment segments were staked and flagged prior to our field studies. The survey work was conducted in January and February 1997 during the wet (rainy) season. A corridor 200 feet wide, that is, 100 feet on each side of the centerline was surveyed. Where the alignment crossed a large gulch, a corridor 500 feet wide was surveyed. A walk-through survey method was used. Notes were made on plant associations and distribution, substrate types, drainage, exposure, disturbances, topography, etc. Plant identifications were made in the field; plants which could not be positively identified were collected later determination in the herbarium (University of Hawai'i, Manoa -- HAW), and for comparison with the taxonomic literature. The less disturbed, steeper gulch walls, rocky outcroppings, and uncultivated lands were more intensively surveyed than the cultivated areas as these portions of the alignments were more likely to harbor sensitive native plant communities and rare plants.

DESCRIPTION OF THE VEGETATION

Actively cultivated lands occur on the upper elevation portions of the alignments. Sugar cane fields are found primarily on Segment A and the lower portion of Segment B. Pineapple fields are found along portions of Segments B, C, and D. Part of Segment C crosses through the Kula Agricultural Park near Pulehu Road.

Uncultivated lands through which the alignments pass are covered largely by a kiawe/buffelgrass association; this vegetation type occurs along all of Segments E and F, and along the greater length of Segments C and D. The remaining smaller sections of uncultivated lands support Kikuyu/mixed grass pasture lands (Segments B and C), and gulch vegetation. Gulch vegetation is

found along all of the alignment segments where they cross large, steep-walled gulches. The majority of the uncultivated lands are used for grazing cattle and horses.

A more detailed description of the vegetation types is presented below. An inventory of all the plant species observed on the alternative termini and alignment segments during the field studies is found at the end of the report.

Cultivated Lands

Fields of sugar cane (Saccharum officinarum) along with their accompanying network of canehaul roads and irrigation systems cover the majority of the cultivated lands. Sugar cane fields are found along the entire length of Segment A and the lower portion of Segment B. The fields can be found in various stages of cultivation, ranging from bare recently harvested fields to open, low stands of young cane, 2 to 3 feet tall, to closed, very dense, mature stands of cane 12 to 15 feet tall. Sugar cane fields are found on soils of the Waiakoa-Keahua-Molokai association; these are deep to moderately deep, nearly level to moderately steep, well-drained soils that have a moderately fine textured subsoil. This soil association occurs on the low uplands of Maui (Foote et al. 1972).

Pineapple fields are found along portions of Segments B, C, and D on soils of the Waiakoa-Keahua-Molokai association. The rows of pineapple (Ananas comosus), following along the contour of the land, form a rather harsh, gray-green colored vegetation cover up to 3 feet tall. Like the sugar cane fields, the pineapple fields can also be found in different stages of cultivation.

A portion of Segment C crosses through Kula Agricultural Park

which supports small agricultural lots which produce a number of crops for the local market; these include green onions (Allium fistulosum), broccoli (Brassica oleracea var. botritis), banana (Musa X paradisiaca), Maui onions (Allium cepa), edible-podded pea (Pisum sativum var. macrocarpa), etc. Plant nurseries which offer potted ornamental as well as cut foliage and flowers are also found on the agricultural park. No inventory was made of the cultivated species on this portion of the study area.

The actively cultivated fields themselves tend to support only a few weedy species. The majority of the weedy plants associated with agricultural lands are found adjacent to the fields, that is, along the margins of the fields, along and on the dirt roads, on rock and debris piles, along irrigation ditches and reservoirs, and other areas which are only occasionally disturbed. These sites are sometimes treated with herbicides to control the weedy growth.

This weedy association of plants is composed primarily of grasses and annual, herbaceous species. The weedy assemblage of plants found in the sugar cane fields are similar to those found in the pineapple fields and the agricultural park. Frequently observed species include Guinea grass (Panicum maximum), swollen fingergrass (Chloris barbata), nutgrass (Cyperus rotundus), garden spurge (Chamaesyce hirta), smooth rattlepod (Crotalaria pallida), spiny amaranth (Amaranthus spinosus), buffel grass (Cenchrus ciliaria), and little bell (Ipomoea triloba). Along the irrigation ditches and reservoirs, a few species which prefer a wetter environment are found; these include honohono (Commelina diffusa), Leptochloa uninervia, primrose willow (Ludwigia octovalvis), California grass (Brachiaria mutica), and the ho'i'o fern (Diplazium esculentum).

Kiawe/Buffelgrass Association

This vegetation type is dominated by two introduced or alien plant species. Kiawe (Prosopis pallida), native to tropical America, was first introduced into the Hawaiian Islands in 1828 and now is the dominant component of the vegetation in low elevation, dry, disturbed sites on all of the main islands (Wagner et al. 1990). The seeds are very hard and pass through the digestive tract of livestock, and have thus been quickly and widely spread. Buffelgrass (Cenchrus ciliaris) is native to Africa and tropical Asia. It was first observed in 1932 on the island of Hawai'i. Today, it is common to abundant in dry areas in a wide variety of disturbed habitats.

The kiawe/buffelgrass association forms the major plant cover on the uncultivated lands. It covers all of Segments E and F, and major portions of Segments C and D. The soils generally belong to the Waiakoa-Keahua-Molokai association, but in many places contain the stonier variants of these soil types. For example, along the lower portions of Segments E and F, the substrate is Waiakoa extremely stony silty clay loam, 3 to 25% slopes, mapped as "WID2" on the soil maps (Foote et al. 1972). Thin soils over fragmental 'a'a belonging to the Keawapuka-Makena association and the Kamaole-Oanapuka association are also found in the areas with this vegetation type.

Typically, the physiognomy is of an open canopy forest with dense grass cover filling in the matrix between the trees. Tree canopy cover is 30 to 60%, but tends to be somewhat denser in small gullies and low lying areas where runoff may accumulate during the rainy season. The trees vary in height from 12 to 40 feet tall, with most trees around 25 to 30 feet tall. In most places, buffelgrass forms dense, almost monodominant, clumping mats, 2 to

3 feet tall. On the stonier soils, buffel grass cover is reduced and patchy with a number of other, mostly annual, species common to abundant. These include peppergrass (Lepidium virginicum), burgrass (Tragus berteronianus), allseed (Polycarpon tetraphyllum), feather fingergrass (Chloris virgata), maile hohono (Ageratum conyzoides), wild zinnia (Zinnia peruviana), and pitted beardgrass (Bothriochloa pertusa).

There are a few minor variants of this vegetation type. Around water troughs and the larger, shadier kiawe trees where the cattle and horses tend to congregate and rest, peppergrass, Lepidium oblongum, cheeseweed (Malva parviflora), feather fingergrass, 'aheahea (Chenopodium murale), stinkgrass (Eragrostis cilianensis), and apple of Peru (Nicandra physalodes) are locally abundant. Along portions of Segments E and F, the kiawe trees become widely spaced and klu (Acacia farnesiana) shrubs, 3 to 6 feet tall, form large, open thickets.

Along the middle portion of Segment C, from where it crosses Waiakoa Gulch and upslope to the pineapple fields at about the 1,400-foot contour, panini cactus (Opuntia ficus-indica) is codominant with kiawe and buffelgrass. Panini forms dense prickly stands, 9 to 15 feet tall and 20 to 30 feet wide; the cactus cover is about 15 to 20%. The substrate is loose fragmental 'a'a and small boulders with a dense cover of buffelgrass. Surveying through this area is somewhat hazardous as the loose substrate can cause one to easily fall into a cactus patch. Large rock outcroppings in this area support a few native species such as 'ilima (Sida fallax) -- which is locally abundant, kumu-niu fern (Doryopteris decipiens), nehe (Lipochaeta rockii), Sicyos hispidus, and ilie'e (Plumbago zeylanica).

Along the lower portions of Segments E and F, where they join Pi'ilani Highway (K1 and K2 termini), there is evidence of past

fires. Burnt snags (standing dead) of kiawe trees are frequent and tree cover is more open, about 20 to 30% cover. In places, there are young saplings of kiawe, 1 to 4 feet tall, regenerating. Feather fingergrass forms extensive patches in the areas which have been recently burned.

Kikuyu/Mixed Grass Pasture Land

This vegetation type occupies only a small portion of the study site where it is found on the U2 terminus and along the upper portion of Segment B. Kikuyu grass (Pennisetum clandestinum), native to tropical Africa, is an excellent pasture grass which forms a thick, low, greenish-yellow colored mat. Other grasses which occur here in scattered patches or clumps include Rhodes grass (Chloris gayana), pitted beardgrass, Natal redtop (Melinis repens), Guinea grass, Bermuda grass (Cynodon dactylon), and buffelgrass. In places, Rhodes grass and pitted beardgrass may be locally abundant, that is, they form large, extensive patches.

This portion of the study site is at a higher elevation and is cooler and wetter. A number of species which prefer these cooler, moister conditions were found only in this vegetation type. These include fennel (Foeniculum vulgare), Childing pink (Petrorhagia velutina), Spanish clover or ka'imi (Desmodium incanum), rat tail fescue (Vulpia myuros), and narrow-leaved plantain (Plantago lanceolata). Scattered here and there throughout the pasture land are small stands of trees and shrubs which include silk oak (Grevillea robusta), Christmas berry (Schinus terebinthifolius), jacaranda (Jacaranda mimosifolia), klu, black wattle (Acacia mearnsii), lantana (Lantana camara), and pepper tree (Schinus molle).

A variant of this vegetation type is found on Segment C, between the Kula Agricultural Park and the pineapple fields which begin at about the 2,000-foot contour. In this area, the pasture land contains scattered trees of kiawe and silk oak. Large patches of panini cactus are abundant. Glycine wightii, a climbing legume introduced as a fodder plant, is also abundant. Buffel grass and pitted beardgrass form extensive mats while Kikuyu grass is restricted to swale areas and small drainageways.

Gulch Vegetation

The aligment segments cross six major gulches: Kalialinui, Pulehu, Kalaloa, Waiakoa, Kulanihako'i, and Waipu'ilani Gulches, as well as several, smaller unnamed gulches. Where Kalialinui Gulch and Pulehu Gulch pass through the sugar cane fields, they are fenced and used for grazing.

The smaller, shallower gulches do not support a wide range of species and are dominated primarily by buffelgrass, Guinea grass, green panicgrass (Panicum maximum var. trichoglume), small thickets of koa haole shrubs (Leucaena leucocephala), and scattered kiawe trees.

Along the bottoms of the larger gulches and on the less steeply sloping gulch walls, scattered stands of kiawe, Chinaberry (Melia azedarach), and the native wiliwili (Erythrina sandwicensis) trees are found. Trees of Java plum (Syzygium cumini), kukui (Aleurites moluccana), silk oak (Grevillea robusta), and Chinese banyan (Ficus microcarpa) are also found in Kalialinui Gulch, the largest gulch within the study area. Shrubs commonly found in these large gulches include koa haole, lantana, Christmas berry, and the native 'ilie'e (Plumbago zeylanica).

Ground cover is composed primarily of buffelgrass, Guinea grass, and green panicgrass. Because these large, deep gulches are shaded during part of the day and provide a moister habitat, they support a rich assortment of species. These include lion's ear (Leonotis nepetifolia), petty spurge (Euphorbia peplus), castor bean (Ricinus communis), four-o'clock (Mirabilis jalapa), hairy abutilon (Abutilon grandifolium), Galinsoga parviflora, oriental hawksbeard (Youngia japonica), staggerweed (Stachys arvensis), Jimson weed (Datura strumonium), etc.

Scattered clumps of plants are found on the steep, almost perpendicular gulch walls. Large, succulent rosettes of sisal (Agave sisalana) and Mauritius hemp (Furcraea foetida) are occasionally observed on many of the gulch walls. The native 'a'ali'i shrub (Dodonaea viscosa) is found on the walls of Kalialinui Gulch. Other native species which can found on the steep gulch walls are 'ilie'e, 'ilima, kumu-niu fern, wiliwili, koali 'awa (Ipomoea indica), 'uhaloa (Waltheria indica), and popolo (Solanum americanum).

THREATENED AND ENDANGERED SPECIES

One small population of the endangered ko'oloa'ula shrub (Abutilon menziesii) is known from Kalialinui Gulch (Wagner et al. 1990; U.S. Fish and Wildife Service 1995).

The ko'oloa'ula is a member of the mallow or hibiscus family (Malvaceae). It is a much branched, rounded shrub up to 9 feet tall. The coarsely-toothed, heart-shaped leaves as well as the young branches are covered by a velvety, silvery, stellate pubescence. The pendent, solitary flowers are medium red to dark red (maroon) and about 0.8 inch across. The fruit is a hairy capsule, and five to eight-parted, usually with three seeds per cell. Extant populations of the ko'oloa'ula are known from

Lana'i (near Pu'u Mahanalua and north of Kaumalapau Road); Hawai'i (Puako, South Kohala); O'ahu ('Ewa plain); and Maui (Pu'u o Kali and Kalialinui Gulch).

The Kalialinui Gulch population is made up of three small clumps of plants at elevations between 690 to 750 feet on red soils. Segment A which crosses the nearest to the ko'oloa'ula population is found at the 840-foot contour, well above the endangered plants.

DISCUSSION AND RECOMMENDATIONS

All of the vegetation types recognized on the alternative termini and alignment segments are dominated by introduced species. Sugar cane fields cover the majority of the cultivated lands, that is, all of Segment A, a small portion of Segment B, and the U1 terminus. Pineapple fields and the Kula Agricultural Park make up the remaining cultivated lands. Pineapple fields are found along Segments B, C, and D, and on the U3 terminus. The agricultural park is found on Segment C.

Uncultivated lands are covered largely by a kiawe/buffelgrass association. This vegetation type covers the greatest area throughout all of the study site. It is found on the K1 and K2 termini, on all of Segments E and F, and along the majority of Segments B and C. Kikuyu/mixed grass pasture land is found on the upper elevation sections of Segments B and C, and on the U2 terminus. Gulch vegetation is found where the segments cross several gulches, some of them large and steep-walled. Most of the uncultivated lands are used for grazing cattle and horses. The lower elevation portions of the kiawe/buffelgrass association also show evidence of past fires.

A total of 173 plant species were recorded during the field

studies. Of these, 153 (88%) are introduced species; 4 (2%) are originally of Polynesian introduction; and 16 (10%) are native. Of the natives, 8 are indigenous, that is, they are native to the Hawaiian Islands and also elsewhere. Eight species are endemic, that is, they are native only to the Hawaiian Islands. The 8 endemic species are the kumu-niu fern (Doryopteris decipiens), nehe (Lipochaeta rockii), Sicyos hispidus, wiliwili (Erythrina sandwicensis), nama (Nama sandwicensis), pua kala (Argemone glauca), Panicum pellitum, and kakonakona (Panicum torridum).

None of the plants found during the survey is a listed, proposed, or candidate threatened and endangered species; nor is any plant a species of concern (U.S. Fish and Wildlife Service 1992, 1997a, 1997b). There are no areas on or adjacent to the termini and alignment segments which support native plant-dominated communities (Gagne' and Cuddihy 1990; Hawai'i Heritage Program 1994).

None of the alternative termini and alignment segments is "more favorable" or "least favorable" from a botanical perspective. Use of any of the termini and alignment segments for the construction of the proposed Kihei/Upcountry Maui Highway is not expected to have a significant negative impact on the botanical resources. The vegetation on the alternative termini and alignment segments is dominated by introduced species and there are no rare plants on or adjacent to the proposed project. However, there is some concern for fires and soil erosion. Segments which cross the kiawe/buffelgrass association should be designed with wide, gravel-lined shoulders. This vegetation type is especially fire-prone during the dry summer months. On the upper elevation portions of the proposed highway where it is wetter and the topography somewhat steeper, areas cleared of vegetation during construction should be revegetated as soon as possible to prevent soil loss.

Where landscaping is needed, it is recommended that native trees

and shrubs be considered. These plants are already adapted to the local growing conditions and would require less water and soil amendments. Some native species which could be used include wiliwili (these occur naturally in some of the larger gulches along the alignment segments); naio (Myoporum sandwicense) -- a glossy, dark green shrub with fragrant white flowers; nehe -- a shrubby member of the daisy family (it occurs on Segment C); 'ilima -- a small shrub with bright orange flowers and used in landscaping; and 'akia (Wikstroemia uva-ursi) -- a low, mat-forming shrub which is an excellent ground cover and already in use for landscaping. The Maui Native Plant Society and the State Division of Forestry and Wildlife's Na Ala Hele program should also be contacted for additional suggestions for planting as well as planting material.

PLANT SPECIES LIST -- Kihei/Upcountry Maui Highway

The following checklist is an inventory of all the plants observed on the alternative termini and alignment segments during the field studies. The plants are arranged alphabetically by families within each of three groups: Ferns, Dicots, and Monocots. The taxonomy and nomenclature of the Ferns are in accordance with Lamoureux (1988), while the flowering plants, Dicots and Monocots, follow Wagner et al. (1990).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following symbols are used:
   - E = endemic = native only to the Hawaiian Islands.
   - I = indigenous = native to the Hawaiian Islands and also elsewhere.
   - I? = questionably indigenous = data not clear if dispersal by natural or human-related mechanisms, but weight of evidence suggests probably indigenous.
   - P = Polynesian = plants originally of Polynesian introduction prior to Western contact, that is, Cook's discovery of the Hawaiian Islands in 1778.
   - P? = questionably Polynesian = may be a Polynesian introduction or possibly introduced in historical times (after 1778).
   - X = introduced or alien = all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact.
   - X? = questionably introduced = date of introduction unclear or very early, may possibly be indigenous or of Polynesian introduction.
4. Presence (+) or absence (-) of a particular species within each of four vegetation types recognized within the study area (see text for discussion):
   - c = Cultivated Lands
   - k = Kiawe/Buffelgrass Association
   - m = Kikuyu/Mixed Grass Pasture Land
   - g = Gulch Vegetation

Scientific name	Common name	Status	Vegetation type c	k	m	g
Foeniculum vulgare Mill.	fennel	X	-	-	+	-
ASCLEPIADACEAE (Milkweed family)						
Asclepias physocarpa (E. Mey.) Schlechter	balloon plant	X	+	-	-	+
ASTERACEAE (Daisy family)						
Ageratum conyzoides L.	maile hohono	X	+	+	+	+
Bidens alba var. radiata (Schultz-Bip.) Ballard ex Melchert	white-flowered bidens	X	+	-	-	+
Bidens cynapiifolia Kunth	West Indian beggar's tick	X	-	-	-	+
Bidens pilosa L.	Spanish needle, ki, ki nehe	X	+	+	+	+
Calyptocarpus vialis Less.	hierba del cabello	X	+	-	-	-
Centaurea melitensis L.	Napa thistle, yellow star thistle	X	-	+	-	+
Cirsium vulgare (Savi) Ten.	bull thistle	X	+	-	+	+
Conyza bonariensis (L.) Cronq.	hairy horseweed, ilioha	X	+	+	+	+
Conyza canadensis var. pusilla (Nutt.) Cronq.	horseweed, lani wela	X	+	-	-	-
Crassocephalum crepidioides (Benth.) S. Moore		X	+	+	+	+
Emilia fosbergii Nicolson	pualele, flora's paintbrush	X	+	+	+	+
Galinsoga parviflora Cav.		X	-	+	-	+
Gnaphalium purpureum L.	purple cudweed	X	+	+	+	+
Hypochoeris glabra L.	smooth cat's ear	X	-	+	+	+
Hypochoeris radicata L.	hairy cat's ear, gosmore	X	-	+	-	-
Lipochaeta rockii Sherff	nehe	E	-	+	-	-
Picris hieracioides L.	hawksbeard	X	-	-	-	+
Pluchea carolinensis (Jacq.) G. Don	pluchea, sourbush	X	-	+	+	-
Senecio madagascariensis Poiret		X	-	+	+	-
Sigesbeckia orientalis L.	small yellow crown-beard	X	-	-	+	+
Sonchus oleraceus L.	sowthistle, pualele	X	+	+	+	+
Synedrella nodiflora (L.) Gaertn.	nodeweed	X	-	-	-	+
Tridax procumbens L.	coat buttons	X	+	-	-	+
Verbesina encelioides (Cav.) Benth. & Hook.	golden crown-beard	X	+	+	+	+

Scientific name	Common name	Status	Vegetation type c	k	m	g
FERNS						
ADIANTACEAE (Maiden hair fern family)						
Adiantum raddianum Presl	maiden hair fern	X	-	-	-	+
ATHYRIACEAE (Athyrium family)						
Diplazium esculentum (Retz.) Sw.	ho'i'o	X	+	-	-	-
NEPHROLEPIDACEAE (Sword fern family)						
Nephrolepis multiflora (Roxb.) Jarrett ex Morton	'okupukupu, hairy sword fern	X	+	-	-	-
SINOPTERIDACEAE (Cliffbrake fern family)						
Doryopteris decipiens (Hook.) J. Sm.	kumu-niu, manawahua, 'iwa'iwa	E	-	+	-	+

FLOWERING PLANTS

DICOTS

AMARANTHACEAE (Amaranth family)						
Alternanthera pungens Kunth	khaki weed	X	+	-	-	-
Amaranthus lividus L.		X	+	-	-	-
Amaranthus spinosus L.	spiny amaranth, pakai kuku	X	+	+	+	+
Amaranthus viridus L.	slender amaranth, pakai	X	+	-	-	+
Amaranthus sp.		X	-	+	-	-
ANACARDIACEAE (Mango family)						
Mangifera indica L.	mango, manako	X	-	-	+	-
Schinus molle L.	pepper tree	X	-	-	+	-
Schinus terebinthifolius Raddi	Christmas berry	X	+	-	+	+
APIACEAE (Carrot family)						
Ciclospermum leptophyllum (Pers.) Sprague	fir-leaved celery	X	+	-	-	-

Scientific name	Common name	Status	Vegetation type c	k	m	g
CONVOLVULACEAE (Morning glory family)						
Ipomoea cairica (L.) Sweet	koali	X?	-	+	-	-
Ipomoea indica (J. Burm.) Merr.	koali 'awa	I	+	-	+	+
Ipomoea obscura (L.) Ker-Gawl.		X	+	-	-	-
Ipomoea triloba L.	little bell	X	+	+	-	-
Merremia aegyptia (L.) Urb.	hairy merremia, koali kua hulu	X?	+	+	-	+
CUCURBITACEAE (Gourd family)						
Cucumis dipsaceus Ehrenb. ex Spach	wild cucumber, hedgehog gourd	X	-	+	-	-
Momordica charantia L.	wild bittermelon	X	+	+	-	+
Sicyos hispidus Hillebr.		E	-	+	-	-
EUPHORBIACEAE (Spurge family)						
Aleurites moluccana (L.) Willd.	kukui, tutui	P	-	-	-	+
Chamaesyce hirta (L.) Millsp.	hairy spurge, garden spurge	X	+	+	-	+
Chamaesyce hyssopifolia (L.) Small		X	+	-	-	+
Chamaesyce prostrata (Aiton) Small	prostrate spurge	X	+	-	-	-
Euphorbia heterophylla L.	Mexican fireweed, kaliko	X	+	-	-	+
Euphorbia peplus L.	petty spurge	X	-	+	-	+
Ricinus communis L.	castor bean, koli	X	+	-	-	+
FABACEAE (Pea family)						
Acacia farnesiana (L.) Willd.	klu	X	+	+	+	+
Acacia mearnsii De Wild.	black wattle	X	-	-	+	-
Canavalia cathartica Thouars	mauna-loa	X	-	-	-	+
Chamaecrista nictitans (L.) Moench	partridge pea, lauki	X	+	+	+	+
Crotalaria pallida Aiton	smooth rattlebox, pikakani	X	+	+	+	+
Desmodium incanum DC	Spanish clover, ka'imi	X	-	-	+	-
Desmodium tortuosum (Sw.) DC	Florida beggarweed	X	+	-	-	+
Erythrina sandwicensis Degener	wiliwili	E	-	+	+	+
Glycine wightii (Wight & Arnott) Verdc.		X	+	+	+	+
Indigofera suffruticosa Mill.	indigo, 'iniko	X	+	+	+	+
Leucaena leucocephala (Lam.) de Wit	koa haole	X	+	+	+	+

Scientific name	Common name	Status	Vegetation type c	k	m	g
Xanthium strumarium var. canadense (Mill.) Torr. & A. Gray	cocklebur, kikania	X	-	+	+	+
Youngia japonica (L.) DC	oriental hawksbeard	X	-	+	+	+
Zinnia peruviana (L.) L.	wild zinnia	X	+	+	-	+
BIGNONIACEAE (Bignonia family)						
Jacaranda mimosifolia D. Don	jacaranda	X	-	-	+	-
BORAGINACEAE (Heliotrope family)						
Heliotropium amplexicaule Vahl	heliotrope	X	+	-	-	+
BRASSICACEAE (Mustard family)						
Brassica campestris L.	field mustard	X	+	+	-	-
Brassica nigra (L.) W. Koch	black mustard, makeke	X	-	+	-	+
Capsella bursa-pastoris (L.) Medik.	shepard's purse	X	+	-	-	-
Coronopus didymus (L.) Sm.	swinecress	X	-	+	-	+
Lepidium oblongum Small		X	-	+	-	-
Lepidium virginicum L.	peppergrass	X	+	+	+	+
Sisymbrium altissimum L.	Jim Hill mustard, tumble mustard	X	+	+	+	+
Sisymbrium officinale (L.) Scop.	hedge mustard	X	-	+	-	-
CACTACEAE (Cactus family)						
Opuntia ficus-indica (L.) Mill.	panini	X	+	+	+	+
CARYOPHYLLACEAE (Pink family)						
Petrorhagia velutina (Guss.) P. Ball & Heyw.	Childing pink	X	-	-	+	-
Polycarpon tetraphyllum (L.) L.	allseed	X	-	+	-	+
Silene gallica L.	small-flowered catchfly	X	+	+	+	+
CHENOPODIACEAE (Goosefoot family)						
Atriplex semibaccata R. Br.	Australian saltbush	X	+	-	-	-
Chenopodium carinatum R. Br.	keeled goosefoot	X	-	+	-	-
Chenopodium murale L.	'aheahea	X	+	+	-	+
Salsola kali L.	Russian thistle, tumbleweed	X	+	-	-	-

Scientific name	Common name	Status	Vegetation type c	k	m	g
MYRTACEAE (Myrtle family)						
Syzygium cumini (L.) Skeels	Java plum	X	-	-	-	+
NYCTAGINACEAE (Four-o'clock family)						
Boerhavia coccinea Mill.	red-flowered boerhavia	X	+	+	-	-
Boerhavia repens L.	alena	I	-	+	-	-
Mirabilis jalapa L.	four-o'clock, naniahiahi	X	-	-	-	+
ONAGRACEAE (Evening primrose family)						
Ludwigia octovalvis (Jacq.) Raven	primrose willow, kamole	P?	+	-	-	-
OXALIDACEAE (Wood sorrel family)						
Oxalis corniculata L.	yellow wood sorrel, 'ihi 'ai	P?	+	+	+	+
Oxalis corymbosa DC	pink wood sorrel, 'ihi pehu	X	-	-	-	+
PAPAVERACEAE (Poppy family)						
Argemone glauca (Nutt. ex Prain) Pope	pua kala, kala	E	-	-	+	-
Argemone mexicana L.	Mexican poppy	X	+	-	-	+
PLANTAGINACEAE (Plantain family)						
Plantago lanceolata L.	narrow-leaved plantain	X	-	-	+	-
PLUMBAGINACEAE (Leadwort family)						
Plumbago zeylanica L.	'ilie'e, hilie'e	I	-	+	-	+
POLYGONACEAE (Buckwheat family)						
Rumex acetosella L.	sheep sorrel	X	+	-	-	+
PORTULACACEAE (Purslane family)						
Portulaca oleracea L.	pigweed, 'akulikuli kula, 'ihi	X	+	+	+	+
Portulaca pilosa L.		X	-	+	-	-
PRIMULACEAE (Primrose family)						
Anagallis arvensis L.	scarlet pimpernel	X	-	+	+	-

Scientific name	Common name	Status	Vegetation type c	k	m	g
Macroptilium lathyroides (L.) Urb.	wild bean, cowpea	X	+	+	-	+
Medicago polymorpha L.	bur clover	X	+	-	-	+
Prosopis pallida (Humb. & Bonpl. ex Willd.) Kunth	kiawe	X	+	+	+	+
Vigna unguiculata ssp. sesquipedalis (L.) Verdc.	yard-long bean	X	+	-	-	-
GENTIANACEAE (Gentian family)						
Centaurium erythraea Raf.	bitter herb	X	-	+	-	-
GERANIACEAE (Geranium family)						
Erodium cicutarium (L.) L'Her.	alfilaria, pin clover	X	+	-	+	+
HYDROPHYLLACEAE (Waterleaf family)						
Nama sandwicensis A. Gray	nama	E	-	+	-	-
LAMIACEAE (Mint family)						
Leonotis nepetifolia (L.) R. Br.	lion's ear	X	-	-	-	+
Stachys arvensis L.	staggerweed	X	-	-	+	+
MALVACEAE (Mallow family)						
Abutilon grandifolium (Willd.) Sweet	hairy abutilon, ma'o	X	+	+	+	+
Malva parviflora L.	cheeseweed	X	+	+	+	+
Malvastrum coromandelianum (L.) Garcke	false mallow	X	+	+	+	+
Sida fallax Walp.	'ilima	I	+	+	+	+
Sida rhombifolia L.		X	-	-	+	+
Sida spinosa L.	prickly sida	X	-	+	+	-
MELIACEAE (Mahogany family)						
Cedrela sp.		X	-	-	+	-
Melia azedarach L.	Chinaberry, pride of India	X	-	-	+	+
MORACEAE (Mulberry family)						
Ficus microcarpa L. fil.	Chinese banyan	X	-	-	-	+

Scientific name	Common name	Status	Vegetation type c	k	m	g
MONOCOTS						
AGAVACEAE (Agave family)						
Agave sisalana Perrine	sisal, malina	X	-	-	-	+
Furcraea foetida (L.) Haw.	Mauritius hemp	X	-	-	-	+
BROMELIACEAE (Pineapple family)						
Ananas comosus (Stickm.) Merr.	pineapple	X	+	-	-	-
COMMELINACEAE (Dayflower family)						
Commelina diffusa N.L. Burm.	honohono	X	+	+	+	+
CYPERACEAE (Sedge family)						
Cyperus rotundus L.	nutgrass, nut sedge	X	+	-	-	+
POACEAE (Grass family)						
Avena fatua L.	wild oat	X	-	-	-	+
Bothriochloa barbinodis (Lag.) Herter	fuzzy top	X	-	-	-	+
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	X	+	+	+	+
Brachiaria mutica (Forssk.) Stapf	California grass	X	-	-	-	+
Brachiaria subquadripara (Trin.) Hitchc.		X	-	-	+	-
Cenchrus ciliaris L.	buffelgrass	X	+	+	+	+
Chloris barbata (L.) Sw.	swollen fingergrass, mau'ulei	X	+	-	+	-
Chloris gayana Kunth	Rhodes grass	X	+	-	+	-
Chloris virgata Sw.	feather fingergrass	X	+	+	-	+
Cynodon dactylon (L.) Pers.	Bermuda grass, manienie	X	+	-	+	-
Digitaria fuscescens (K. Presl) Henr.	creeping kukaepua'a	X	-	-	-	+
Digitaria insularis (L.) Mez ex Ekman	sourgrass	X	+	+	+	+
Digitaria setigera Roth	kukaepua'a, itchy crabgrass	I?	-	-	-	+
Digitaria violascens Link	kukaepua'a-uka	X	-	-	+	+
Digitaria sp.	crabgrass	X	-	+	-	-
Eleusine indica (L.) Gaertn.	wiregrass, goosegrass	X	+	-	+	+

Scientific name	Common name	Status	Vegetation type c	k	m	g
PROTEACEAE (Protea family)						
Grevillea robusta A. Cunn. ex R. Br.	silk oak, 'oka kalika	X	-	+	+	+
SAPINDACEAE (Soapberry family)						
Dodonaea viscosa Jacq.	'a'ali'i	I	-	-	-	+
Indet. sp.		X	-	-	+	-
SCROPHULARIACEAE (Figwort family)						
Antirrhinum orontium L.	lesser snapdragon	X	-	+	+	-
SOLANACEAE (Nightshade family)						
Datura stramonium L.	Jimson weed, la'au hano	X	-	+	-	+
Lycopersicon pimpinellifolium (Jusl.) Mill.	currant tomato, 'ohi'a ma ka nahele	X	+	-	-	+
Nicandra physalodes (L.) Gaertn.	apple of Peru	X	+	+	-	+
Nicotiana glauca R.C. Graham	tree tobacco	X	-	-	-	+
Physalis peruviana L.	poha	X	-	-	+	-
Solanum americanum Mill.	popolo	I?	+	+	-	+
Solanum linnaeanum Hepper & P. Jaeger	apple of Sodom, popolo kikania	X	-	-	+	-
STERCULIACEAE (Cacao family)						
Waltheria indica L.	'uhaloa, hi'aloa, kanakaloa	I?	+	+	-	+
TILIACEAE (Linden family)						
Triumfetta semitriloba Jacq.	Sacramento bur bush	X	-	-	+	-
VERBENACEAE (Verbena family)						
Lantana camara L.	lantana, lakana	X	-	+	+	+
Verbena litoralis Kunth	weed verbena, owi, oi	X	+	-	+	-
ZYGOPHYLLACEAE (Caltrop family)						
Tribulus terrestris L.	puncture vine	X	+	-	-	-

Scientific name	Common name	Status	Vegetation type c	k	m	g
Eragrostis cilianensis (All.) Link	stinkgrass	X	-	+	+	+
Eragrostis pilosa (L.) P. Beauv.		X	+	+	-	+
Eragrostis tenella (L.) P. Beauv. ex Roem. & Schult.	lovegrass	X	-	+	-	-
Eragrostis sp.		X	-	-	-	+
Leptochloa uninervia (K. Presl) Hitchc. & Chase		X	+	+	-	-
Melinis repens (Willd.) Zizka	Natal redtop, Natal grass	X	+	+	+	+
Panicum maximum Jacq.	Guinea grass	X	+	+	+	+
Panicum maximum var. trichoglume Eyles ex Robyns	green panicgrass	X	+	+	+	+
Panicum pellitum Trin.		E	-	+	-	-
Panicum torridum Gaud.	kakonakona	E	-	+	-	-
Paspalum scrobiculatum L.	ricegrass, mau'u laiki	1?	+	-	+	-
Pennisetum clandestinum Chiov.	Kikuyu grass	X	-	-	+	-
Saccharum officinarum L.	sugar cane, ko	P	+	-	-	-
Setaria verticillata (L.) P. Beauv.	bristly foxtail	X	+	+	-	+
Tragus berteronianus Schult.	burgrass, goatgrass	X	+	+	-	+
Vulpia myuros (L.) C.C. Gmelin	rat tail fescue	X	-	-	+	-

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BOTANICAL SURVEY
KIHEI/UPCOUNTRY MAUI HIGHWAY
ADDITIONAL STUDIES -- U2-A ALIGNMENT

by

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Prepared for: PARSONS BRINCKERHOFF

October 1997

BOTANICAL SURVEY
KIHEI/UPCOUNTRY MAUI HIGHWAY
ADDITIONAL STUDIES -- U2-A ALIGNMENT

INTRODUCTION

A botanical survey report was prepared for the proposed Kihei/ Upcountry Maui Highway in May 1997 (Char 1997). Since then, the plans for the U-2 terminus have been modified and two alternate alignments, U2-A and U2-B, are now being considered.

A discussion of the botanical resources found on the Alternative U2-A alignment is presented in this report. Field studies for the U2-A alignment were conducted on September 13 to 14, 1997 by a team of three botanists. The centerline of the alignment was staked and flagged prior to our field studies. The survey methods outlined in the earlier study (Char 1997) were used.

DESCRIPTION OF THE VEGETATION

In the discussion below, the vegetation along the U2-A alignment is described from mauka to makai, that is, from the U2-A terminus to where it terminates near Pulehu Gulch. Locations are referenced to the centerline station numbers.

The alignment crosses two vegetation types which were not encountered during the earlier study; these are abandoned pineapple fields and Christmas berry/mixed shrubland. They are described in more detail in the report. A list of the plants observed during the field studies is presented at the end of the report.

Vegetation Along the Alignment

From its terminus at the existing signalized intersection of Haleakala Highway, Pukalani Bypass, and Kula Highway to about station 307, the alignment crosses **abandoned pineapple fields**. Scattered remnant patches of pineapple (Ananas comosus) are found in overgrown fields now covered with dense clumps of Rhodes grass (Chloris gayana) and other weedy species. Young trees of jacaranda (Jacaranda mimosifolia), 10 to 12 ft. tall, and Christmas berry (Schinus terebinthifolius) shrubs, 10 to 15 ft. tall, are scattered widely throughout the overgrown fields. In the areas which support remnant patches of pineapple, there are also tangled mats of wild bittermelon (Momordica charantia) and white passion flower (Passiflora subpeltata) vines, prickly clumps of bull thistle (Cirsium vulgare), wild fennel (Foeniculum vulgare), and sourgrass (Digitaria insularis).

From station 307 to station 314, the alignment crosses through **Christmas berry/mixed shrubland**. Christmas berry shrubs form large, rounded thickets up to 20 ft. tall and 25 to 30 ft. wide. Filling in the matrix between the Christmas berry shrubs is a varied mixture of grasses such as Rhodes grass, Kikuyu grass (Pennisetum clandestinum), pitted beardgrass (Bothriochloa pertusa), and smaller herbaceous species which include Spanish clover or ka'imi (Desmodium incanum), Sida rhombifolia, 'ilima (Sida fallax), spiny amaranth (Amaranthus spinosus), etc. In many places, dense patches of mixed shrubs are common to abundant; shrubs found here include lantana (Lantana camara), indigo (Indigofera suffruticosa), castor bean (Ricinus communis), and hairy abutilon (Abutilon grandifolium). Portions of the Christmas berry/mixed shrubland were used for pineapple cultivation at one time as there are remnants of black plastic sheeting as well as dried out, dead pineapple plants.

From about station 314 to station 317, the U2-A alignment crosses Ha'akakai/Kaluapolani Gulch, and **gulch vegetation**. Stands of Chinaberry (Melia azedarch) and the native wiliwili (Erythrina sandwicensis), 30 to 50 ft. tall, are found in the gulch. Also common are plantings of large trees of various Eucalyptus species up to 70 and 80 ft. tall. Ground cover is primarily Guinea grass (Panicum maximum), pitted beardgrass, and buffelgrass (Cenchrus ciliaris). As in the earlier study (Char 1997), this gulch as well as the other gulches along the alignments support only intermittent streams along their bottoms. The dry stream beds have been eroded down to the solid bedrock in most places, or are strewn with large boulders.

From station 317 to 333, the alignment crosses **Kikuyu/mixed grass pasture land**. A detailed description of this vegetation type is given in the earlier report.

Gulch vegetation is again encountered where the alignment crosses Kalialinui Gulch between stations 334 and 341. From station 341, the alignment then crosses **cultivated lands** consisting of pineapple fields and also **gulch vegetation** where a few shallow gulches cross the pineapple fields. At about station 365 and on to Pulehu Gulch (station 386), the U2-A alignment passes through recently planted sugar cane fields.

DISCUSSION AND RECOMMENDATIONS

The findings along the proposed U2-A alignment are similar to the earlier botanical study (Char 1997). All of the vegetation types found along the U2-A alignment are dominated by introduced species. The few native species are more or less found in or adjacent to the gulches. Native plants found during this field survey are the kumu-niu fern (Doryopteris decipiens), koali 'awa (Ipomoea indica), pa'u o Hi'iaka (Jacquemontia ovalifolia), wiliwili, 'ilima, pua

kala (Argemone glauca), 'a'ali'i (Dodonaea viscosa), and 'uhaloa (Waltheria indica). All except the pa'u o Hi'iaka were found during the earlier survey.

As in the earlier study, none of the plants found along the proposed U2-A alignment is a listed, proposed, or candidate threatened and endangered species; nor is any plant a species of concern (U.S. Fish and Wildlife Service 1997). Again, no wetlands were found where the intermittent streams run along the bottom of the gulches. These areas are not dominated by wetland indicator species (Reed 1988), and the soils along the alignment are not listed as hydric soils (Soil Conservation Service 1990).

The construction of the highway along the U2-A alignment should not have a significant negative impact on the botanical resources. However, it is recommended that areas cleared of vegetation be revegetated as soon as possible to prevent soil loss and discharge of sediments into the intermittent streams (during the rainy season). Again, it is recommended that native plants be used whenever possible for landscaping.

PLANT SPECIES LIST -- U2-A Alignment

The following is a list of all the plants observed along the U2-A alignment of the proposed Kihei/Upcountry Maui Highway. The plants are arranged alphabetically within each of three groups. The taxonomy and nomenclature of the Ferns follow Lamoureux (1988), while the flowering plants, Dicots and Monocots, are in accordance with Wagner et al. (1990).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following symbols are used:
   - E = endemic = native only to the Hawaiian Islands.
   - I = indigenous = native to the Hawaiian Islands and also elsewhere.
   - I? = questionably indigenous = data not clear if dispersal by natural or human-related mechanisms, but weight of evidence suggests probably indigenous.
   - P = Polynesian = plants originally of Polynesian introduction prior to Western contact, i.e. Cook's discovery of the Hawaiian Islands in 1778.
   - P? = questionably Polynesian = may be a Polynesian introduction or possibly introduced in historical times (after 1778).
   - X = introduced or alien = all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact.
   - X? = questionably introduced = date of introduction unclear or very early, may possibly be indigenous or of Polynesian introduction.
4. Presence (+) or absence (-) of a particular species within each of five vegetation types recognized along the alignment (see text for discussion):

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
FERNS							
ADIANTACEAE (Maiden hair fern family)							
Adiantum hispidulum Sw.	Australian maiden hair	X	-	-	+	-	-
NEPHROLEPIDACEAE (Sword fern family)							
Nephrolepis multiflora (Roxb.) Jarrett ex Morton	'okupukupu, hairy sword fern	X	-	-	-	+	-
SINOPTERIDACEAE (Cliffbrake fern family)							
Doryopteris decipiens (Hook.) J. Sm.	kumu-niu, manawahua, 'iwa'iwa	E	-	-	+	-	-
FLOWERING PLANTS							
DICOTS							
ACANTHACEAE (Acanthus family)							
Thunbergia fragrans Roxb.	fragrant thunbergia	X	+	-	-	-	-
AMARANTHACEAE (Amaranth family)							
Amaranthus spinosus L.	spiny amaranth, pakai kuku	X	+	+	-	-	+
Amaranthus viridus L.	slender amaranth, pakai	X	+	-	-	-	-
ANACARDIACEAE (Mango family)							
Schinus molle L.	pepper tree	X	-	+	-	-	-
Schinus terebinthifolius Raddi	Christmas berry	X	-	+	+	+	+
APIACEAE (Carrot family)							
Foeniculum vulgare Mill.	fennel	X	-	-	-	+	-

c = Cultivated Lands
m = Kikuyu/Mixed Grass Pasture Land
g = Gulch Vegetation
a = Abandoned Pineapple Fields
s = Christmas berry/Mixed Shrubland

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
CUCURBITACEAE (Gourd family)							
Cucumis dipsaceus Ehrenb. ex Spach	wild cucumber, hedgehog gourd	X	-	-	-	-	+
Momordica charantia L.	wild bittermelon	X	+	-	-	+	-
EUPHORBIACEAE (Spurge family)							
Chamaesyce hirta (L.) Millsp.	hairy spurge, garden spurge	X	+	-	-	-	-
Chamaesyce hyssopifolia (L.) Small		X	+	-	-	-	-
Ricinus communis L.	castor bean, koli	X	+	+	+	+	+
FABACEAE (Pea family)							
Acacia farnesiana (L.) Willd.	klu	X	-	+	-	-	-
Chamaecrista nictitans (L.) Moench	partridge pea, lauki	X	+	+	-	-	+
Crotalaria incana L.	fuzzy rattlepod, kukae hoki	X	+	-	-	-	-
Crotalaria pallida Aiton	smooth rattlepod, pikakani	X	-	-	-	-	+
Desmodium incanum DC	Spanish clover, ka'imi	X	-	+	-	-	+
Desmodium sandwicense E. Mey.	Spanish clover, chili clover, pua pilipili	X	-	-	-	+	+
Desmodium tortuosum (Sw.) DC	Florida beggarweed	X	+	-	-	-	-
Desmodium sp.		X	-	-	-	+	-
Erythrina sandwicensis Degener	wiliwili	E	-	+	+	-	+
Glycine wightii (Wight & Arnott) Verdc.		X	-	-	+	-	-
Indigofera spicata Forssk.	creeping indigo	X	-	+	-	-	-
Indigofera suffruticosa Mill.	indigo, 'iniko	X	+	+	-	+	+
Leucaena leucocephala (Lam.) de Wit	koa haole	X	+	+	+	-	+
Macroptilium lathyroides (L.) Urb.	wild bean, cowpea	X	+	+	-	+	-
Prosopis pallida (Humb. & Bonpl. ex Willd.) Kunth	kiawe	X	+	-	-	-	-
LAURACEAE (Laurel family)							
Cinnamomum camphora (L.) J. Presl	camphor tree	X	-	-	+	+	-

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
ASCLEPIADACEAE (Milkweed family)							
Asclepias physocarpa (E. Mey.) Schlechter	balloon plant	X	-	-	-	+	-
ASTERACEAE (Sunflower family)							
Bidens pilosa L.	Spanish needle, ki, ki nehe	X	-	-	-	+	-
Cirsium vulgare (Savi) Ten.	bull thistle	X	-	+	-	+	-
Conyza bonariensis (L.) Cronq.	hairy horseweed, ilioha	X	+	+	-	+	+
Crassocephalum crepidioides (Benth.) S. Moore		X	-	-	-	+	-
Hypochoeris radicata L.	hairy cat's ear, gosmore	X	-	-	-	+	-
Lactuca serriola L.	wild lettuce	X	+	-	-	-	-
Senecio madagascariensis Poiret		X	-	-	-	-	+
Sonchus oleraceus L.	sow thistle, pualele	X	-	-	-	+	-
Verbesina encelioides (Cav.) Benth. & Hook.	golden crown-beard	X	+	-	-	-	+
Xanthium strumarium var. canadense (Mill.) Torr. & A. Gray	cocklebur, kikania	X	-	-	+	-	-
BIGNONIACEAE (Bignonia family)							
Jacaranda mimosifolia D. Don	jacaranda	X	-	-	-	+	+
BRASSICACEAE (Mustard family)							
Lepidium oblongum Small		X	-	+	-	-	-
Sisymbrium altissimum L.	Jim Hill mustard, tumble mustard	X	-	+	-	-	+
CACTACEAE (Cactus family)							
Opuntia ficus-indica (L.) Mill.	panini	X	+	-	+	-	+
CONVOLVULACEAE (Morning glory family)							
Ipomoea indica (J. Burm.) Merr.	koali 'awa	I	+	+	-	+	-
Jacquemontia ovalifolia ssp. sandwicensis (A. Gray) K. Robertson	pa'u o Hi'iaka	E	-	+	-	-	-
Merremia aegyptia (L.) Urb.	hairy merremia, koali kua hulu	X?	+	-	-	-	-

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
PHYTOLACCACEAE (Pokeweed family)							
Phytolacca octandra L.	southern pokeberry	X	-	-	-	+	-
PLANTAGINACEAE (Plantain family)							
Plantago lanceolata L.	narrow-leaved plantain	X	-	+	-	-	-
PORTULACACEAE (Purslane family)							
Portulaca oleracea L.	pigweed, 'akulikuli kula, 'ihi	X	-	+	-	-	-
PROTEACEAE (Protea family)							
Grevillea robusta A. Cunn. ex R. Br.	silk oak, 'oka kalika	X	-	+	-	+	+
SAPINDACEAE (Soapberry family)							
Dodonaea viscosa Jacq.	'a'ali'i	I	-	+	+	-	-
SOLANACEAE (Nightshade family)							
Capsicum frutescens L.	chili pepper, nioi	X	-	-	-	+	-
Nicandra physalodes (L.) Gaertn.	apple of Peru	X	+	-	-	-	-
Nicotiana glauca R.C. Graham	tree tobacco	X	+	-	-	-	+
Solanum linneanum Hepper & P. Jaeger	apple of Sodom, popolo kikania	X	-	+	-	-	-
Solanum seaforthianum Andr.	blue potato vine	X	-	-	+	-	-
STERCULIACEAE (Cacao family)							
Waltheria indica L.	'uhaloa, hi'aloa, kanakaloa	I?	+	-	-	-	+
TILIACEAE (Linden family)							
Triumfetta semitriloba Jacq.	Sacramento bur bush	X	-	-	+	-	-
TROPAEOLACEAE (Nasturtium family)							
Tropaeolum majus L.	nasturtium, pohe haole	X	-	-	-	+	-

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
MALVACEAE (Mallow family)							
Abutilon grandifolium (Willd.) Sweet	hairy abutilon, ma'o	X	+	+	-	+	+
Malvastrum coromandelianum (L.) Garcke	false mallow	X	-	-	-	-	+
Sida fallax Walp.	'ilima	I	+	+	-	-	+
Sida rhombifolia L.		X	-	+	-	-	+
MELIACEAE (Mahogany family)							
Melia azedarach L.	Chinaberry, pride of India, 'inia	X	-	-	+	-	+
MORACEAE (Mulberry family)							
Ficus microcarpa L. fil.	Chinese banyan	X	-	-	+	-	-
MYRTACEAE (Myrtle family)							
Eucalyptus spp.	eucalyptus, gum tree	X	-	+	-	-	+
NYCTAGINACEAE (Four-o'clock family)							
Mirabilis jalapa L.	four-o'clock, naniahiahi	X	-	-	+	-	-
OLEACEAE (Olive family)							
Olea europaea ssp. africana (Mill.) P. Green	olive, 'oliwa	X	-	+	-	-	+
OXALIDACEAE (Wood sorrel family)							
Oxalis corniculata L.	yellow wood sorrel, 'ihi 'ai	P?	-	+	-	-	-
PAPAVERACEAE (Poppy family)							
Argemone glauca (Nutt. ex Prain) Pope	pua kala, kala	E	-	+	-	+	-
PASSIFLORACEAE (Passion flower family)							
Passiflora subpeltata Ort.	white passion flower	X	-	-	-	+	-

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
Pennisetum clandestinum Chiov.	kikuyu grass	X	-	+	-	-	+
Saccharum officinarum L.	sugar cane, ko	P	+	-	-	-	-

Scientific name	Common name	Status	Vegetation type c	m	g	a	s
VERBENACEAE (Verbena family)							
Lantana camara L.	lantana, lakana	X	-	+	+	+	+
Verbena litoralis Kunth	weed verbena, owi, oi	X	+	-	-	+	-
MONOCOTS							
AGAVACEAE (Sisal family)							
Agave sisalana Perrine	sisal, malina	X	-	-	+	-	-
Furcraea foetida (L.) Haw.	Mauritius hemp	X	-	+	+	-	-
BROMELIACEAE (Pineapple family)							
Ananas comosus (Stickm.) Merr.	pineapple	X	+	-	-	+	-
CYPERACEAE (Sedge family)							
Cyperus rotundus L.	nutgrass, nut sedge	X	+	-	-	-	-
LILIACEAE (Lily family)							
Asparagus setaceus (Kunth) Jessop		X	-	-	-	+	-
POACEAE (Grass family)							
Avena fatua L.	wild oat	X	-	+	-	-	-
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	X	-	+	+	-	+
Bromus mollis L.	soft chess	X	-	+	-	-	-
Bromus rigidus Roth	ripgut grass	X	-	-	+	-	-
Bromus willdenowii Kunth	rescue grass	X	-	-	-	+	-
Cenchrus ciliaris L.	buffel grass	X	+	+	+	-	-
Chloris barbata (L.) Sw.	swollen fingergrass, mau'ulei	X	+	-	-	-	-
Chloris gayana Kunth	Rhodes grass	X	-	+	-	+	+
Cynodon dactylon (L.) Pers.	Bermuda grass, manienie	X	+	+	-	-	-
Digitaria insularis (L.) Mez ex Ekman	sourgrass	X	+	-	-	+	-
Melinis repens (Willd.) Zizka	Natal redtop, Natal grass	X	+	-	-	+	+
Panicum maximum Jacq.	Guinea grass	X	+	+	+	+	+
Paspalum dilatatum Poir	Dallis grass	X	-	-	-	+	-

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ADDITIONAL STUDIES -- U2-B ALIGNMENT

INTRODUCTION

An earlier botanical survey report (Char 1997a) which covered all of the then proposed Kihei/Upcountry Maui Highway alignments and termini was prepared in May 1997. Since that time, the plans for the U-2 terminus and alignment segment have been modified and two alternate alignments, U2-A and U2-B, are now being proposed. The U2-A terminus is found at the intersection of Haleakala Highway, Pukalani Bypass, and Kula Highway, by the existing traffic signal. The U2-B terminus is located on the Kula Highway, across from the Kula 200 Subdivision and south of the Ha'akakai Gulch bridge.

Field studies to assess the botanical resources along the U2-B alignment were conducted on September 14 to 15, 1997 by a team of three botanists. The centerline of the alignment was staked and flagged prior to the field studies. The survey methods outlined in the earlier study (Char 1997a) were followed.

DESCRIPTION OF THE VEGETATION

In the discussion which follows, the vegetation found along the U2-B alignment is described from mauka to makai, that is from the U2-B terminus at Kula Highway to where it adjoins the U2-A alignment at station U2-B 500. Locations are referenced to the centerline station numbers.

The alignment crosses over three vegetation types: Kikuyu/mixed grass pasture land, gulch vegetation, and cultivated lands (pine-

apple fields). A short description is provided for each of these vegetation types; a more detailed discussion is found in the earlier botanical survey report (Char 1997a). A list of all the plant species found along the U2-B alignment is presented at the end of the report.

Vegetation Along the U2-B Alignment

From its terminus at Kula Highway (station 550) and downslope to about station 521, the U2-B alignment crosses Kikuyu/mixed grass pasture land. Along this alignment, Kikuyu (Pennisetum clandestinum), Rhodes grass (Chloris gayana), and pitted beardgrass (Bothriochloa pertusa) are the most abundant grass components. In some places, spiny amaranth (Amaranthus spinosus) plants are locally abundant. Trees and shrubs which include various Eucalyptus species, Chinaberry (Melia azedarach), Christmas berry (Schinus terebinthifolius), jacaranda (Jacaranda mimosifolia), pepper tree (Schinus molle), etc., occur as scattered individuals or small stands. Where the alignment passes near a cinder pit (Pu'u o Weli), there is a grove of Eucalyptus and other tree species as well as scattered thickets of koa haole shrubs (Leucaena leucocephala).

From station 521 to station 519, the alignment crosses Kalialinui Gulch and gulch vegetation. The gulch supports tall stands of Chinaberry and wiliwili (Erythrina sandwicensis) trees. Koa haole shrubs are common and Guinea grass (Panicum maximum) forms dense clumps between the woody components. Rocky outcrops are frequent along the steep gulch walls. The gulch bottom supports an intermittent stream which is composed of shallow, dry soil and large boulders. For the greater part of the time, the streams are dry with flowing water present only during periods of very heavy rainfall. The cattle which graze in the gulch use the dry streambed as part of their netwok of cattle paths.

From station 519 and on to where the U2-B alignment joins the U2-A alignment, the U2-B alignment crosses recently planted pineapple fields or cultivated lands and a few shallow gulches with gulch vegetation.

DISCUSSION AND RECOMMENDATIONS

The vegetation types found along the U2-B alignment are dominated by introduced species such as Kikuyu grass, koa haole, Chinaberry, Christmas berry, etc. The few native plants are usually found associated with the gulch areas. All of the native plants can be found in similar habitats throughout the Hawaiian Islands. None of the plants inventoried during the field studies is a listed, proposed, or candidate threatened and endangered species; nor is any plant considered a species of concern (U.S. Fish and Wildlife Service 1997). Similar findings were recorded from the earlier botanical study (Char 1997a) and also from the most recent study for the U2-A alignment (Char 1997b). No wetlands or wetland vegetation occur along the alignment.

Given the findings above, the proposed U2-B alignment should not have a significant negative impact on the botanical resources. As in the previous studies, it is recommended that areas cleared of vegetation be revegetated as soon as possible to prevent soil erosion. Native plants such as the wiliwili are recommended for landscaping wherever possible.

PLANT SPECIES LIST -- U2-B Alignment

The following is a list of all the plants observed along the U2-B alignment of the proposed Kihei/Upcountry Maui Highway. The plants are arranged alphabetically by families within each of three groups. The taxonomy and nomenclature of the Ferns follow Lamoureux (1988), while the flowering plants, Dicots and Monocots, are in accordance with Wagner et al. (1990).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following symbols are used:
   - E = endemic = native only to the Hawaiian Islands.
   - I = indigenous = native to the Hawaiian Islands and also elsewhere.
   - I? = questionably indigenous = data not clear if dispersal by natural or human-related mechanisms, but weight of evidence suggests probably indigenous.
   - P? = questionably Polynesian = may be a Polynesian introduction prior to Western contact, i.e. Cook's discovery of the Hawaiian Islands in 1778, or possibly introduced very early after Western contact.
   - X = introduced or alien = all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact.
4. Presence (+) or absence (-) of a particular species within each of three vegetation types recognized along the alignment (see text for discussion):
   - c = Cultivated Lands
   - m = Kikuyu/Mixed Grass Pasture Land
   - g = Gulch Vegetation

Scientific name	Common name	Status	Vegetation type c	m	g
FERNS					
ADIANTACEAE (Maiden hair fern family)					
Adiantum hispidulum Sw.	Australian maiden hair	X	-	-	+
SINOPTERIDACEAE (Cliffbrake fern family)					
Doryopteris decipiens (Hook.) J. Sm.	kumu-niu, manawahua, 'iwa'iwa	E	-	-	+
FLOWERING PLANTS					
DICOTS					
AMARANTHACEAE (Amaranth family)					
Amaranthus spinosus L.	spiny amaranth, pakai kuku	X	+	+	-
Amaranthus viridus L.	slender amaranth, pakai	X	+	-	-
ANACARDIACEAE (Mango family)					
Schinus molle L.	pepper tree	X	-	+	-
Schinus terebinthifolius Raddi	Christmas berry	X	-	+	+
ASCLEPIADACEAE (Milkweed family)					
Asclepias curassavica L.	butterfly weed, laulele	X	-	+	-
Asclepias physocarpa (E. Mey.) Schlechter	balloon plant	X	-	+	-
ASTERACEAE (Daisy family)					
Cirsium vulgare (Savi) Ten.	bull thistle	X	-	+	-
Conyza bonariensis (L.) Cronq.	hairy horseweed, ilioha	X	+	+	-
Emilia fosbergii Nicolson	pualele	X	-	+	+
Heterotheca grandiflora Nutt.	telegraph plant	X	-	+	-
Lactuca serriola L.	wild lettuce	X	+	-	-
Senecio madagascariensis Poiret		X	-	+	-
Sonchus oleraceus L.	sow thistle, pualele	X	-	+	-

Scientific name	Common name	Status	Vegetation type c	m	g
GENTIANACEAE (Gentian family)					
Centaurium erythraea Raf.	bitter herb	X	-	+	-
MALVACEAE (Mallow family)					
Abutilon grandifolium (Willd.) Sweet	hairy abutilon, ma'o	X	-	+	+
Malvastrum coromandelianum (L.) Garcke	false mallow	X	-	+	+
Sida fallax Walp.	'ilima	I	+	+	+
Sida rhombifolia L.		X	-	+	-
MELIACEAE (Mahogany family)					
Melia azedarch L.	Chinaberry, pride of India, 'inia	X	-	+	+
MORACEAE (Mulberry family)					
Ficus microcarpa L. fill.	Chinese banyan	X	-	-	+
MYRTACEAE (Myrtle family)					
Eucalyptus spp.	eucalyptus, gum tree	X	-	+	+
Psidium guajava L.	guava, kuawa	X	-	+	-
NYCTAGINACEAE (Four-o'clock family)					
Mirabilis jalapa L.	four-o'clock, naniahiahi	X	-	-	+
OLEACEAE (Olive family)					
Olea europaea ssp. africana (Mill.) P. Green	olive, 'oliwa	X	-	+	-
OXALIDACEAE (Wood sorrel family)					
Oxalis corniculata L.	yellow wood sorrel, 'ihi 'ai	P?	-	+	-
PAPAVERACEAE (Poppy family)					
Argemone glauca (Nutt. ex Prain) Pope	pua kala, kala	E	-	+	-

Scientific name	Common name	Status	Vegetation type c	m	g
BIGNONIACEAE (Bignonia family)					
Jacaranda mimosifolia D. Don	jacaranda	X	-	+	-
BRASSICACEAE (Mustard family)					
Lepidium oblongum Small		X	-	+	-
Sisymbrium altissimum L.	Jim Hill mustard, tumble mustard	X	-	+	-
CACTACEAE (Cactus family)					
Opuntia ficus-indica (L.) Mill.	panini	X	+	+	+
CONVOLVULACEAE (Morning glory family)					
Ipomoea indica (J. Burm.) Merr.	koali 'awa	I	+	-	-
CUCURBITACEAE (Gourd family)					
Momordica charantia L.	wild bittermelon	X	+	+	+
EUPHORBIACEAE (Spurge family)					
Ricinus communis L.	castor bean, koli	X	-	-	+
FABACEAE (Pea family)					
Acacia farnesiana (L.) Willd.	klu	X	-	+	-
Acacia mearnsii De Wild.	black wattle	X	-	+	-
Chamaecrista nictitans (L.) Moench	partridge pea, lauki	X	+	+	-
Crotalaria pallida Aiton	smooth rattlebox, pikakani	X	-	+	-
Desmodium incanum DC	Spanish clover, ka'imi	X	-	+	-
Desmodium triflorum (L.) DC	three-flowered beggarweed	X	-	+	-
Erythrina sandwicensis Degener	wiliwili	E	-	+	+
Indigofera suffruticosa Mill.	indigo, 'iniko	X	+	+	+
Leucaena leucocephala (Lam.) de Wit	koa haole	X	+	+	+
Macroptilium lathyroides (L.) Urb.	wild bean, cowpea	X	+	+	-
Prosopis pallida (Humb. & Bonpl. ex Willd.) Kunth	kiawe	X	+	-	-

Scientific name	Common name	Status	Vegetation type c	m	g
MONOCOTS					
BROMELIACEAE (Pineapple family)					
Ananas comosus (Stickm.) Merr.	pineapple	X	+	-	-
CYPERACEAE (Sedge family)					
Cyperus rotundus L.	nutgrass, nut sedge	X	+	-	-
POACEAE (Grass family)					
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	X	-	+	+
Bromus willdenowii Kunth	rescue grass	X	-	+	-
Cenchrus ciliaris L.	buffelgrass	X	+	+	+
Chloris barbata (L.) Sw.	swollen fingergrass, mau'u-lei	X	-	+	-
Chloris gayana Kunth	Rhodes grass	X	-	+	-
Cynodon dactylon (L.) Pers.	Bermuda grass, manienie	X	+	+	-
Digitaria insularis (L.) Mez ex Ekman	sourgrass	X	+	+	+
Melinis repens (Willd.) Zizka	Natal redtop, Natal grass	X	+	+	+
Panicum maximum Jacq.	Guinea grass	X	+	+	+
Pennisetum clandestinum Chiov.	Kikuyu grass	X	-	+	-
Sporobolus africanus (Poir.) Robyns & Tournay	African dropseed, smutgrass	X	-	+	-

Scientific name	Common name	Status	Vegetation type c	m	g
PLANTAGINACEAE (Plantain family)					
Plantago lanceolata L.	narrow-leaved plantain	X	-	+	-
PORTULACACEAE (Purslane family)					
Portulaca oleracea L.	pigweed, 'akulikuli kula, 'ihi	X	-	+	-
PROTEACEAE (Protea family)					
Grevillea robusta A. Cunn. ex R. Br.	silk oak, 'oka-kalika	X	-	+	+
RUTACEAE (Citrus family)					
Murraya paniculata (L.) Jack	mock orange	X	-	+	-
SAPINDACEAE (Soapberry family)					
Dodonaea viscosa Jacq.	'a'ali'i	I	-	+	+
SOLANACEAE (Nightshade family)					
Nicandra physalodes (L.) Gaertn.	apple of Peru	X	+	-	+
Nicotiana glauca R.C. Graham	tree tobacco	X	+	+	-
Solanum linnaeanum Hepper & P. Jaeger	apple of Sodom, popolo kikania	X	-	+	-
STERCULIACEAE (Cacao family)					
Waltheria indica L.	'uhaloa, hi'aloa, kanakaloa	I?	+	-	+
VERBENACEAE (Verbena family)					
Lantana camara L.	lantana, lakana	X	-	+	+
Stachytarpheta dichotoma (Ruiz & Pav.) Vahl	owi, oi	X	-	+	-
Verbena litoralis Kunth	weed verbena, owi, oi	X	+	+	-

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APPENDIX K

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Maui, HI

September 30, 1997

Inquiry number 198604.1s

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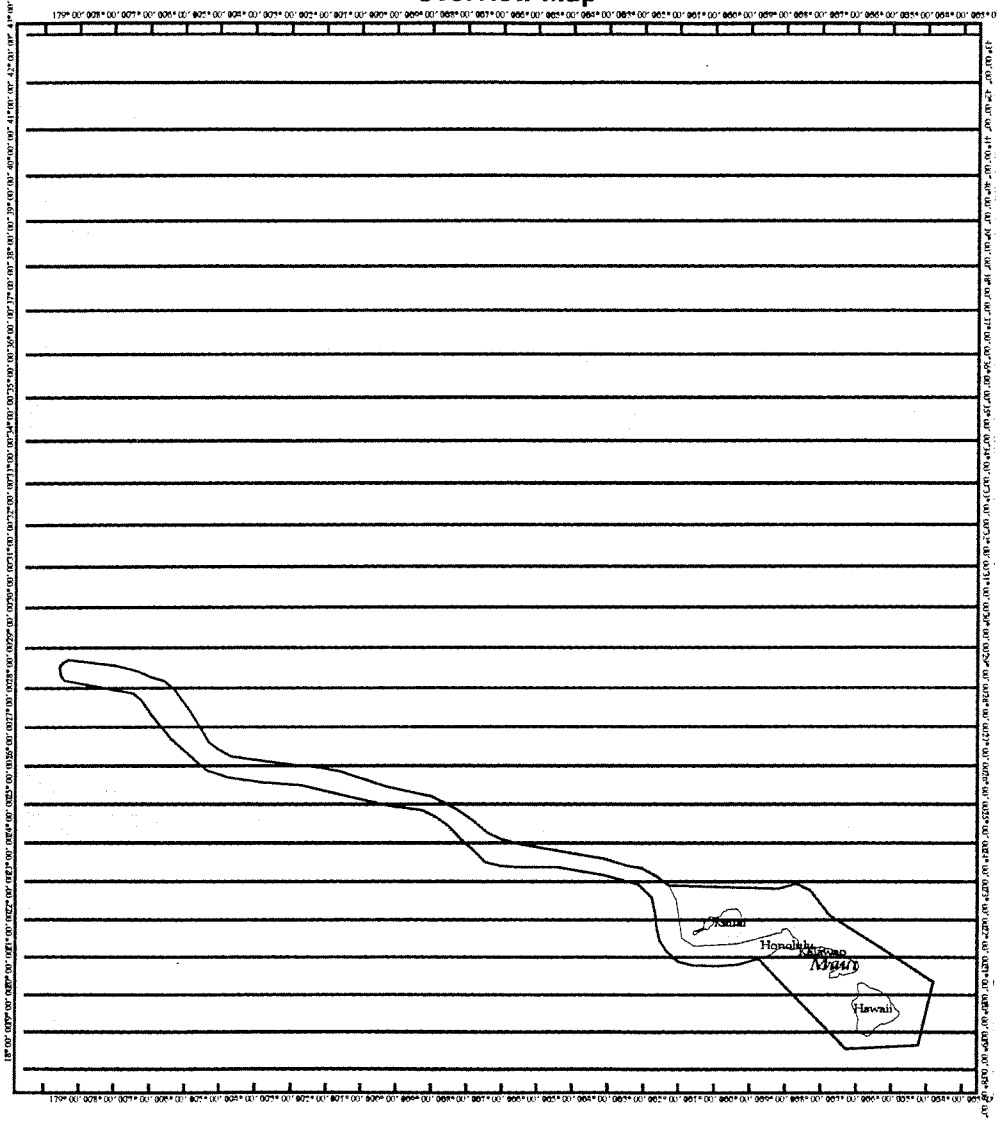
Section 1

Overview and Key Map

Overview Map



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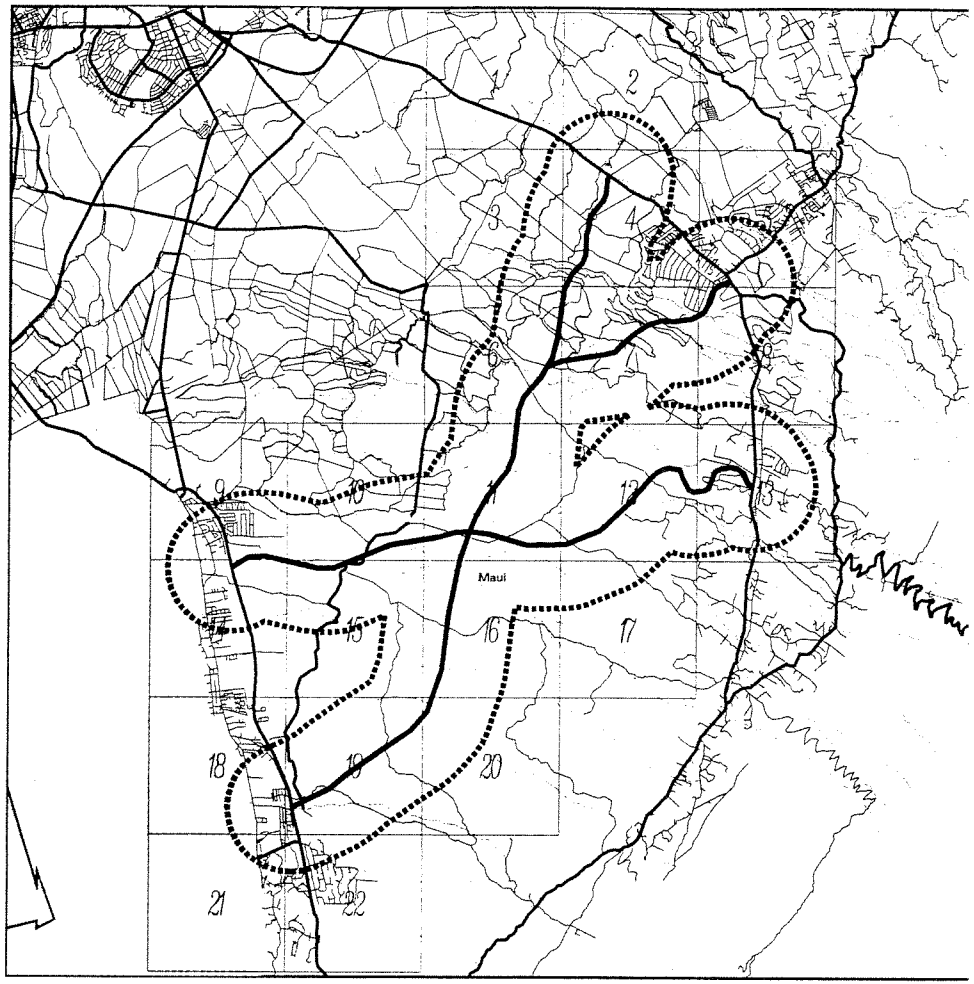
Key Map



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Legend

Roads	Waterways	Powerlines	Superfund Sites	Listed Sites
Major Roads	Railroads	Pipelines	Water	Sensitive Receptors
Contour Lines	Study Boundary	Fault Lines		
Wetlands	100-Yr Flood Zones			

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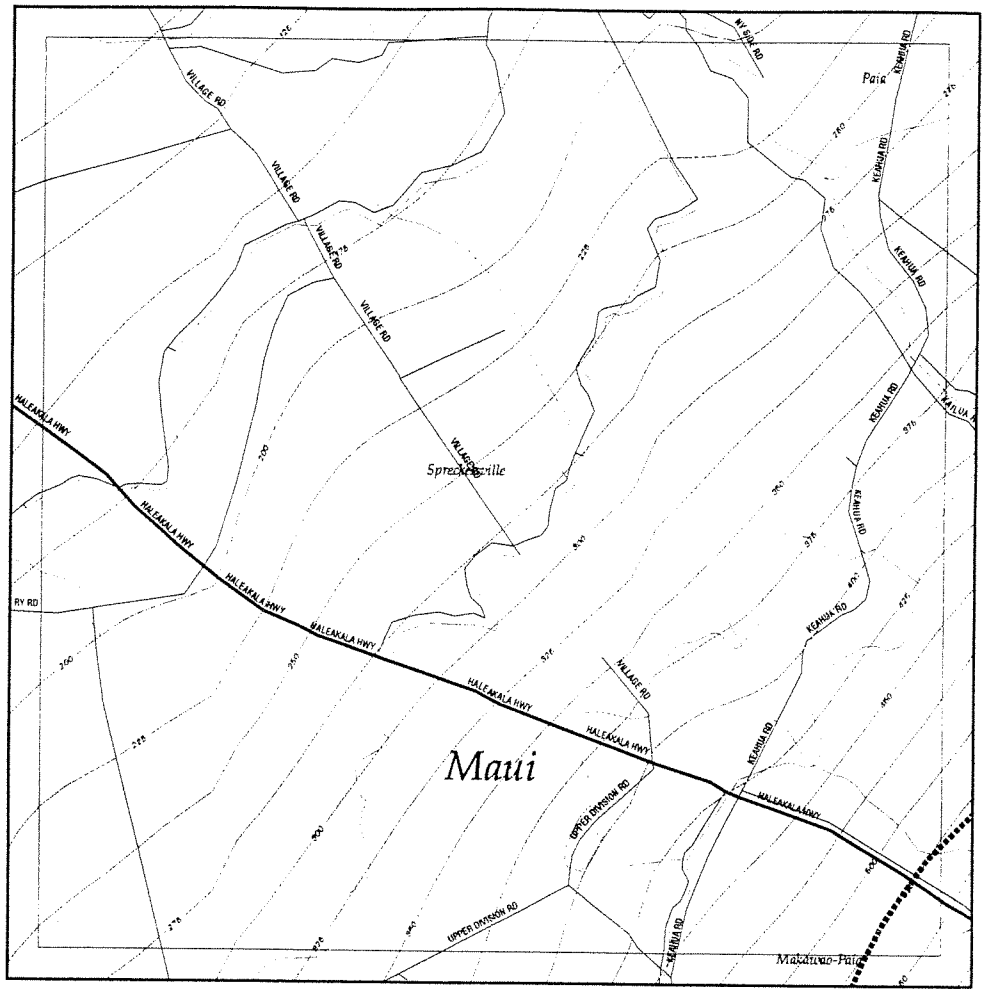
Scale in Miles

Section 2

Focus Maps and Findings

Focus Map 1



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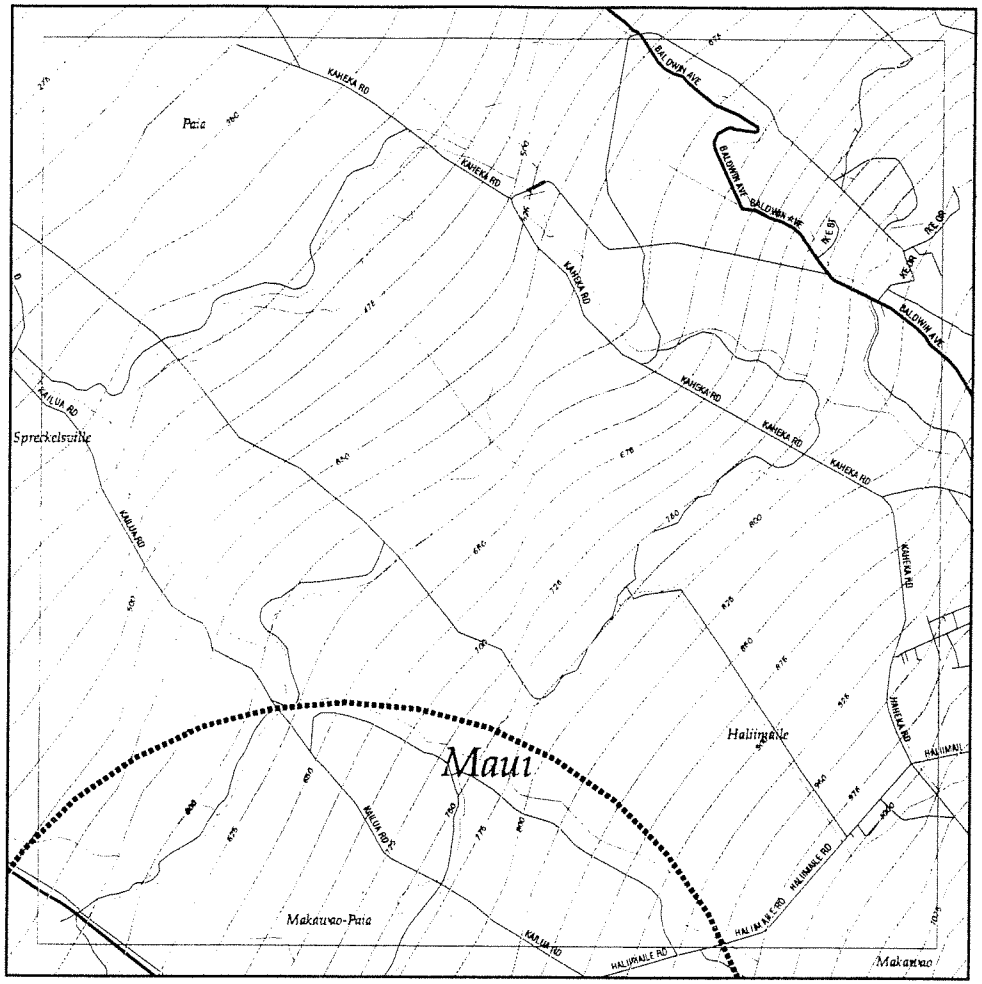

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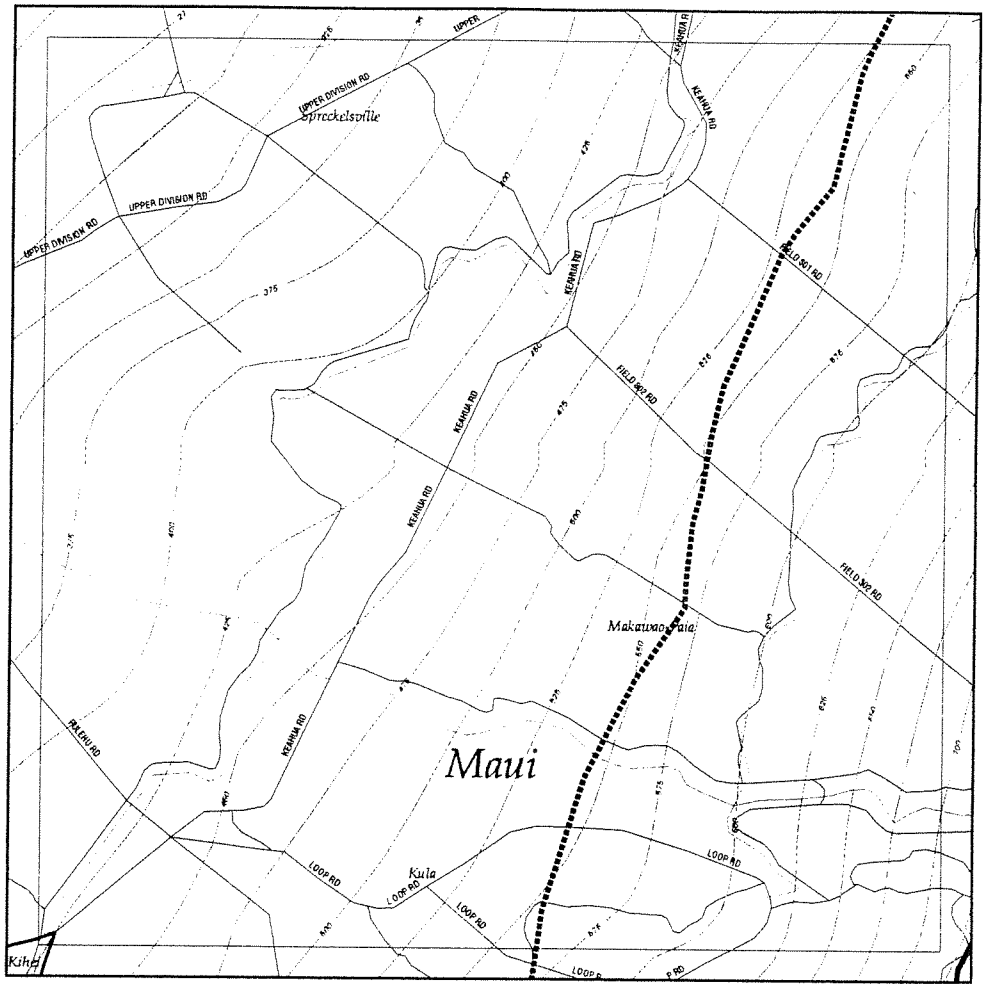
Scale in Miles

Focus Map 3



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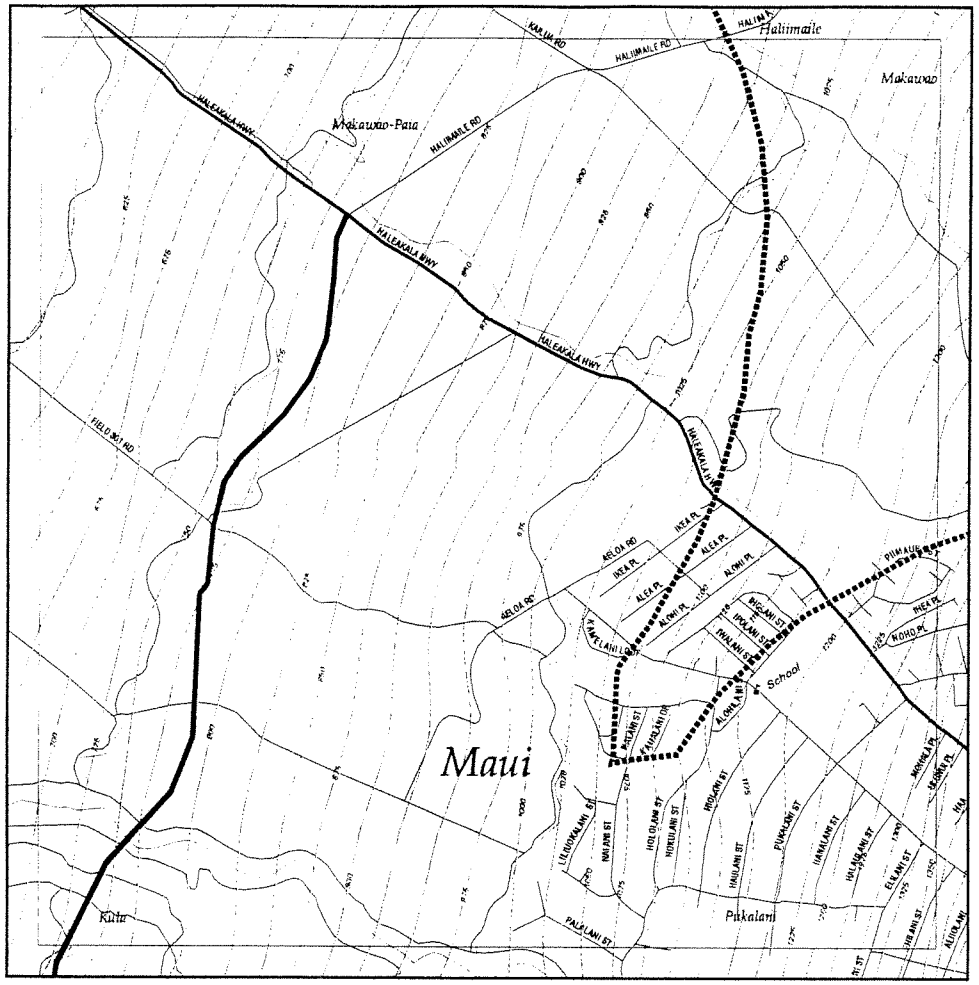
Scale in Miles

Focus Map 4



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Major Roads, Railroads, Pipelines, Water, Sensitive Receptors
Contour Lines, Study Boundary, Fault Lines
Wetlands, 100-Yr Flood Zones

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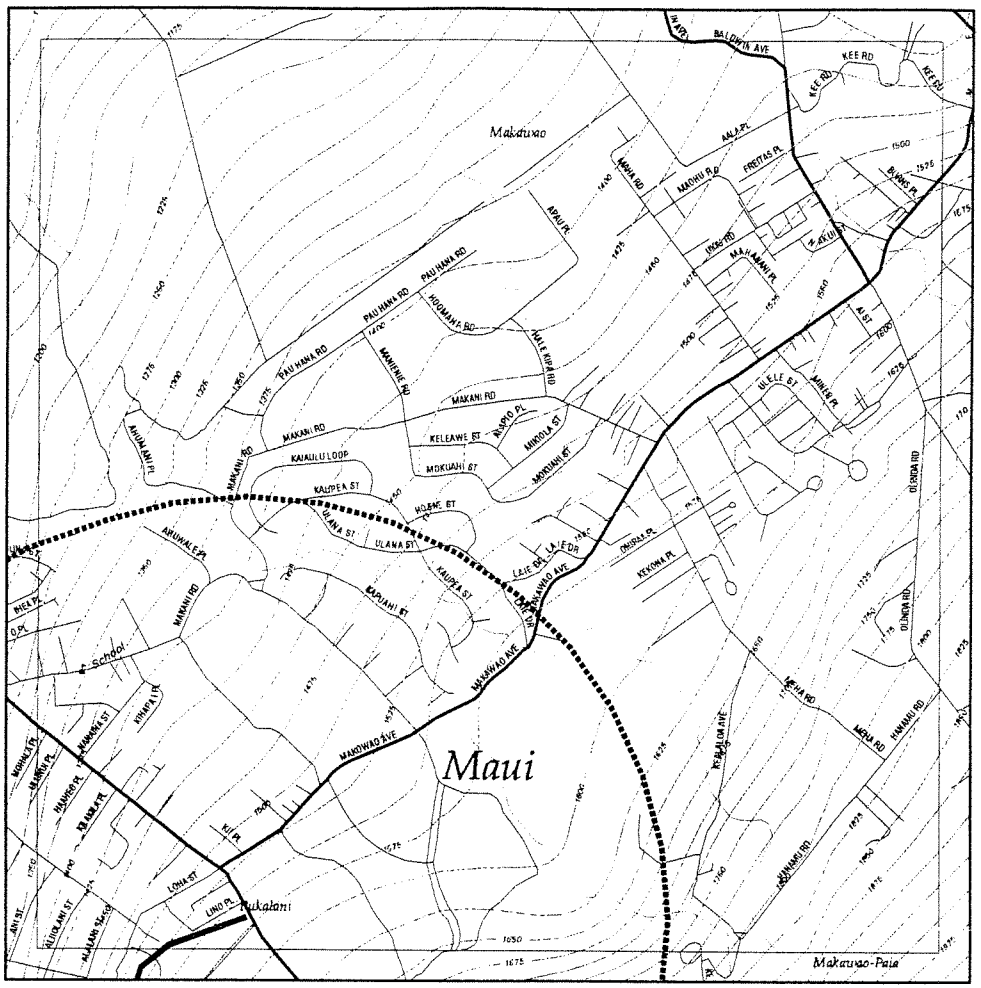
Scale in Miles

Focus Map 5



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Major Roads, Railroads, Pipelines, Water, Sensitive Receptors
Contour Lines, Study Boundary, Fault Lines
Wetlands, 100-Yr Flood Zones

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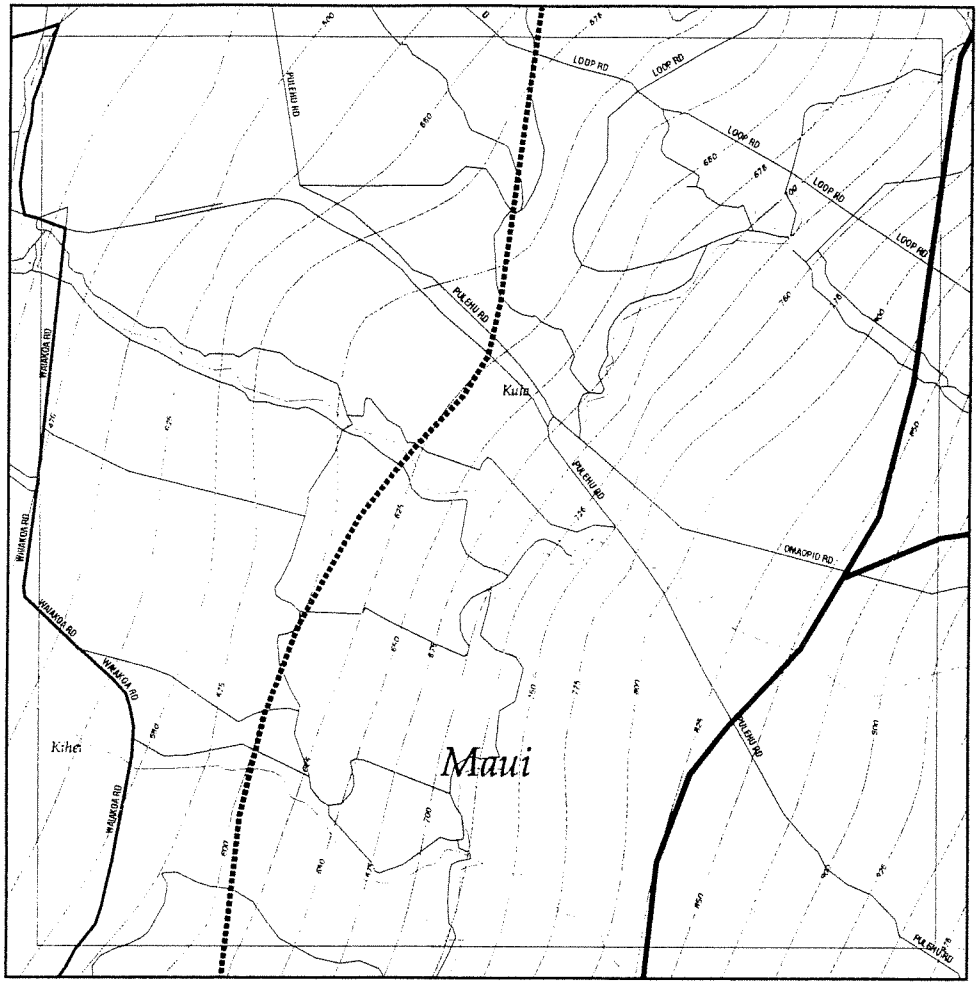
Scale in Miles

Focus Map 6



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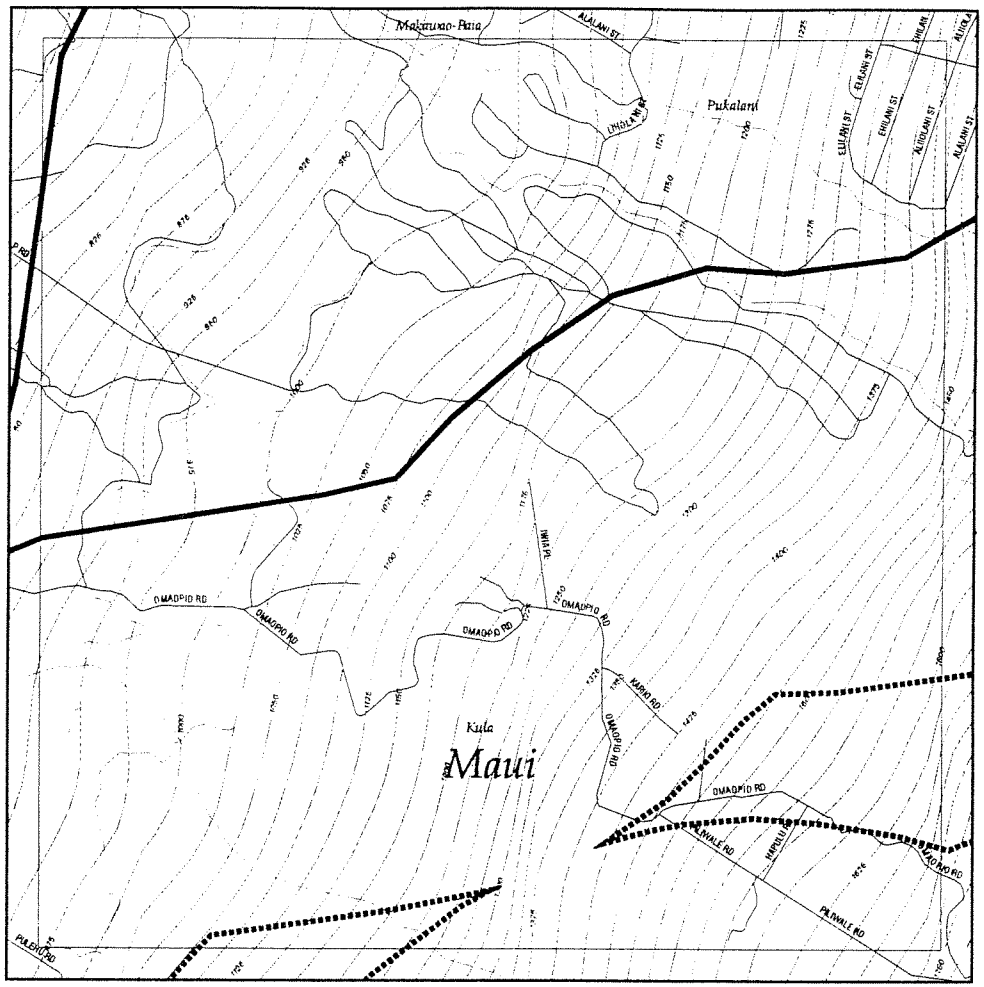
Scale in Miles

Focus Map 7



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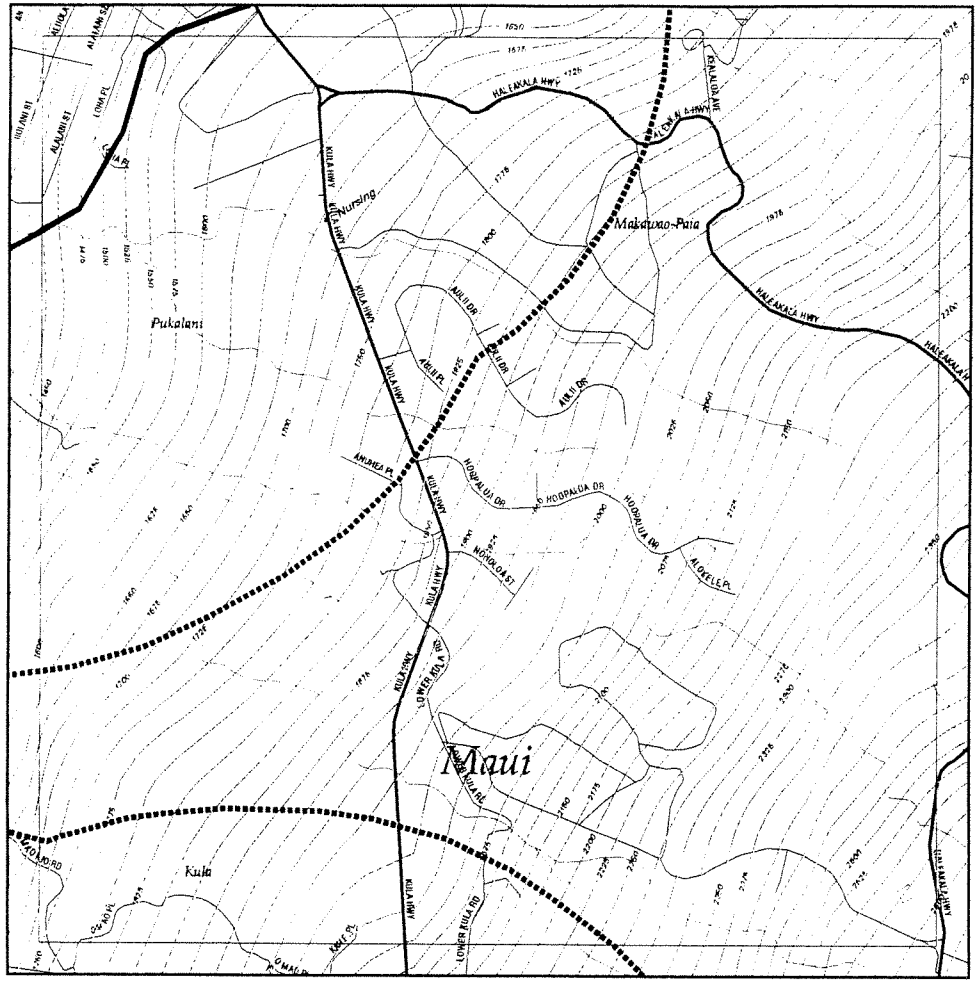
Scale in Miles

Focus Map 8



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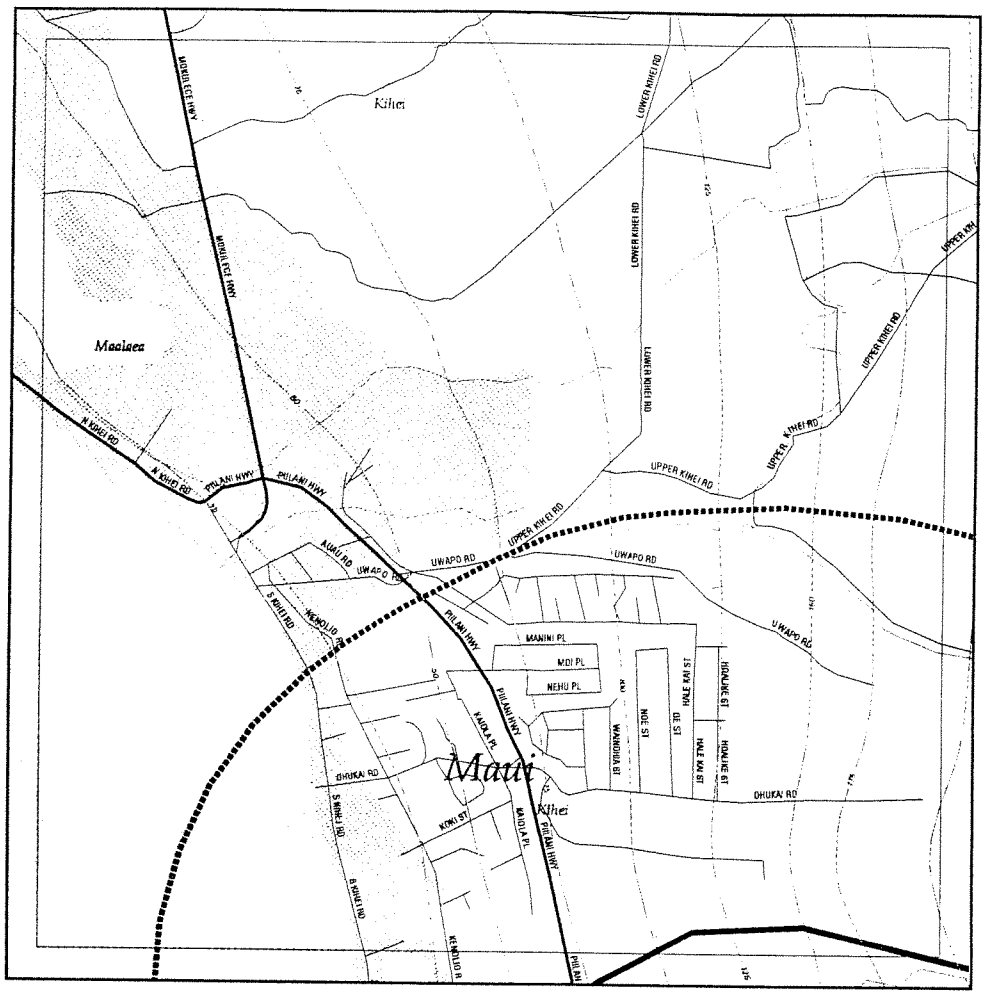
Scale in Miles

Focus Map 9



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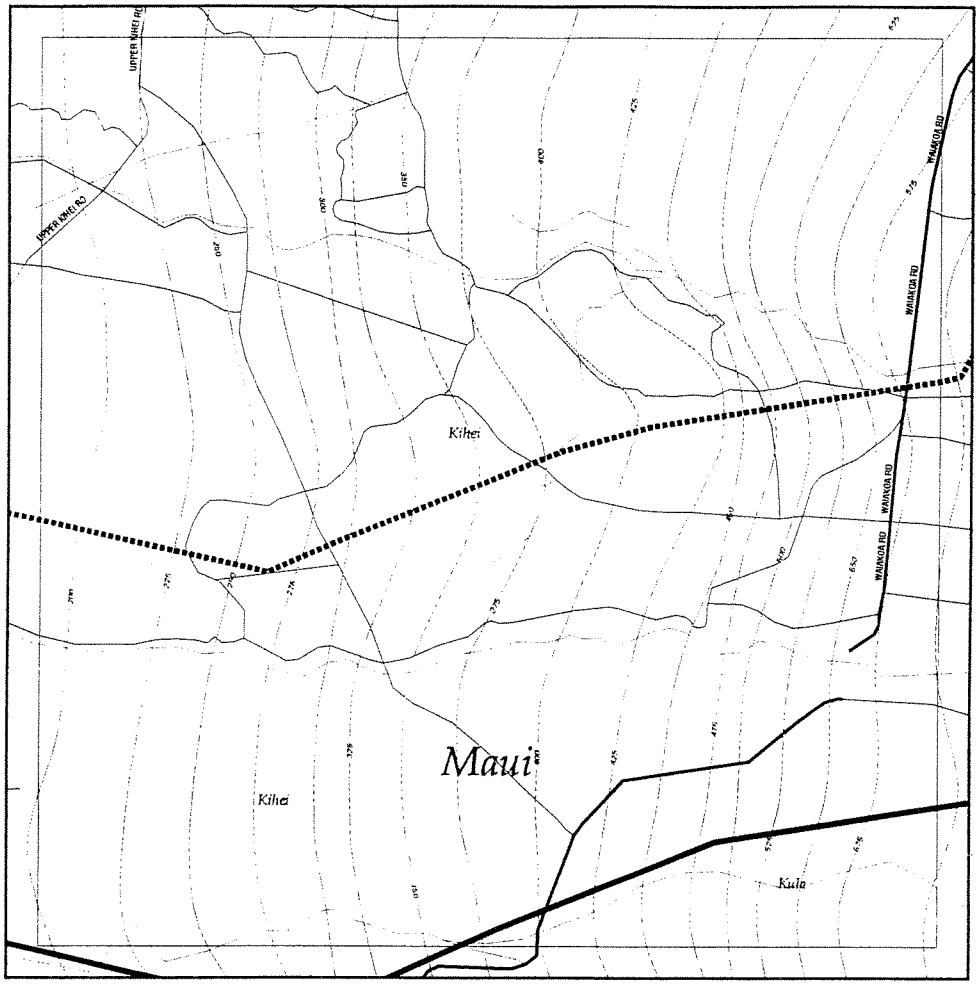
Scale in Miles

Focus Map 10



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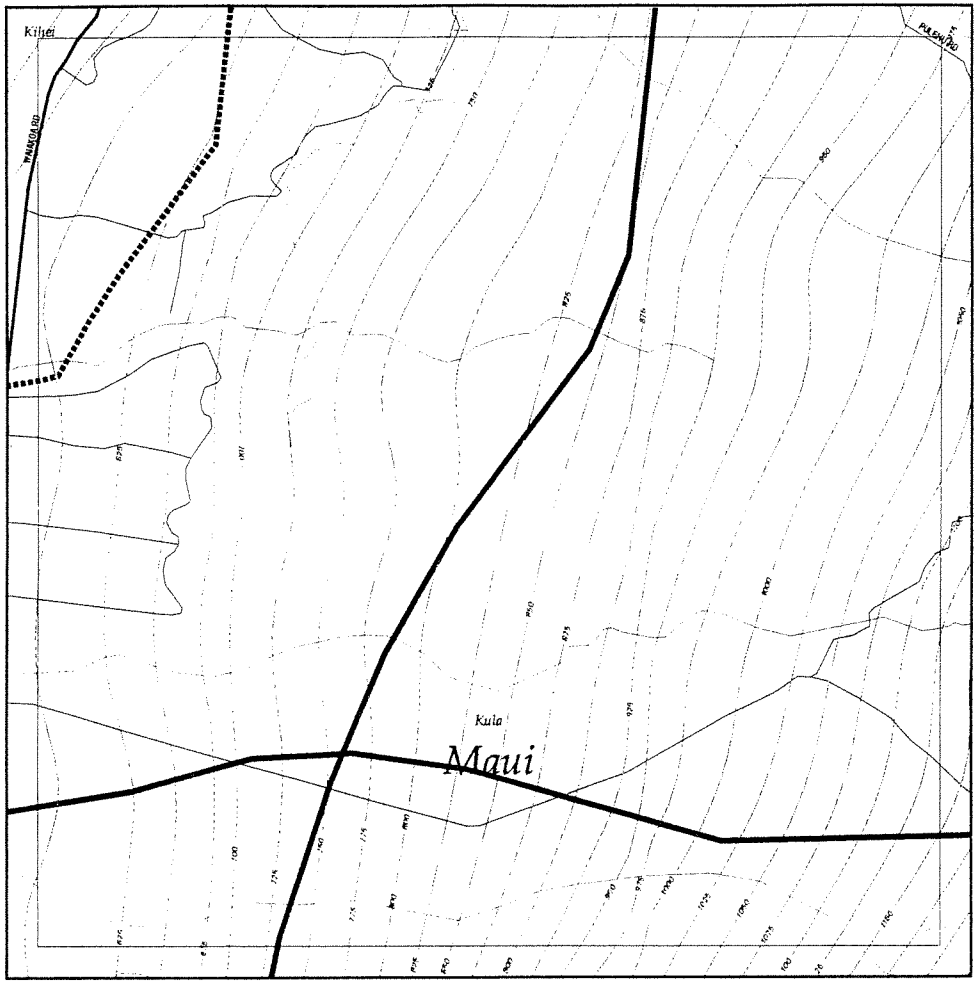
Scale in Miles

Focus Map 11



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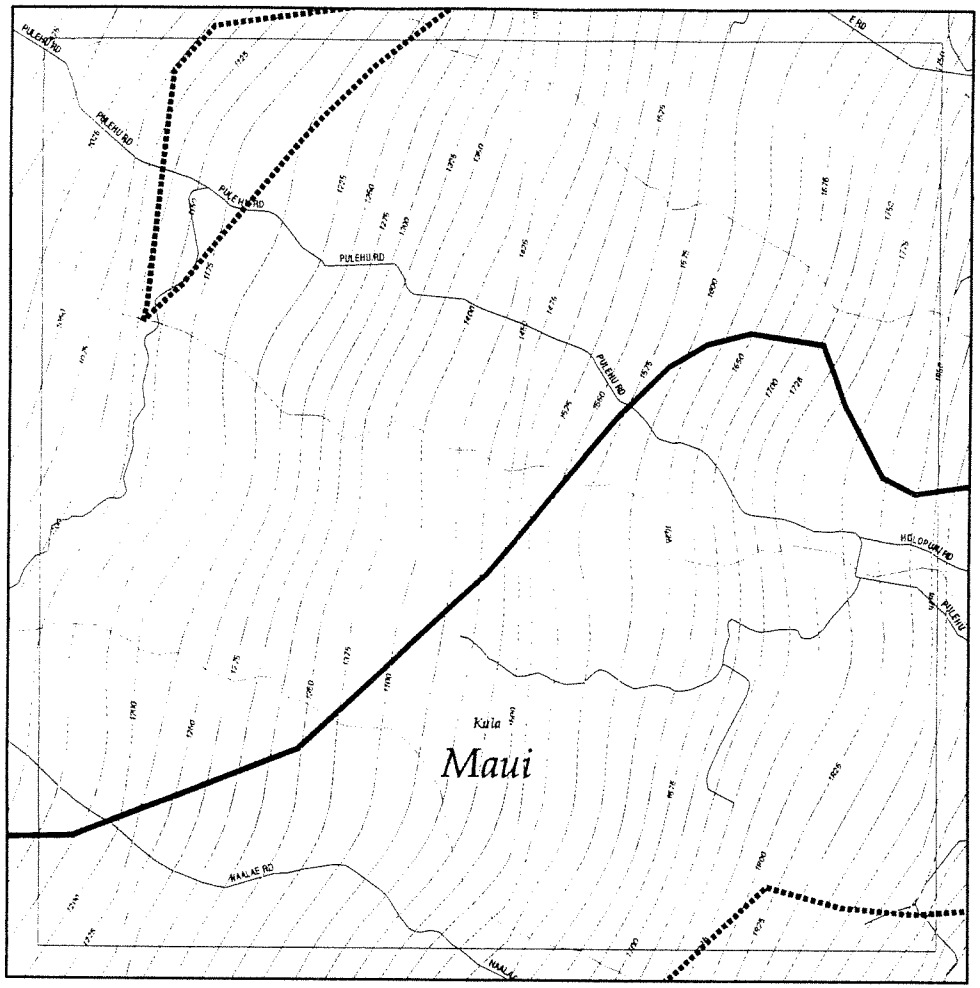
Scale in Miles

Focus Map 12



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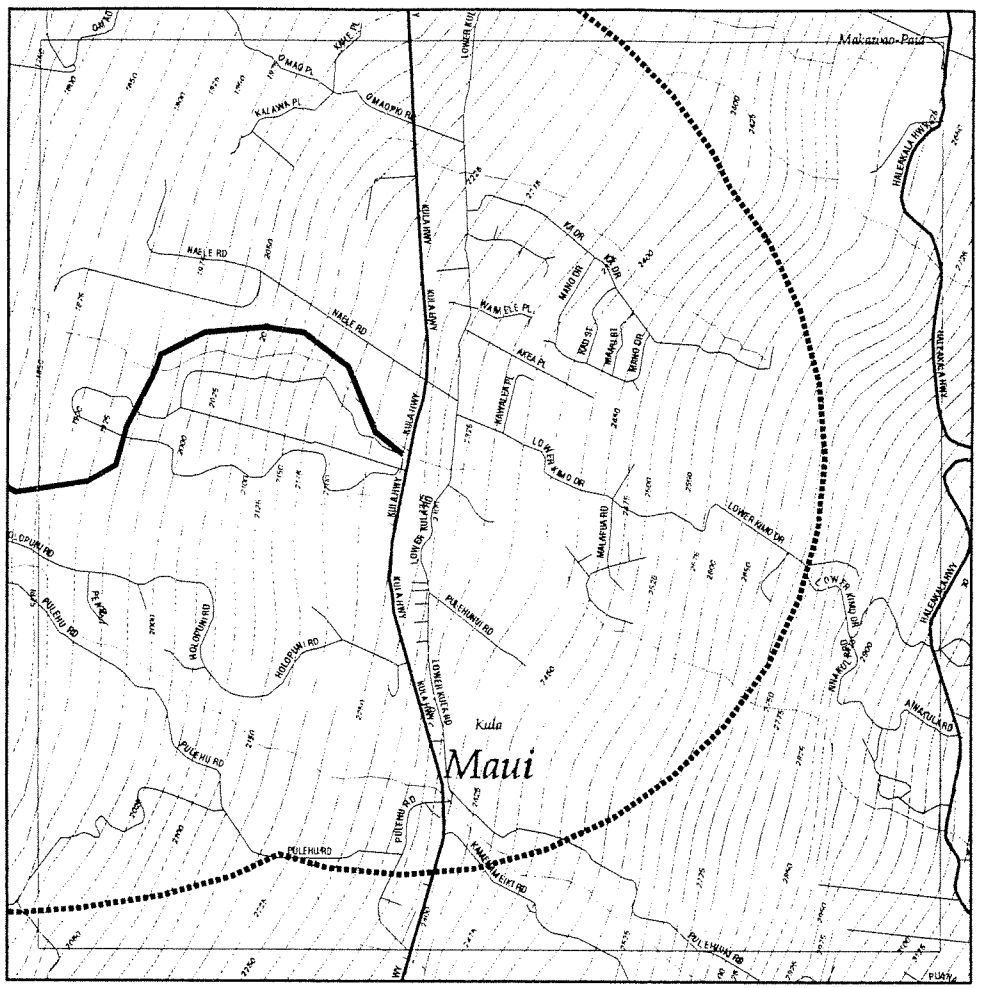
Scale in Miles

Focus Map 13



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Sensitive Receptors

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Scale in Miles

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100-Yr Flood Zones
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Listed Sites
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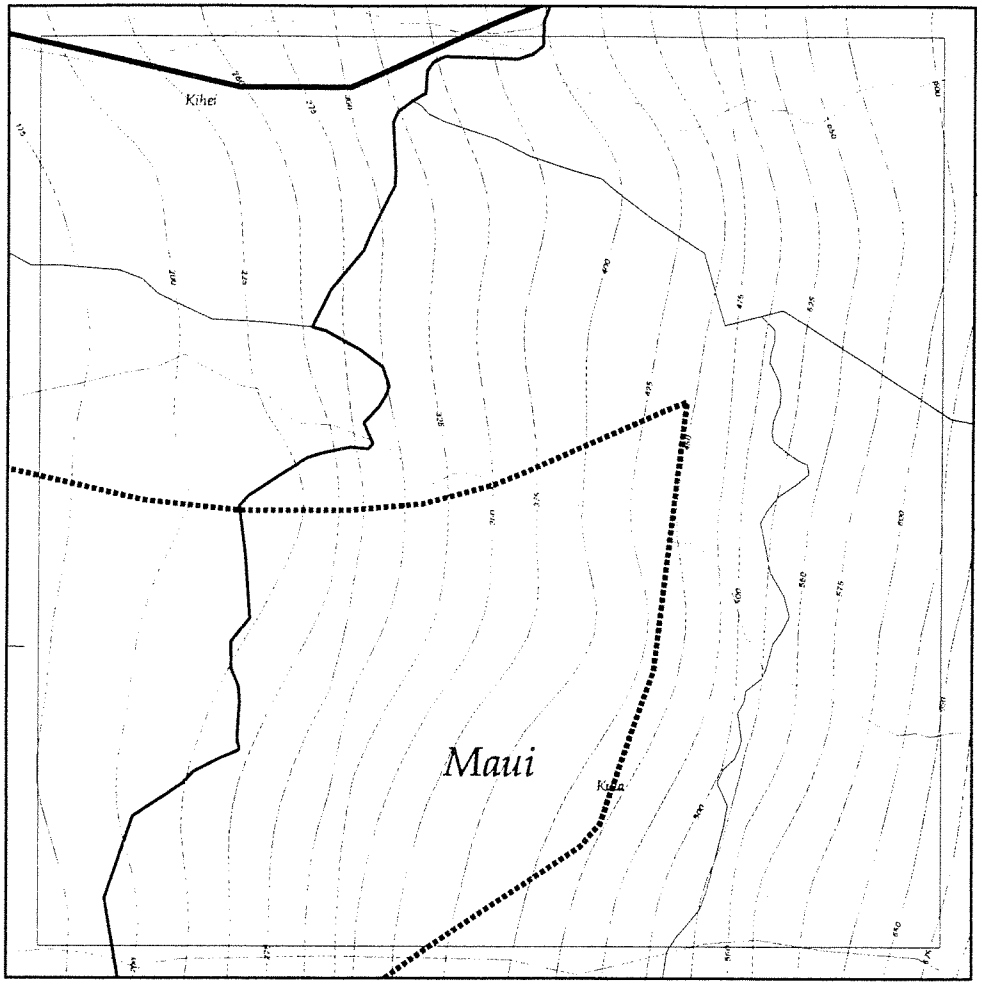
Scale in Miles

Focus Map 15



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EDR – Area/Corridor Study

Kihei - Upcountry Project

Legend

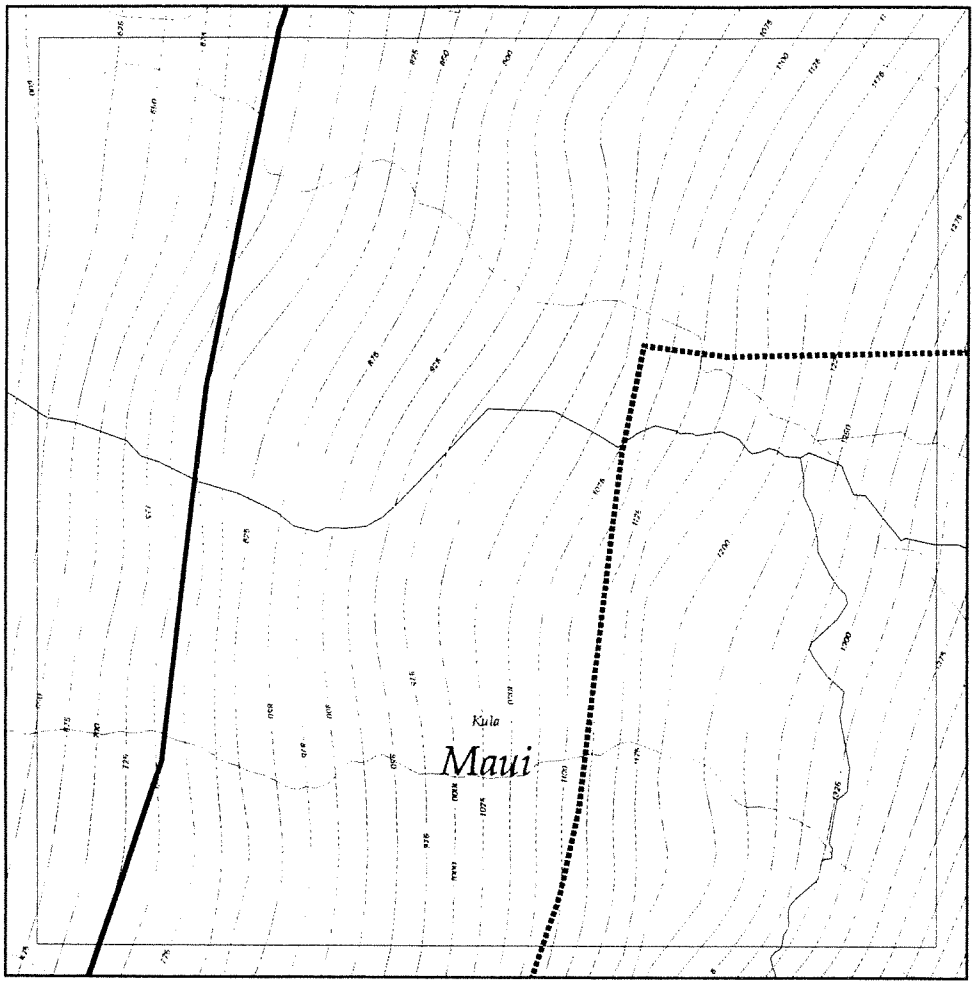
Roads
Major Roads
Contour Lines
Wetlands
Waterways
Railroads
Study Boundary
100-Yr Flood Zones
Powerlines
Pipelines
Fault Lines
Superfund Sites
Water
Listed Sites
Sensitive Receptors

N

0 1/4 1/2

Scale in Miles

Focus Map 16



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Water
Listed Sites
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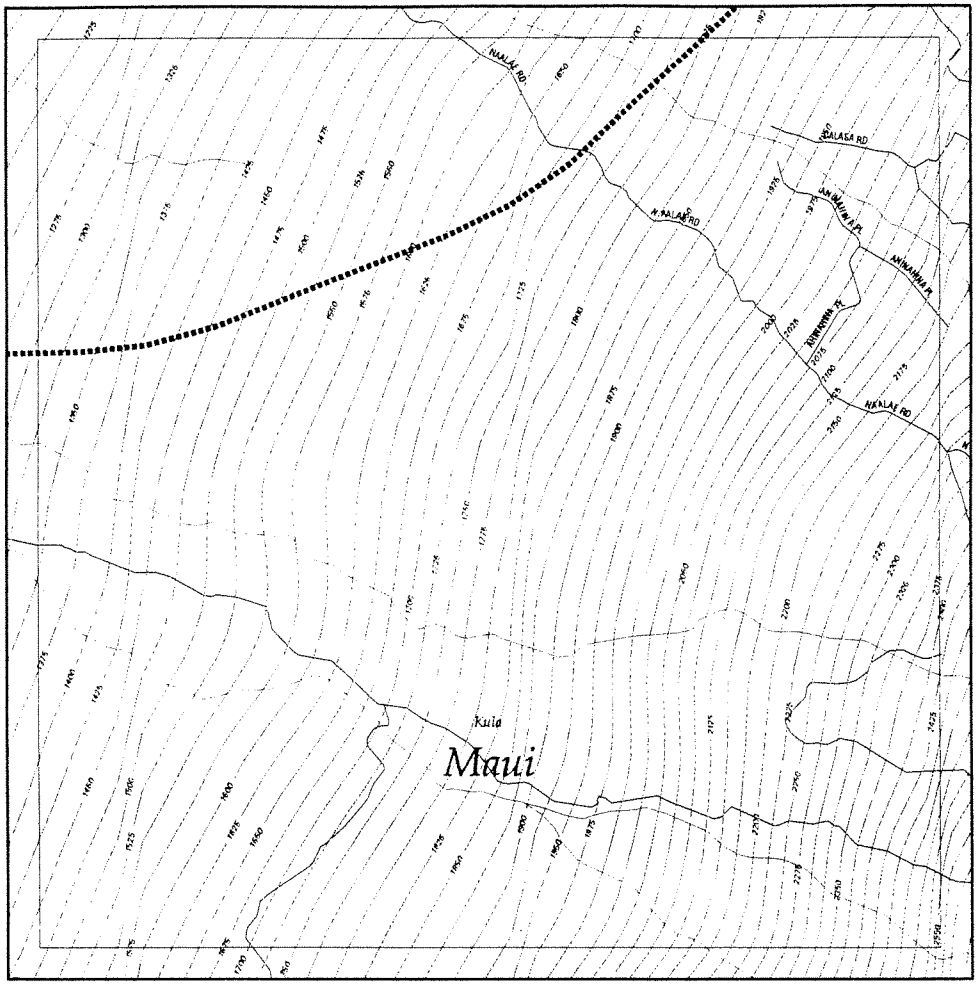
N

0 1/4 1/2

Scale in Miles

Focus Map 17



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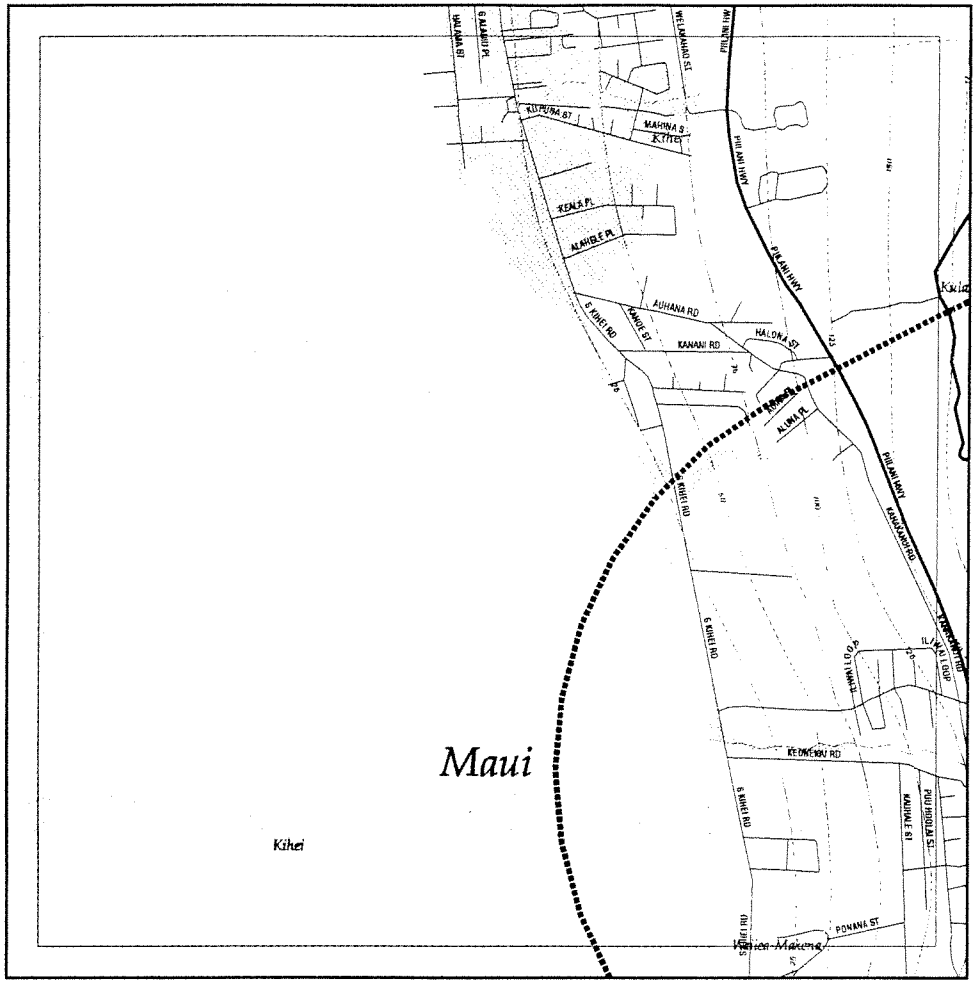
N

0 1/4 1/2

Scale in Miles

Focus Map 18



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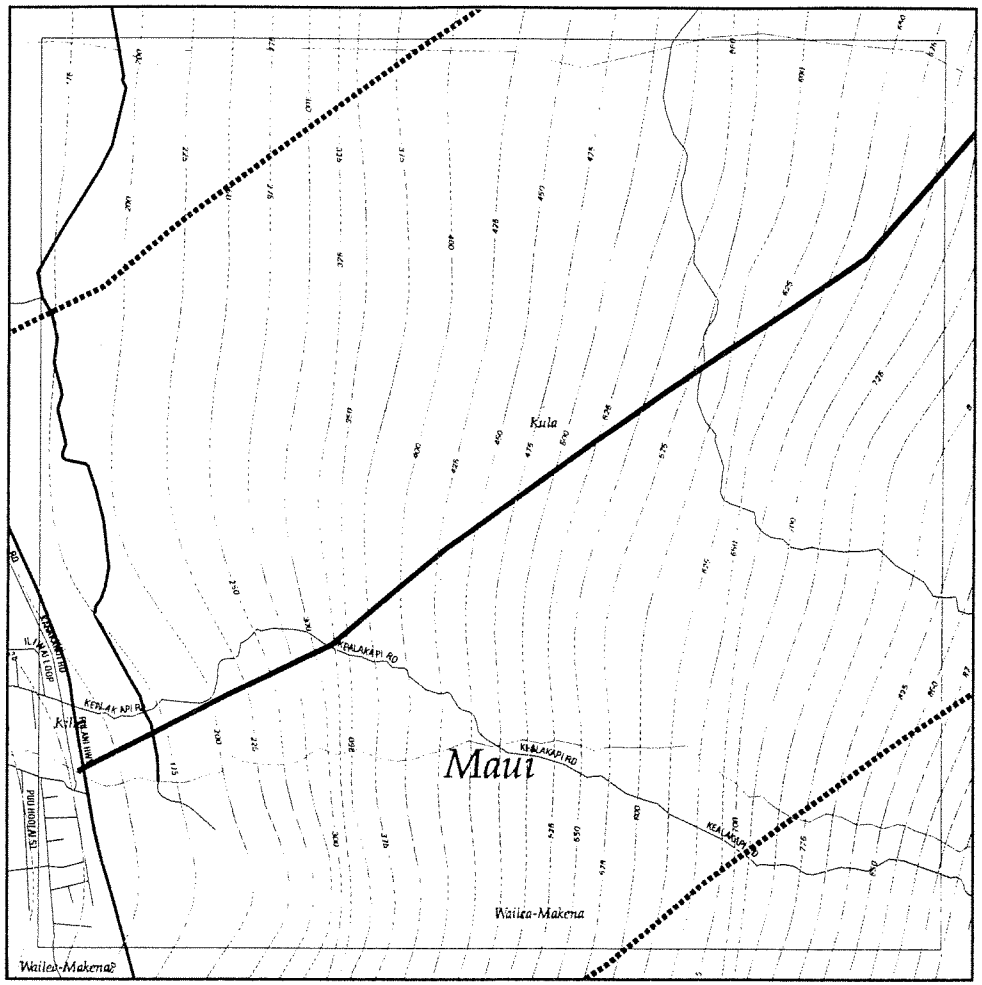
N

0 1/4 1/2

Scale in Miles

Focus Map 19



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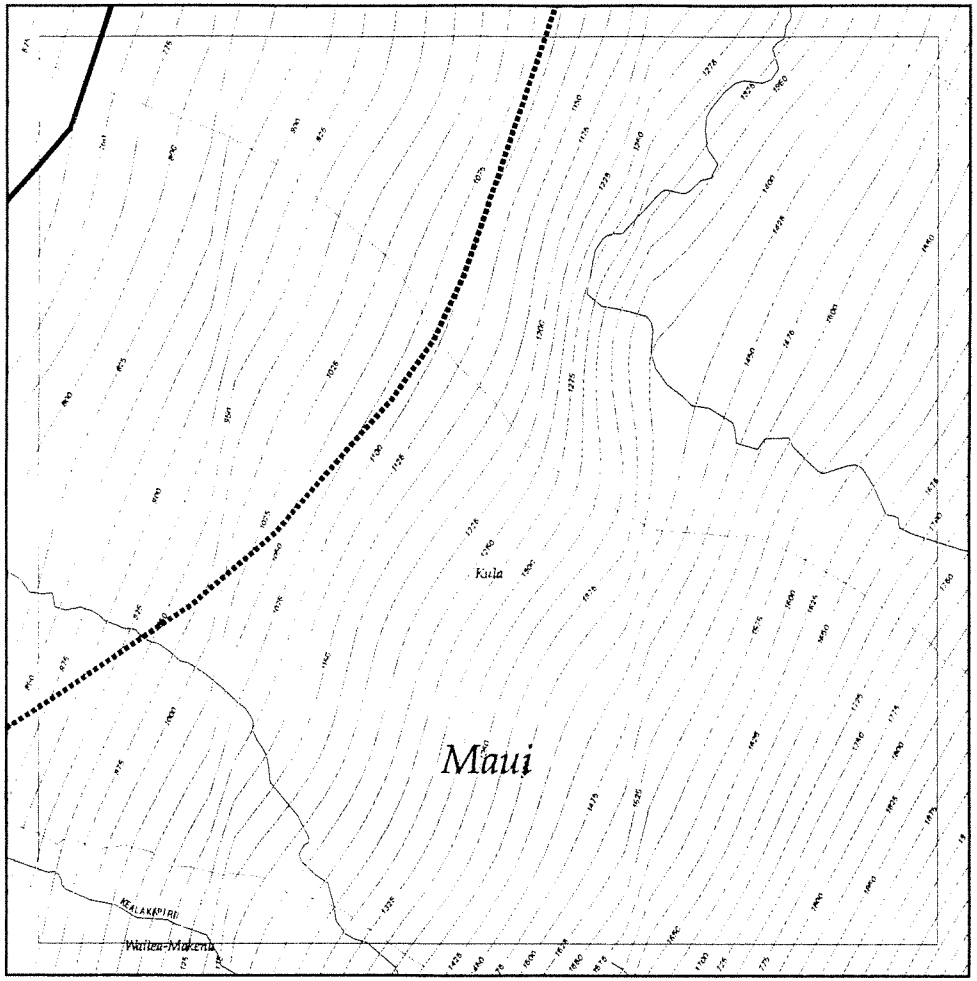
Listed Sites
Sensitive Receptors

N

0 1/4 1/2

Scale in Miles

Focus Map 20



edr
Phone: 800-352-0050

EDR - Area/Corridor Study

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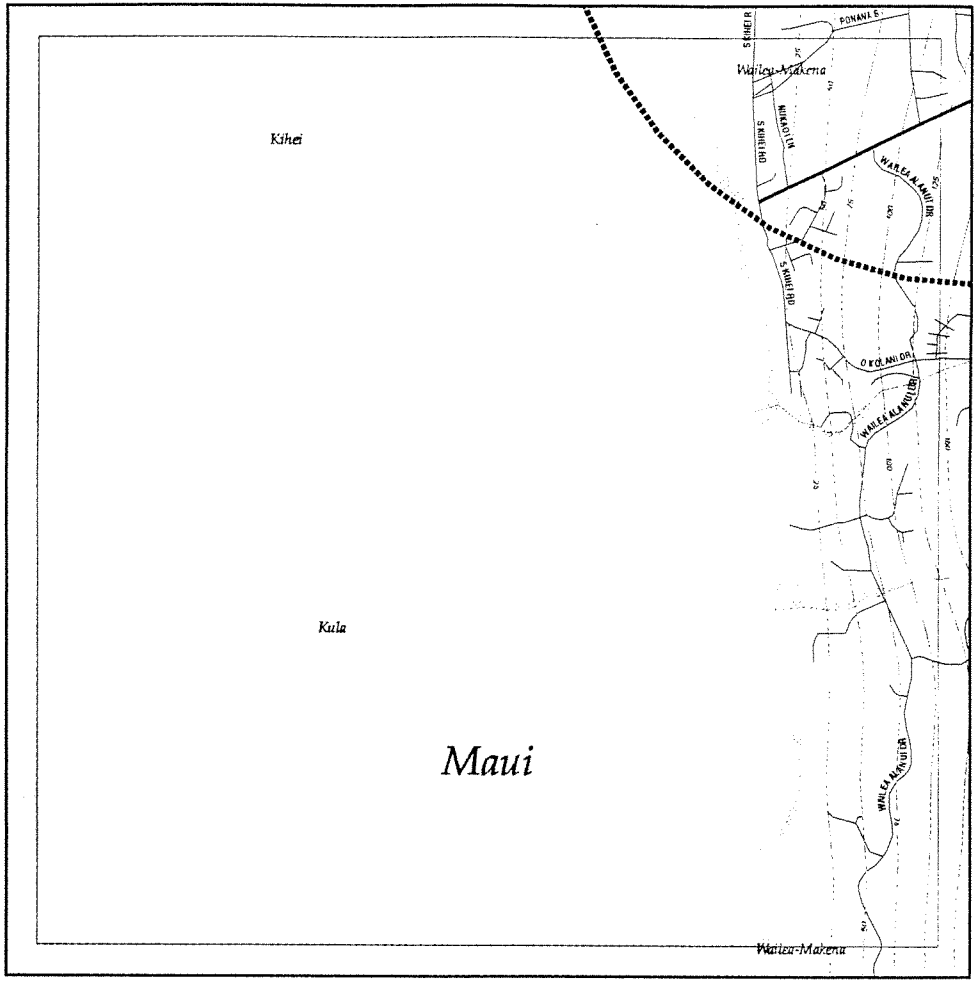
Powerlines
Pipelines
Fault Lines
Superfund Sites
Water
Listed Sites
Sensitive Receptors

N

0 1/4 1/2

Scale in Miles

Focus Map 21



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EDR - Area/Corridor Study

Kihei - Upcountry Project

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Powerlines
Pipelines
Fault Lines
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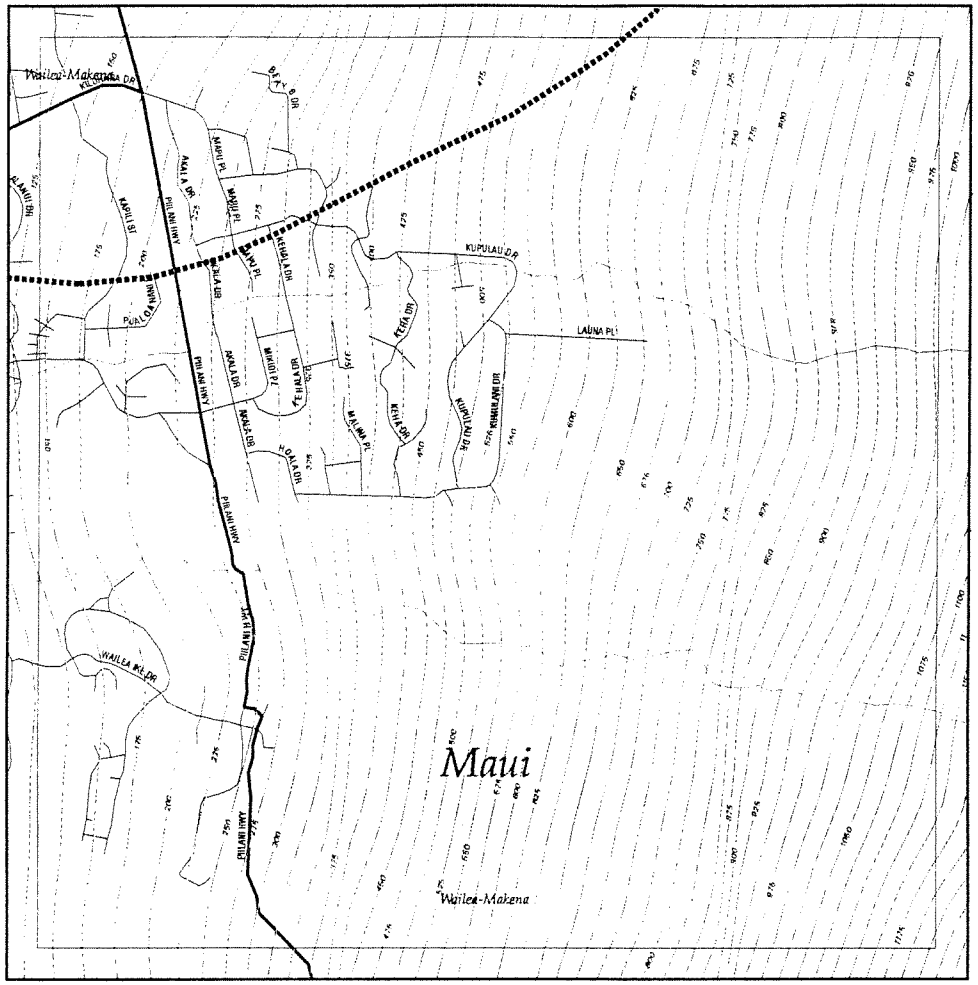
Water
Listed Sites
Sensitive Receptors

N

0 1/4 1/2

Scale in Miles

Focus Map 22



EDR - Area/Corridor Study

Kihei - Upcountry Project

Legend

Roads, Major Roads, Contour Lines, Wetlands, Waterways, Railroads, Study Boundary, 100-Yr Flood Zones, Powerlines, Pipelines, Fault Lines, Superfund Sites, Water, Listed Sites, Sensitive Receptors

N

0 1/4 1/2

Scale in Miles

The EDR Area Study Report

Orphan List Study
Kihei - Upcountry Project
Maui, HI 96753

October 01, 1997

Inquiry number 198604.1s

edr
e data resources, inc.

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

DETAILED ORPHAN LISTING

Site	Database(s)	EDR ID Number EPA ID Number
KIHEI SPS #7 (KAMAOLE PARK #1) **S KIHEI RD** **KIHEI, HI 96753**	**UST**	**U003155087** **N/A**

UST:

Facility ID:	9-500218	Tank ID:	M-001
Tank Status:	Permanently Out of Use	Tank Capacity:	150
Installed:	05-May-74	Date Closed:	01-Nov-94
Substance:	Diesel		
Owner:	COUNTY OF MAUI 200 S. HIGH STREET Wailuku, HI 96793		

KIHEI SPS#8 (HALE HUI KAI CONDO) **S KIHEI RD** **KIHEI, HI 96753**	**UST**	**U003155088** **N/A**

UST:

Facility ID:	9-500219	Tank ID:	M-001
Tank Status:	Permanently Out of Use	Tank Capacity:	150
Installed:	05-May-74	Date Closed:	21-Mar-94
Substance:	Diesel		
Owner:	COUNTY OF MAUI 200 S. HIGH STREET Wailuku, HI 96793		

ULUPALAKUA RANCH STORE **HIGHWAY 37** **KULA, HI 96790**	**UST**	**U001236673** **N/A**

UST:

Facility ID:	9-500425	Tank ID:	R-002
Tank Status:	Permanently Out of Use	Tank Capacity:	500
Installed:	01-Jan-64	Date Closed:	01-Sep-89
Substance:	Gasoline		
Owner:	ULUPALAKUA RANCH, INC. P.O. BOX 901 Kula, HI 96790		
Facility ID:	9-500425	Tank ID:	R-001
Tank Status:	Permanently Out of Use	Tank Capacity:	2000
Installed:	01-Jan-64	Date Closed:	01-Sep-89
Substance:	Gasoline		
Owner:	ULUPALAKUA RANCH, INC. P.O. BOX 901 Kula, HI 96790		

KULA CENTRAL OFFICE **KULA HWY** **KULA, HI 96790**	**UST** **LUST**	**U001236685** **N/A**

UST:

Facility ID:	9-500547	Tank ID:	R-M-1
Tank Status:	Permanently Out of Use	Tank Capacity:	200
Installed:	07-May-72	Date Closed:	19-May-94
Substance	Diesel		
Owner:	GTE HAWAIIAN TELEPHONE CO., INC 1177 BISHOP ST Honolulu, HI 96813		

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
KIHEI	U003155087	KIHEI SPS #7 (KAMAOLE PARK #1)	S KIHEI RD	96753	UST	9-500218
KIHEI	U003155088	KIHEI SPS#8 (HALE HUI KAI CONDO)	S KIHEI RD	96753	UST	9-500219
KULA	U001236673	ULUPALAKUA RANCH STORE	HIGHWAY 37	96790	UST	9-500425
KULA	U001236685	KULA CENTRAL OFFICE	KULA HWY	96790	UST, LUST	9-500547
MAKAWAO	U001236783	CROSSROADS SERVICE	MAKAWAO AVE	96768	UST	9-501605

DETAILED ORPHAN LISTING

Site	Database(s)	EDR ID Number EPA ID Number
KULA CENTRAL OFFICE (Continued)		U001236685

LUST:
Facility ID: 9-500547
Alternate Event ID: 940157
Facility Staus: Site Cleanup Completed
Facility Status Date: 12/28/1994

CROSSROADS SERVICE UST U001236783
MAKAWAO AVE N/A
MAKAWAO, HI 96768

UST:

Facility ID:	9-501605	Tank ID:	1
Tank Status:	Temporarily Out of Use	Tank Capacity:	1200
Installed:	01-May-66	Date Closed:	Not reported
Substance:	Other		
Owner:	RICHARD F. TAM SING P. O. BOX 1199 Makawao, HI 96768		

Facility ID:	9-501605	Tank ID:	2
Tank Status:	Temporarily Out of Use	Tank Capacity:	1200
Installed:	Not reported	Date Closed:	Not reported
Substance:	Other		
Owner:	RICHARD F. TAM SING P. O. BOX 1199 Makawao, HI 96768		

Facility ID:	9-502765	Tank ID:	R-1
Tank Status:	Permanently Out of Use	Tank Capacity:	Not reported
Installed:	Not reported	Date Closed:	01-Jun-93
Substance:	Not Listed		
Owner:	COUNTY OF MAUI FIRE PREVENTION BUREAU / 21 KINIPOPO ST Wailuku, HI 96793		

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Section 4

EPA Waste Code Addendum

Code	Description

Section 5

Databases Searched and Update Dates

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA/NTIS
Telephone: 703-413-0223
CERCLIS: CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/30/97
Date Made Active at EDR: 06/30/97
Database Release Frequency: Monthly
Date of Data Arrival at EDR: 05/19/97
Elapsed ASTM days: 42
Date of Last EDR Contact: 08/22/97

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
ERNS: Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/01/97
Date Made Active at EDR: 06/24/97
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 04/10/97
Elapsed ASTM days: 75
Date of Last EDR Contact: 08/26/97

NPL: National Priority List
Source: EPA
Telephone: 703-603-8852
NPL: National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 04/01/97
Date Made Active at EDR: 05/29/97
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 04/21/97
Elapsed ASTM days: 38
Date of Last EDR Contact: 07/01/97

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 04/01/97
Date Made Active at EDR: 06/30/97
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 04/25/97
Elapsed ASTM days: 66
Date of Last EDR Contact: 08/04/97

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS: CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/01/96
Date Made Active at EDR: 03/03/97
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 12/30/96
Elapsed ASTM days: 63
Date of Last EDR Contact: 07/07/97

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEDERAL NON-ASTM RECORDS:

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
BRS: The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/93
Database Release Frequency: Biennially
Date of Last EDR Contact: 08/04/97
Date of Next Scheduled EDR Contact: 09/22/97

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies
Database Release Frequency: Varies
Date of Last EDR Contact: Varies
Date of Next Scheduled EDR Contact: N/A

FINDS: Facility Index System
Source: EPA/NTIS
Telephone: 703-908-2493
FINDS: Facility Index System. FINDS contains both facility information and "pointers" to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/30/95
Database Release Frequency: Quarterly
Date of Last EDR Contact: 08/22/97
Date of Next Scheduled EDR Contact: 11/04/97

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
HMIRS: Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/95
Database Release Frequency: Annually
Date of Last EDR Contact: 07/28/97
Date of Next Scheduled EDR Contact: 10/27/97

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/15/97
Database Release Frequency: Quarterly
Date of Last EDR Contact: 07/14/97
Date of Next Scheduled EDR Contact: 10/13/97

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
NPL LIENS: Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/25/97
Date of Next Scheduled EDR Contact: 11/24/97

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PADS: PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/27/97
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 08/19/97
Date of Next Scheduled EDR Contact: 11/17/97

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RAATS: RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 07/01/97
Date of Next Scheduled EDR Contact: 09/15/97

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 03/31/95
Database Release Frequency: Annually
Date of Last EDR Contact: 09/03/97
Date of Next Scheduled EDR Contact: 12/01/97

TRIS: Toxic Chemical Release Inventory System
Source: EPA/NTIS
Telephone: 202-260-1531
TRIS: Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/92
Database Release Frequency: Annually
Date of Last EDR Contact: 07/02/97
Date of Next Scheduled EDR Contact: 09/29/97

TSCA: Toxic Substances Control Act
Source: EPA/NTIS
Telephone: 202-260-1444
TSCA: Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site. USEPA has no current plan to update and/or re-issue this database.

Date of Government Version: 01/31/95
Database Release Frequency: Annually
Date of Last EDR Contact: 06/16/97
Date of Next Scheduled EDR Contact: 09/15/97

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF HAWAII ASTM RECORDS:

LUST: Active Leaking Underground Storage Tank Log Listing
Source: Department of Health
Telephone: 808-586-4228
LUST: Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/31/96
Date Made Active at EDR: 04/21/97
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 03/14/97
Elapsed ASTM days: 38
Date of Last EDR Contact: 07/07/97

SHWS: CERCLIS
Source: Department of Health
Telephone: 703-603-8904
SHWS: State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/30/97
Date Made Active at EDR: 06/30/97
Database Release Frequency: Monthly

Date of Data Arrival at EDR: 05/19/97
Elapsed ASTM days: 42
Date of Last EDR Contact: 07/07/97

SWF/LF: Permitted Landfills in the State of Hawaii
Source: Department of Health
Telephone: 808-586-4245
SWF/LF: Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/18/97
Date Made Active at EDR: 06/06/97
Database Release Frequency: Annually

Date of Data Arrival at EDR: 04/29/97
Elapsed ASTM days: 38
Date of Last EDR Contact: 06/30/97

UST: Listing of Underground Storage Tanks
Source: Department of Health
Telephone: 808-586-4228
UST: Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/31/96
Date Made Active at EDR: 04/29/97
Database Release Frequency: Annually

Date of Data Arrival at EDR: 03/14/97
Elapsed ASTM days: 46
Date of Last EDR Contact: 07/07/97

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: Delisted NPL Sites
Source: EPA
Telephone: 703-603-8769
DELISTED NPL: The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

NFRAP: No Further Remedial Action Planned
Source: EPA/NTIS
Telephone 703-413-0223
NFRAP: As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

FRDS: Federal Reporting Data System
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
FRDS provides information regarding public water supplies and their compliance with monitoring requirements, maximum contaminant levels (MCL's), and other requirements of the Safe Drinking Water Act of 1986.

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1994 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
WATER DAMS: National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

KIHEI UPCOUNTRY MAUI HIGHWAY

FINAL ENVIRONMENTAL IMPACT STATEMENT
VOLUME TWO: DRAFT EIS COMMENTS AND RESPONSES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEBRUARY 2002

VOLUME TWO: DRAFT EIS COMMENTS AND RESPONSES

PUBLIC HEARING TRANSCRIPTS

Kihei Aquatic and Community Center, September 29, 1999
Mayor Hannibal Tavares Community Center, September 30, 1999
Kahului School, October 13, 1999

DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS THAT REQUIRE RESPONSES

Transmittal Letter to Governmental Agencies from the State of Hawaii Department of Transportation
Letters from Government Agencies and Responses from the State of Hawaii Department of Transportation
Transmittal Letter to Non-Governmental Participants from the State of Hawaii Department of Transportation
Letters, Comment Forms, Paraphrased Oral Comments From Non-Governmental Participants and Responses from the Department of Transportation

DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS THAT DO NOT REQUIRE RESPONSES

Transmittal Letter from the State of Hawaii Department of Transportation
Letters and Comment Forms

Kihei-Upcountry Maui Highway

Participants Who Provided Comments During the Draft EIS Review Period

U.S. Army Engineer District
U.S. Department of Agriculture
U.S. Dept. of the Interior, Office of Environmental Policy & Compliance
U.S. Dept. of the Interior, USGS, Biological Resources Division
U.S. Dept. of the Interior, USGS, Water Resources Division
U.S. Environmental Protection Agency, Region IX
State of Hawaii Dept. of Accounting & General Services
State of Hawaii Dept. of Defense
State of Hawaii Dept. of Education
State of Hawaii Dept. of Health
State of Hawaii Dept. of Land and Natural Resource, Division of Forestry and Wildlife
State of Hawaii Office of Environmental Quality Control
State of Hawaii Office of Hawaiian Affairs
University of Hawaii at Manoa, Environmental Center
The Honorable James "Kimo" Apana, Mayor County of Maui
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County of Maui, Police Department
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Cristin Engel
Bob Nichols
John Phillips
Russ Kennedy
Edward Belway
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Richard Pohle
Louise Smith
Gwendolyn Barrett
Donn and Diane Anderson
Ry Barbin
Sheri Morrison
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Marilyn and Lyman Morikawa
Helen and William James
Harry and Penny Sieling
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Gary Ritchie
Betty Ikeda
Alvin Barnhart
R. Gregory LaGoy and Victoria Joyce
Craig and Lisa Williams
Patricia Thibaut
Tony and Katherine Walholm
Robert and Adrienne Morine
Richard and Ethelyn Helm
Yoshio and Ruby Arakaki
Roland and Mona Wolfe
Paul Meyer and Rosalyn Loomig
Alice and Dwayne Bower
Gary and Margaret Sanchez

Kahren, Kristin and Gerald Miller
Richard and Melinda Armour
Hugh and Karen Chare
Ralph Kato
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Benny and Gayle Yamamoto
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David and Lynne Barratt
Elliot and Barbara Luke
Carmane Lindsey
Andrew and Edith Don
Tobi and Patrick Fisher
Bruce and Lise Taylor
Diane Logsdon and R.S. Thieman
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Greenway
Ron Rawson
McDaniel
Robert Gilroy
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Michael J. Orfredal Abreu
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Randy & Marilyn Heller
Pierce
Bremmer
H. Ferris
Wessen
D. Oka
Pua Kea Farm
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E.J. Cambra
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Some participants provided comments anonymously or their names were illegible.

PUBLIC HEARING TRANSCRIPTS

Kihei Aquatic and Community Center, September 29, 1999

Mayor Hannibal Tavares Community Center, September 30, 1999

Kahului School, October 13. 1999

Kihei Aquatic and Community Center
September 29, 1999
Public Hearing Transcripts

KIHEI-UPCOUNTRY MAUI HIGHWAY

COUNTY OF MAUI

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PUBLIC HEARING

Held at the Kihei Community Complex and Aquatics Center, Kihei, Maui, Hawaii, commencing at 6:30 p.m. on September 29, 1999.

REPORTED BY: JEANNETTE W. IWADO, RPR/CSR #135

I N D E X

TRANSCRIPT OF PROCEEDINGS

PUBLIC HEARING

MR. GALBRAITH: I am Kimo Galbraith, PO Box 1728, Kihei. Right now I drive on these roads every day, I'm a taxi driver, and I see the conditions of the road and then I see the traffic. The traffic is getting so bad right now already at Lipoa that it doesn't make sense to go up from Lipoa. All your growth right now is getting so heavy in the Kihei area that within five years Kihei is going to be full, and everything is moving towards Makena. So why do they want to put another rode and make it more congested right here in the middle of town, when they should go down to Wailea.

They had the alternate road in Wailea originally, but they did away with it. Going from Wailea was going up to Kula Road, which would be simpler for everybody on this side, of course, and it would still be simple for the people up in Pukalani to drive down the highway and come down here. And it would cause less traffic because the traffic would be going down from the main highways down from Pukalani. But they have done away with that one.

So the second best one, which is the only one that they've proposed now, is going from the Kamalii school up to the Kula area, which will in some ways release some of that congestion. But you know, this is not even going to happen for

five years. Within five years it's going to be such a mess around here with traffic that this road will be obsolete before they finish it. They have got to get a good plan. I mean, you know, they can't make everybody happy. But I see so much growth going down towards Wailea, and we have a huge influx of tourism that want to go Upcountry. People in Kihei that want to work Upcountry and have to work Upcountry can also drive and relieve the traffic by going to Wailea and going up that way, rather than make the traffic heavier coming through this way.

I am not only considering the traffic, but tourism is a major factor with all the traffic. I mean how do I say it? I wish they would have left the Wailea and Kula Road proposal in, because I think that would be the most practical, and probably the most reasonable in the long run, and will relieve traffic congestion. Eventually they could put another road across in the proposed area, and by the time they get done proposing it -- it's been 20 years since they have proposed this one already, since the '60's, and nothing has been done.

Well, how do we get things done? Somebody has got to take a stand, somebody has got to get the thing going. That's why these meetings are happening, now I understand. But trying to make people agree on everything is never going to work. But they're just going to have to make a decision whether it makes everybody happy or not, and get a road Upcountry ASAP.

The last time we had a heavy rain, Ohukai Street was nothing but a flood of water going down. You could hardly even drive through it. The whole bottom part of Kihei flooded, because there's no storm drains. They don't figure it's going to rain in Kihei. When it does, it makes a mess. At Welakahao they're finally getting some drains in there. That's what they're working on, on this road stuff now, that's taken over a year. In that area, every time it rains there's nothing but flooding in there. On Welakahao they tore it up and did not patch it worth a damn, pardon me, but it's nothing but a washboard.

They left the Kihei Road that way until enough people complained. They finally had to do the repatching that they did on that. That road is disgusting. Wait until they start from Welakahao to Lipoa, about a half mile stretch. It's going to take them three years to do that, if it takes them over a year to do two blocks. I give up. Something has got to be done about our County roads. Thank you very much.

MR. PHILLIPS: I am John Phillips, I live at 523 Ekahi Way in Kihei. As far as my comments, I would like to propose, I would like to vote for the K1 Upcountry 3 route, because I live in Kihei and I commute to Kula. I work as a nurse in Kula, Kula Hospital, and it would make my -- it would cut down on my expense to get there, and it would cut down on traffic. Traffic-wise, it's a lot easier for me to get there

that way. I'm not sure what else.

Fuel efficiency-wise, I believe that it's in the best interest of a lot of people coming from the area of Kula to Kihei or Wailea to be able to have an access that way or some way, or vice versa. As in my case, coming from Kihei to Kula it's less dangerous. As far as me traveling through Hansen Road and up Hana Highway and Kula Highway, that would be a lot less dangerous for me, and fuel efficiency-wise and time efficient-wise to travel that way, for me. I guess that's pretty much all I have to comment on.

I just wanted to put in my two cents worth in this forum, and I appreciate this forum. This is a nice way to deal with the public in a way of getting responses and feelings from all throughout the community, I think, because I think a lot of the Upcountry or whoever it is in particular will voice their opinions. It's important, and I felt it was important for me to come here tonight to voice my opinion, and I'd like to think that my opinion counts.

MR. HIRONAKA: My name is Sam S. Hironaka, and I live at 99 Naniluna in Wailuku town. I'm a member of the Ekua Purdy Road Committee from Ulupalakua, made up of people primarily from Ulupalakua, but also people from Kula. Ekua Purdy was just named to the Hall of Fame of rodeo stars, rodeo champions of the world, just recently, two weeks ago. He died in Ulupalakua. Half of the people of Ulupalakua are related to

Ekua Purdy. No matter which way you go in Ulupalakua you come across a Purdy.

But anyway, we formed this committee about 13 years ago, after the road between Makena and Ulupalakua, which was in existence for like, oh, if you go back from today, it's 15 years. But the road was closed after 75 years of usage in 1984, because the then Mayor of Maui, Hannibal Tavares, decided that it was too expensive to maintain that road, which was not a County road. It was a public road used by the public, but not improved. But everyone used the road if they wanted to go down to the ocean, to Wailea from Kula.

At that time, this was the mid-1980's, at that time no mention of K1, K2 or U1 or U2 or U3 or U4 was discussed. We didn't, I don't know whether we even had -- perhaps we had the High Tech Park then, the beginning of the High Tech Park. At that time the legislators, the County Councilmembers, the Maui News editors, the Kihei Community Association, the Kula Community Association were all unanimously in favor of doing something to reopen that road between Makena and Ulupalakua. But for whatever reason today, 15 years after the road was closed, the road still remains closed.

The reason I'm here tonight is not to oppose the routes, because the routes up for proposal in the draft EIS would benefit a great many people. No matter which route you select, it's going to be more advantageous for some people and

less advantageous for other people in other areas. It depends where they live, right. You cannot have roads to every single village or subdivision, you have got to have a single one.

And our thrust is that one of the routes be selected and construction proceed as quickly as possible, because the island needs more roads to relieve congestion, to provide escape routes in case of a disaster. But we should be careful that we do not unduly harm agriculture, whether it be a sugar plantation or Maui Land & Pineapple. And also, we should try to avoid hurting the small farmers, particularly the vegetable farmers of the bread basket area of Maui, which is the Kula area.

But having said that, because of the magnitude of the proposal, no matter which road we select, the magnitude of cost, from the standpoint of cost, the magnitude of engineering designs, and the cost itself of building the highway, no matter which one we select it's going to cost anywhere between 50 to 70 million dollars. So what we're saying is build a secondary, not necessarily a superhighway, but build a road between Wailea, which is one of the most important segments of the economy of Maui, as well as the State of Hawaii, Wailea and Makena.

We should take care of the tourists. More and more tourists come to Maui for more than just the golf courses and the ocean, because we have just as beautiful oceans on Oahu and

golf courses too. But why do they come to Maui? Because of the scenic, natural beauty of what Maui has to offer, particularly Haleakala, and places like Keanae, Hana, Kipahulu, where Lindberg died. There must have been a reason why Lindberg chose to die in Kipahulu, and Kaupo. And the winery in Ulupalakua, the only winery that's doing well, not only in existence, but doing extremely well in Ulupalakua.

So we should build, if nothing else but to satisfy the tourists, but also we need that road very importantly to provide an escape route in case of an emergency. Because if you look at the map, if there is a disaster south of K2, our most important people in Wailea and Makena would be cut off because they are on the wrong side of the disaster. For that reason alone we should have a roadway, if you want to call it an escape route, a temporary road.

But if we are going to build a temporary road, we might as well build a safe road, which means a paved road. Not necessarily to meet the federal highway requirements, but perhaps a road which would meet the requirements, the minimum requirements of the County of Maui. Because the cost of the road from Wailea to Ulupalakua will be just minuscule compared to the other road. If we can afford to build a highway costing 70 million dollars, surely we can spend 5 or 6 or 7 million dollars for a road from Wailea up to Ulupalakua.

It may be interesting to learn, and I believe a

thorough study should be done, because according to our committees, our own committee's study, the distance between the High Tech Park and Haleakala would be reduced by more than 25 percent by way of South Maui, by way of Wailea up to Ulupalakua. So if we are talking distances, that route should be very attractive.

The other consideration is that the road by way of Wailea to Ulupalakua would be much, much less congested because we would be having people go in opposite directions. You know, certain people, part of the population, the traffic would naturally be on Piilani Highway, but the tourists or the employees from Upcountry Maui would not even use Piilani Highway, see, because they will go straight into Wailea from this shortcut road from Ulupalakua.

So from the standpoint of cost, that road could be built by just the interest that is saved from delaying these so-called K1, K2, U2, U3, U4 roads. If they're delayed one or two years, they'll save enough money on the interest alone to build that road, because there won't be any tunnels, there won't be any bridges, it will all be through waste pasture land. I shouldn't say waste, but very low productive land, primarily through lava fields and very soft, easy to excavate type of land.

The other important consideration is this: No matter which route we choose, from K1, K2 or U1, U2, U3, or U4,

the State will have to improve the road between Keokea and Ulupalakua anyway, because the tourists, if the road between Wailea and Ulupalakua is not built, we will continue to force the tourists and others to go around the island. And those who merely want to go to the winery for a free taste of wine, they'll be forced to drive on that road, the winding road between Keokea and Ulupalakua.

At present, we have 40 foot containers on that road merely to deliver bottles to the winery, and also to take the wine from the winery, bottled wine from the winery to the docks for shipment primarily to Japan and the far east. Now, on top of that, we are beginning to have more and more great big tour buses travel on that road, that winding road between Keokea and Ulupalakua. It's a winding narrow road. It's much better since the State took over the road about six or seven years ago from the County. It's a greatly improved road, but it's still winding and fairly narrow, and somewhat dangerous.

So if we are going to have the cost of improving that road anyway, due to the ever increasing traffic, then the cost of improving the road between Ulupalakua and Keokea should not be attached or blamed on the road between Wailea and Ulupalakua, because we are going to have that expense anyway, no matter what.

So when you take that into consideration, if we take merely the cost of building the road between Wailea and

Ulupalakua, you see the cost will be very nominal because it's easy to grade, it's easy to build, there are no bridges, no archaeological sites to consider. And best of all, I have heard time and again that Ulupalakua Ranch, because it's low cost land, primarily low use, very low production type of land, that Ulupalakua Ranch would be willing to donate the right-of-way in addition, so that's another factor.

So why can't we have, if you want to call it just an escape route, merely to appease the people of South Kihei. Let's build the road from K2 to U2 or U3 or U4, but let's also build an escape route from Wailea to Ulupalakua. Doesn't that make sense? All I'm asking for is common sense and justice because -- and again, I repeat -- the fact that the road was built during the whaling days, during the whaling era and kept open for the use of local residents and tourists alike. To use the shortcut road between the Makena area to Ulupalakua, why is it that today when we have all the modern facilities, and certainly a road is a citizen's privilege and right to have a road, we shouldn't be closing that road.

The road has been closed now for 15 years. To deny the tourists and to deny the local people who live on the south end of the Kula area, and also to deny the people of Kihei to just go to the cool climate of Ulupalakua, amidst the tall jacaranda and sandalwood trees, you know, to have a picnic lunch up there. They could do it in just a matter of a few

minutes from the hot area of Kihei.

A tourist who goes around the island, when they come home from Ulupalakua to Wailea it will save them, the round trip, 34 miles each way, 34 miles. That's more than an hour. Because under the present route the road is so congested that it would probably take them an hour and a half to get back to Wailea. Whereas coming down the hill from Ulupalakua they would be able to be home in five minutes. I mean that's how ridiculous it is.

I wish I owned the bank, I would build it. Maybe I should talk to Bill Gates, because it's so ridiculous. If I were Mr. State of Hawaii, I would do it without even giving it a second thought. And you know, if I owned the State of Hawaii I would build that road and make it into a toll road. I bet you the tourists would be happy to pay $10 just to use the road one way, because it would save them almost $10 worth of gasoline and $20 worth of time. Now, tell me, is there any other road in Hawaii where a tourist would be willing to pay $10 to use the road? I think not.

You know, these roads, K1, K2, you know, the alternative roads, if we were to charge them even $5 to use the road, I don't think the tourists would even be willing to pay that much. And the local people wouldn't use the road even if the cost was $3. I don't think they would pay that much. That, in a nutshell, would give you a valid, a very valid

reason to build this so-called secondary escape road, whatever you want to call it, but certainly a great convenience. Let's call it the Convenience Road, the Common Sense Road. I want to call it the Ekua Purdy Road. Thank you.

MR. KENNEDY: I am Russ Kennedy. I live at 2274 South Kihei Road, in Kihei. Okay, I feel that the K2 should be the Kihei connection. Basically, it's far enough south to where a majority of the people could still get to it. It's away from the Mokulele Highway area, which gets flooded all the time. The upper connection I don't have a strong opinion about, except it should not go to U1. Haleakala Highway is already a design disaster. That's a polite way of putting it. To add to the congestion there would not be a logical decision. U2-A or B would probably be the preferable choice. U3 is a little far out.

The other purpose for K2 would be to provide access to the Hawaiian Homelands, where they could go up and be able to connect on to it and get to their land without having to go all the way around. That's about it, short and sweet.

MR. BELWAY: I'm Ed Belway, Post Office Box 1581, Kihei. We bought our properties in 1979, 20 years ago. We moved in 18 years ago. We watched everything grow, communities, highways, schools. At this point we have a chance to do something that would benefit a lot of people, so good planning is critical. We believe that the access in Kihei

should be at K2. There are numerous benefits, and I just don't want to go into all of them, but it's an obvious choice. For practical purposes, we like U2-A. Again, for practical purposes, for access by the most people.

This would be a valuable service that cannot be measured at this time, possibly estimated by somebody, but a single person could not, because there are so many parts of the island that would be served by this one item. So the two terminals, K2 and U2-A are critical choices, and we do not give the other choices much chance. For practical and financial value, we feel this is important. That's it.

MR. MARSH: I'm Jeff Marsh, and I live at 2387 South Kihei Road. In looking at the plan for additional highway construction, I am struck by the lack of additional manners of addressing the challenge of moving people from and to Upcountry to Kihei. The emphasis on roadway building stresses the proliferation of individual vehicular transport, and does not seem to give voice to other manners of public transportation.

I'm curious about something along the lines of if you are going to build a roadway, why not have it be a closed roadway system with nothing but public buses running up and down the roadway. Something that would encourage public transportation, reduce vehicular emissions, and hopefully reduce the noise and police enforcement problems on that roadway. I would also like to see the encouragement of bicycle

transportation, and this all seems really viable and easy to address. On the more expensive side, but possibly something that would have a longer term benefit, would be some sort of light rail or hard public transportation system.

I was also interested in the investigation of a private transportation system running on the existing roadway on Ulupalakua Ranch. I don't know how amenable the owners would be to having an improvement on the roadway, or even going into some sort of partnership with the County or the State in providing transportation from Upcountry to Kihei, but I'd like to see these addressed, or at least give it some consideration. Thank you for listening to me.

MS. FEINBERG: I am Lucy Feinberg, F-e-i-n-b-e-r-g, and I live at 483 South Kihei Road. I have lived here since 1986, and we need, first of all, an exit route out of Kihei for any kind of disaster. We had a close call several times, and we just can't continue like that. So we've been lucky so far, but we need a roadway exit. Five years is too long, but I guess it's only five years.

The one that I like is the U3, K1. It does follow the natural grade. It gets us up to Kula and closer to Haleakala, or closer just to Upcountry. It takes us away from the congestion over in Pukalani and Makawao. It would be easy to get to Kekaulike and go up to Haleakala, if that's what people want, or if they want to go to Makawao it's no big

deal.

There needs to be a bike lane immediately with the construction, not after. There needs to be -- I actually think it needs to be four lanes right away, because we went through that with Haleakala Highway, and I think it was ridiculous. Now they have the stupid three lanes, and it doesn't help that much. That's all I have to say.

---oOo---

(Whereupon the hearing was adjourned at 9:30 p.m.)

CERTIFICATION

I, JEANNETTE W. IWADO, Notary Public for the State of Hawaii, certify:

That the hearing contained herein was taken by me in machine shorthand and was thereafter produced in transcript form under my supervision; that the foregoing represents, to the best of my ability, a true and accurate transcript of the proceedings had in the foregoing matter.

I further certify that I am neither attorney for any of the parties hereto nor in any way concerned with the cause.

Dated this 5th day of October, 1999.

NOTARY PUBLIC, State of Hawaii

My commission expires 2/5/00

KIHEI-UPCOUNTRY MAUI HIGHWAY

COUNTY OF MAUI

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PUBLIC HEARING

Held at the Kihei Aquatic Community Center, Kihei, Maui, Hawaii, commencting at 6:30 on September 29, 1999.

I N D E X

PUBLIC HEARING

TRANSCRIPT OF PROCEEDINGS

MR. BOTEILHO: My name is Nelson A. Boteilho, B like Bravo, O T E I L H O. My address is 3311 Haleakala Highway, Pukalani, Hawai`i, 96768. My daytime telephone, of course, area code (808) 572-7274, then evening 572-9147. Now, this is what I would like to say. I was active in the task force at the beginning of this project and has continued my interest and concerns in this project. You are all to be commended for the outstanding studies, preparation for public hearings, displays, good, able people available to provide information to the public. I reserve my choice of the highway connection upcountry at this time and leave the intersection at Kihei for the community to select.

Once again, quotations, job well done to all Governmental agencies involved and to Warren Unemori Engineers for their outstanding, professional work or services.

MR. ESKER: My name is Jack Esker, E S K E R, 2531 South Kihei Road, Apartment C502, Kihei. I'm just curious, Sunday's paper talked about the funding for this road was to improve the defense related activities at the Maui Research and Technology Park in Kihei and Science City at the top of Haleakala. I'm curious what do these people favor, which route do they favor? And I think their opinion will be more opinion

than mine. Though I favor the one at, what is it, K1 and that goes up to Number 3.

MS. ENGEL: Cristin Engel, C R I S T I N, Engel, E N G E L, 3310 Wailea Alanui, Number 4D, Kihei, 96753. I believe that Haliimaile connection is most practical connecting to K1. That's the best ending into Kihei. This route will save time for more people as well as gasoline from upcountry to Kihei as well as West Maui. Upgrade of North Kihei Road, Mokulele Highway, conservation as well as Piilani needs to be done. It will make safer the congested area around Five Trees in Kula and give Kula residents more privacy. I think that will do it, and it's going to cost less money, too.

MS. MALONEY: My name is Kathryn Maloney, K A T H R Y N, M A L O N E Y. My address is 300 Lakau, L A K A U, Place, Kihei, 879-3562. I am in favor of K2 in Kihei and either U2A or U2B. My comments on Kihei is because of the large population we have in our hotels and South Maui, we need to have a southern terminus as possible should the need for evacuation occur. My objections to the Haliimaile intersection is according to the report here we would be building a multi-million-dollar project that would start off with intersections currently rated D and C, which means we would build a new road with unacceptable traffic patterns.

MR. GRIES: My name is Herbert Gries, G R I E S. Well, I live in Kihei, but my mailing address is Box 695,

Puunene, 96784. My phone number is 874-0696. I only have one number. I'm retired. I think that the intersections of this new road from Kihei to Kula should be as far north as possible both in Kula and Kihei. Basically, the reason is that anyone living out at Ulupalakua, Keokea or the end of Kula has to use the Kula Highway anyway to go anywhere just going to Wailuku or if they have to go around to Lahaina. The same thing is true in Kihei, everyone living in Wailea or South Kihei has to use the Piilani already. I don't think it makes any sense to add an intersection partway down either one of those roads to have transient people use the highway just to go through to places like Maalaea, Lahaina, Waikapu golf courses and so forth.

So therefore, the furthest north alternatives would be my choice, but I would like to even consider since the Mokulele-Piilani intersection is going to be completely redone, that that might be a place where the Kihei-Kula road could also intersect, which is actually further north than the most northern intersection that we have now.

And I also understand that in the future there may well be a bypass road around the back of Kealia Pond, which would make the beach road at North Kihei a secondary road and it might even be sensible to consider having the upcountry road come in at that point at Mokulele and be a continuation of that road. Basically what I'm saying is it would be good to look at the big picture and see what other major projects are going to

be done in future years in this same area so that the thing could all be coordinated instead of each project looked upon as independent -- as independent, and therefore, when you come along to the next project, you've got conflicts. That's it. I was a member of the Kihei Advisory Committee for the master plan for both 1980 and 1990.

MR. NICHOLS: My name is Bob Nichols, N I C H O L S. And my address is 2737 South Kihei Road, and that's in Kihei. My comments are short and sweet. Based on their presentation, A2, the southern most route in Kihei, would be my recommendation. I have no recommendation as to upcountry. My feeling is though that if the prime intent of this project is to service the people at the Tech Center and the top of the mountain, none of these are good alternates. They should be using what they would classify as Number 7, which is the route that extends the current highway, reconnects it to the upcountry and comes out in Kula Sands.

The rationale for that is that it would be less traffic, it would be faster for people to get up in terms of time. The rationale that they are using evidently is not to get the road from the Tech Center to the top of the mountain. It's to get it from the population center of Kihei to the population center of upcountry, which are two different things, and I think they're making a mistake in that respect. We need the road because Kihei is land locked, which is with just one

road getting out of here. We've had man-made disasters and accidents that, of course, if we ever have a big tsunami or something like that, it could be a real problem for us. We've got to get people out, especially people south of Kihei as opposed to just central Kihei. Other than that, thank you very much.

MS. YANAGAWA: I'm Lora Yanagawa and this is Russ Yanagawa, L O R A, Y A N A G A W A. Our address is 2823 Puuhoolai, P U U H O O L A I, Street, Kihei. Information to the public about the pros and cons of each, what do I call this, termini, to get I guess to really get it to the public. Another comment would be publicity for these meetings, they should go on the radio so more people know. The route we favor is K1-U3 probably for cost. B1 is the shortest and it's South Kihei, further from my house and the school.

MR. YANAGAWA: I think it will make more sense to be K1 instead of K2 being the entry point or exit or whatever because the Lahaina traffic will go upcountry instead of going toward the south. And I like K1-U3 because U3 exit or entrance is far enough upcountry where traffic would be almost eliminated I think. Because it's not in the populated bottleneck area I guess of upcountry, Pukalani, Makawao Avenue.

MS. YANAGAWA: I support the road, but probably the one hesitant part I have with it or whatever I want to say is

that I'm afraid there will be developments all the way up the road and we don't need a whole lot more building right now.

MR. YANAGAWA: I think the reason why we support it is, one, traffic alleviation, and two, is, and one of the points I saw on one of the charts is evacuation, the quick evacuation route from the South Maui to upcountry instead of taking Mokulele, which is already congested and heading up that way, having a straight shot up and a quick shot relatively.

MS. YANAGAWA: That's about it.

MR. LAMADORA: My name is Earl Lamadora, L A M A D O R A, and my address is 3550 Haleakala Highway, 96768. My comment is pick any route that you would like except U2A. Personally the reason why is I live next to -- I live close to U2A, and it will impact me very much. When the State wants to do that, they should consider the people who live around there. Now, for example, U1, there's no houses there. It won't affect nobody, and U3 won't affect anybody. And the U3-K1 is one of the cheaper ones, and U3-K2 is also one of the cheapest ones. Okay. That's all. The State should be conscious on what's going on on the island of Maui because tomorrow night starts the County Fair. I think that's one of the purposes why they did it that way.

MS. GREEN: My name is Deborah Green. My mailing address is 550-A Kupulau Drive, Kihei, 96753. Well, what I want to say is that I oppose the new roadway, any of the

options, and I oppose the assumption of progress unquestionably. I like the fact that Kihei and Makena and Wailea are relatively isolated from upcountry, and I want to stay that way. Maui is different from Oahu and it's not the mainland and I think if people want those kinds of conveniences, they could live elsewhere. I really hope that the options of mass transit will be looked into, either a closed light rail system that just runs back and forth or even buses or establishing bike routes would be good options. It would be much less expensive and have much less impact on the environment and the existing communities and it would make better use of the existing resources.

Also, I hope they will please look into leasing the existing private road on the ranch property since it already exists and could be used and save lots of money.

MS. MOSCHETTI: My name is Christine, C H R I S T I N E, last name is M O S C H E T T I. My address is P.O. Box 741, Kihei, 96753. Okay. So my preference is the U3-K1. It's the least expensive. It follows the natural ridge up the mountain. And it doesn't run into the current highway, Haleakala Highway. It also allows for Kihei to have a alternative route out of Kihei rather than everything coming together at the existing what entrance, I don't know the name of the entrance, Mokulele.

Because if there's a fire or a flood or something,

Kihei has no way out. It's in a different place. It doesn't have to go over through that way if we have an alternative exit in an emergency. So I think that if we went with that U3-K1, I still think so, that because it's significantly less expensive than the other alternatives, that serious consideration should be given to just making a four-lane highway immediately and that it must have a bike path on it.

There's most likely going to be protest from Kula residents not wanting it going through their quiet, residential area, however, Kihei has a large highway running through it. It impacts most everyone who lives in Kihei, so that's the price we're going to have to pay. That's all.

MR. STURTZ: My name is Ron Sturtz, S T U R T Z. I live at 874 Kumulani Drive, K U M U L A N I, Drive in Kihei, Maui Meadows. After reviewing all of the options of that are presently being presented, I would like to suggest that the K2-U2A option seems most viable from a variety of perspectives. Dealing first with the Kihei side, I think the K2 provides the more viable option for the evacuation in the case of wildfires or tsunamis to the South Kihei area based upon slated further development of the South Kihei-Wailea area. It's going to become even greater challenged in the future.

While K1 might provide an alternative access to people coming from Lahaina alternative to the Haleakala

Highway, I think if you look at the traffic patterns, the current Lahaina commute takes the Kuihelani Highway as the most direct access. I'm not sure the DOT has statistics as to how many people commute between upcountry and Lahaina. I think there are rather significant statistics of those who commute between Kihei and upcountry, so I think that should be probably the highest priority in terms of analysis. In terms of the upcountry options, the most obvious advantage of the U2A connection is that it gives the direct access to the upper Haleakala Highway, and since the military base at the top of Haleakala and its connection with the Maui Hi-Tech park is one of the strong motivational forces behind the creation of this highway, I think this would give the most direct access route between those two facilities.

I think the U2A connection also is advantageous because it gives the easiest access into the Makawao Avenue and creates greater access to Makawao as well as Pukalani. With respect to the process of developing information, I would like to commended the DOT for this particular approach being taken tonight. I think it's a viable alternative to public hearings. I think as the DOT apparently are aware, public hearings are a viable and valuable way of obtaining information because it permits people to hear each other's perspective and get cross-fertilization of views and sometimes more sophisticated output or input from that process.

Finally, I understand that the funding approach is 80/20, 80 percent Federal funds, 20 percent State funds. I also would like to understand that if the primary purpose of this highway is to enhance defense capabilities that the Federal Government has the option of funding 100 percent. And since it seems real clear to many people who live on the island that that is a prime motivating force behind the conception of this project, I wonder if it's possible to have the Federal Government pick up the whole cost. I think that sums up my views, and I appreciate the opportunity to speak. Thanks very much.

(The hearing ended at 9:20 p.m.)

C E R T I F I C A T I O N

I, Rachelle Primeaux, Notary Public for the State of Hawaii, certify:

That on the aforementioned date and time the proceedings contained herein were had;

That the proceedings were taken by me in machine shorthand and were thereafter produced in transcript form under my supervision;

That the foregoing represents, to the best of my ability, a true and accurate transcript of the proceedings had in the foregoing matter.

I further certify that I am neither attorney for any of the parties hereto nor in any way concerned with the cause.

Dated this 6th day of October, 1999.

Notary Public, State of Hawaii

My Commission Expires June 14, 2000

Mayor Hannibal Tavares Community Center
September 30, 1999
Public Hearing Transcripts

KIHEI-UPCOUNTRY MAUI HIGHWAY

COUNTY OF MAUI

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PUBLIC HEARING

Held at the Mayor Hannibal Tavares Community Center, Pukalani, Maui, Hawaii, commencing at 6:30 p.m., September 30, 1999.

REPORTED BY: GLORIA T. TAVARES, RPR/CSR #262

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PUBLIC HEARING

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JOSEPH KAIWI: My name is Joseph K. Kaiwi. My address is P.O. Box 1179, Paia, Maui.

I can tell you I choose this U-3, K-1 -- my option is this U-3 to K-1. The reason why, I got piece property up in Hawaiian homes. To me I feel that it's not that busy as here, by the school, King Kekaulike school. So, you know, about halfway to where I live, in that section.

JERRY KAIWI: Me and my husband agree with option U-3 to K-1 because the proposed highway is in the central area right within the Kula district, and it would be easy for us, because we are staying at Hawaiian homes, to get from Kula to Kihei area. Rather than from Haliimaile to Kihei, we had to go all the way to get to Kihei. The U-3 to K-1 would be more appropriate for us. That's it.

ALAN KAUFMAN: My name is Alan Kaufman. My address is P.O. Box 297, Kula, Maui.

I'm a veterinarian. I live and work Upcountry on Maui. I'm a member of the American Association of Wildlife Veterinarians. And one of the things I don't see addressed in the information presented tonight is the potential for conflicts in the highway will have with axis deer population that is in the area that the highway will transect, no matter

which location is chosen.

There have been regular deer/vehicle accidents even on the existing roads. Though currently the county and state does not have the mechanism to track them to record the actual numbers. I know of at least one fatality resulting from the dear/vehicle collision on the island of Molokai. And I believe that both the state and the county need to give consideration to the fact that when this highway goes in with people travelling at fairly high speeds, going through areas where there are substantial populations of axis deer, then we will begin to see some accidents.

We already have them at five trees, but there's a much slower speed there, typically. So when we have deer/vehicle collisions on the new highway, we're much more likely to have greater vehicle damage as well as potential fatalities, human fatalities. That's it.

RICHARD KANADA: My name is Richard Kanada. My address is 2868 Iwalani Street, Pukalani, Maui.

What I'm concerned about is that I live in Pukalani, and every morning I know what kind of traffic we have. I am concerned about the intersection of Haliimaile and the Pukalani bypass. When you have the improvement using that Haliimaile as the route to Kihei, that traffic intersection is going to be with traffic lights, as I understand. Now, that's going to cause some backup on the Pukalani bypass that contains all of

Kula residents, Makawao residents and Pukalani residents. And then also, of course, Haliimaile.

Now, when we come down from Pukalani, we have the road that comes to a point onto the highway with no traffic light, no nothing. How do I get onto the highway? When, you know, at that time when we have that, what kind of improvements they are going to make for us to get on the highway with safety. That's my concern. So I am saying that I prefer not to have it at Haliimaile, unless they can show me a way that they can -- you might say, where I'll be approved to that, you know, happy about it. If not, I won't go for that.

KAORU MURAOKA: I'm Kaoru, K-A-O-R-U, Muraoka, M-U-R-A-O-K-A. My address is 388 Aliiolani, Pukalani, Maui.

I agree with Richard about that congestion going be when you make the left turn to go to Kihei and it would back up all the way to this traffic light. I have seen it happen before when we had a fire one time. It has happened. And I telling you we had to take the Baldwin Avenue to go down to Kahului. And I prefer making four lanes and forget about making the highway to Kihei.

We have been talking about that for ten years. Look how much expense there is for this county workers to put the cone up every morning, take them off, next morning do the same thing for five days. We spending over $10 million over the last ten years. Now, people in Kula, they don't want that

highway to go down to Kihei. Pukalani people, they don't want it down at Haliimaile or Pukalani. So let's drop the whole thing and make the four lanes, Mokulele, Pukalani four lanes, then it will solve most of the problem, not all. That's all I have to say.

CLIFFORD GREEN: Clifford Green. My address is 160 Alohilani Street, Pukalani, Maui.

The route that I like is the one that goes from K-1 to U-3. The reason being that this keeps the public away from two high schools, which would be Kamehameha School, which is now being built, and also the new King Kekaulike High School. Both of those are already a congested area and I don't feel that we need to be endangering the lives of our young high school students who are 15 and 16 years old just learning how to drive, and adding more congestion to their area.

I do not like the U-1 location off of Haliimaile because, one, it cuts the farming area in half again and being from a farming background, I know what happens when you cut a farm in two. Also, the K-2 to U-1 route is much longer and doesn't seem to do -- seem to improve anything more than the original route that we presently have without this new road.

The K-1 to U-3 is a more direct route and in keeping with the thought process of access from the high-tech park in Kihei and the communications on top of Haleakala mountain, U-3 would be a better location. That's all for right now.

TONY PARESA: Tony Paresa, P-A-R-E-S-A. My address is 27 Aeloa Road, Pukalani, Maui.

I'm here as a concerned resident of Pukalani. And in my view, if the state is planning to expand Haleakala Highway, as well as Mokulele Highway to Kihei, that the alignment alternatives of the proposed roadway should not be built, because with the four-lane highway along Haleakala Highway travelling mauka or makai, and Mokulele Highway travelling to and from Kihei, in my view, it would be sufficient to transport people from Upcountry to Kihei and vice versa. With this strict economic hard times, feasibly, I don't think the government should be spending this millions of dollars.

However, should this alignment alternatives Kihei/Upcountry bypass come to view, I would prefer to see the road from K-1 being built up to U-3 since it's the most feasible and economical of all the existing roadways proposed. It is, in my view, if any of K-1 or K-2 should be built along with U-1, connecting to Pukalani/Haliimaile roadway, in my view, this would definitely cause a hardship.

Since from a prolongation line from Pukalani bypass or the old Haleakala Highway down to Haliimaile junction is approximately .9 tenths of a mile, should an automobile crash or fatality exist within this stretch of roadway, we would definitely be right back to square one causing a backlog and

detain the traffic congestion. Eliminating strong possibilities of any exiting or ingress or egress into the area. So it is my view that U-1 would definitely be out of the question, plus it's the most expensive and costly.

Another question which came up, in any of the alignment alternatives, whichever is being selected, should there be a motor vehicle accident involving cars and the deer, who would be liable for the cost and repairs other than the operator of these motor vehicle accidents? That's my question.

Because from past experience, the county, who has taken over the old Haleakala Highway and the bypass mauka and as well as Makawao Avenue to the intersection of five trees, they have recently placed those deer crossing signs and recently the amount of accidents involving deer and cars have increased in that area causing a financial loss to the people operating those cars.

From past experience, I know of two who have told me that the state or the county refused to claim responsibility or ownership for the deer, subsequently causing them to utilize their own personal automobile insurance. On the long run, having the cost of insurance go up in years to come.

EDWARD CEBALLOS: I am Edward Ceballos. I live on Piiholo Road -- 960 Piiholo Road.

I live on Maui all my life and I recommend the

Haliimaile to Kihei, what they call that -- the Haliimaile to Kihei, the proposal. That's my first choice. My second choice is the five trees, from Kihei. That's the second choice. I recommend the Haliimaile Highway first. That's all.

CYRINA BROGOITTI: Cyrina, C-Y-R-I-N-A. Last name is Brogoitti, B-R-O-G-O-I-T-T-I. My address is P.O. Box 1276 Kula, Hawaii.

I feel as though they should actually widen the existing road to Kihei. Going down Haleakala and then the exiting road and at that time see what it does to the traffic. And if, in fact, it doesn't lessen the flow of traffic and the road is needed, I feel like the Haliimaile intersection is the best intersection to use. That's it.

PATRICK CONSTANTINO: My name is Patrick Constantino. My address is 3188 Kilani Place, Pukalani, Maui.

I can start? I'm in favor of the Pukalani -- I don't know what they -- U-1; was it? I favor that K-1 to U-3. But the Haliimaile one to the K-2 -- K-2 or K-3. Anyway, the one that connects -- I think the one that's nearest the new Kihei school, that section.

For reason that the Haliimaile, instead of having all the traffic emerge up in the upper section of Pukalani, it would be safer that, you know, at least it merge down at Haliimaile junction and then saturate down, otherwise we'll have something like another Dairy Road down in Kahului. For

safety reasons. As far as the traffic lights, whatever needs to be installed can be worked out later. That's it.

CLARENCE DE MELLO: My name is Clarence DeMello. I live at 218 Pukalani Street.

I figure the Haliimaile junction should be the one, Kihei, K-1. They already have a new highway from Haliimaile to five trees, and they don't need another section like that. So that's my opinion.

EDWARD ORSZULA: Edward Orszula. My address is 83 Pi'imauna Street, Pukalani.

My opinion would be that there should be a traffic interchange at Haliimaile and Haleakala Highway, so that traffic would move a lot more smoother, because, you know, otherwise you put a traffic light at Haliimaile, you are moving the bottleneck down by Paia road, you are moving it uphill.

Second part would be what was suggested. Both legs be built from here and from here to go down that way, so that the traffic would bleed off of Kula and in from Paia into Haiku and Makawao. They would have their own traffic pattern going in, but they would meet in this intersection here. That would be about it.

STEVE HARMAN: Steve Harman. My address is 826 Alamoku Street, Haliimaile.

The comments I have are about the Upcountry terminus, U-1, the Haliimaile. It has to do with the fact that

you get a lot of people coming from Haiku through Kaluanui Road, which is a very narrow, windy road, with a one-lane bridge that crosses Maliko gulch, and then on to Haliimaile Road.

I think they will have to look at that because that's a lot of traffic on a very nasty, narrow road. Switchbacks and steep and blind curves and one-lane bridge. And that's the most direct route for all of those people from Haiku to take to get to that U-1 terminus. I don't see they are addressing that at all.

ELLIOTT KRASH: My name is Elliott Krash. My address is 331-9 Waiakoa Road, Kula, Maui.

I favor no build. That's what I would prefer. But I realize that probably there is a need for this road. That being the case, I favor the Haliimaile, the U-1 terminus Upcountry, with an interchange. Not a grade level crossing, but an interchange. Down country, I would favor the southerly terminus, that's K-1. That's it.

EMILY AGUSTI: My name is Emily Agusti. My address is 361 Nalani Street, Pukalani, Maui.

I would prefer the U-1 alternative, the Haliimaile one, because I feel that would serve the greatest number of people coming from Pukalani and Makawao. The greatest population, also Paia, wanting to get to South Maui. I would also like to see an overpass at the intersection, at Haliimaile

intersection.

And I would like to see underpasses for the cane hauling vehicles along the highway, because I think it's very dangerous. I travel Haleakala Highway every day and that red light comes on and you are flying down the highway at six o'clock in the morning and traffic hits the brakes. I think it's a very dangerous situation. Oftentimes those hauling trucks, they hit the thing and they just pull right out without waiting to see if traffic is going to stop.

HARI AJMANI: Hari Ajmani. My address is 102-17 Kaui Place, Kula, Maui.

My comments are how much of the Upcountry traffic goes to Kihei that you are trying to relieve from the present highway? And what role that has played in designing the routing that they have chosen? And similarly, how much of the traffic is going from Hana to Kihei? That will not be helped by any of the alternatives. And what impact that might have in the planning of the highway.

And my third comment is that one of the alternatives should be the improvement of Hansen Road. Or somewhere close to it. And that will probably alleviate the need for making any of the highways at much less cost. The U-3 alternative, U-3 termination [sic] on the Kula Highway is going to create disasters in the Kula traffic patterns in the city or town of Kula. And that is the most or the least desirable termination

on the highway.

The termination U-2A and U-2B are really safety concerns for the children of the Upcountry high school. King Kekaulike High School, and I think this should never be considered, for safety reasons. I don't know if the full safety impact has been studied in any of the proposals they have done.

And the lastly -- the termination of the Kihei one, alternative in Kihei does not really address the fire escape and fire safety escape routing from Kihei, so that, in my opinion, does not serve any purpose. It should be studied. That doesn't need to be pursued further. It doesn't do any good.

And I think the major thing is this should be an alternative added to all the possible alternatives, to use the Hansen Road or improve the Hansen Road and that's a big omission from the studies.

GINA FLAMMER: Gina Flammer, F-L-A-M-M-E-R. My address is 2102 Naalae Road, Kula, Maui.

My biggest concern is safety. I would like to see the road not be two lanes going head-on, head traffic. We had enough deaths on the islands with the roads that we have. I would like to see some space put between the lanes if they are not going to do the divided highway right away. Also, I would not see the -- I would not like to see the highway go by

schools, putting the high school -- it doesn't seem to be the best place to put it. Or by Kamehameha School. Thank you.

PERRY MARGOLIN: Perry Margolin. My address is 183A Pukalani Street, Pukalani.

I don't support any of the alternatives, but the alternative I would prefer is for the road to fork on the way Upcountry, with the Upcountry lane intersecting the five trees, down country portion intersection of Haliimaile. It would create less impact altogether Upcountry and will take maximum advantages of the already existing Pukalani bypass.

SANDY RYAN: Sandy Ryan. My address is 1071 Ulele Street, Makawao, Maui.

I am in favor of building a new highway. I work at -- live in Makawao and work in the research tech park in Kihei. So I would definitely be a user of the new highway. A couple of comments. I just want to be sure that any alignment that occurs mitigates any damage to archeological sites, Hawaiian sites.

I also am curious to know whether a new highway would eliminate -- it would eliminate traffic on Haleakala Highway, but I'm wondering if it would eliminate the contra-flow lanes that the county workers -- the cones that the county workers have to put out every morning and every evening. I'm hopeful that that's the case. I'm less in favor of a U-3 Upcountry terminus; more in favor of a U-1 and U-2.

And in the Kihei area, I'm more in favor of the K-1. Thank you.

DAN EVERT: My name is Dan Evert. My address is 2760 Palalani Street, Pukalani, Maui. I'm a resident of Pukalani. Also a member of the Pukalani/Makawao/Kula community association -- Citizens Advisory Committee that considered this project three years ago. I was one of the people that voted to improve the existing roadways and if the highway really had to be built, that the terminus be at the Haliimaile.

My major concern is, is that I don't know why this EIS in this whole process went forward after the Upcountry/Makawao/Pukalani community plan was adopted by the county council and signed into law by the mayor of Maui County. It should have ended at that point and it should have concentrated on the building at Haliimaile or clearly studying what could be done to improve the existing roadways.

The other thing that bothers me in the EIS statement is the Hansen Road, any considerations of improvement to that have been totally ignored. I don't know where we go from here.

As a father of two high school boys, I'm just totally baffled as to why there's been no mention in the EIS of any concerns of the safety by the two terminus which would end this road close to King Kekaulike High School. No consideration to safety of the students and the parents and

commuting has been given any consideration.

The other thing is that I would love to know what the cost of this EIS statement has been to the taxpayers. Nobody seems to be able to answer that question. That's all I have to say for that.

KENNCO HOFMAN: My name is Kennco Hofman, K-E-N-N-C-O, H-O-F-M-A-N. I live at 345 Lokelani Place, Pukalani, Maui, Hawaii.

I think this project is being steered in a way from what was started 10 or 15 years ago to get the old roads improved, which I feel that they should have had the four lanes in Haleakala and Puunene roads. They should have that project in the forefront, is what I'm trying to say. This current alternative bypass is a smoke screen, to me, to avoid going ahead with the project that was supposedly approved years ago.

On this new project, it's very expensive. The logical thing was, of course, out of Wailea up to the ranchlands. That was the safest answer. But when the government got into it, they want to go up to Haleakala in a straight line. Well, a straight line is not going up through the U-2A or the U-2B routes. The straight line would be taking K-2 to the junction and up to Kula on the U-3, and that is supposedly what is currently approved or under consideration.

The straightest line between two points is straight up K-2, up to Kekaulike highway and straight on up; not looping

all the way around Pukalani, for example. Cutting through Pukalani is going to be disastrous. They are going to have to have feeder roads, bridges across, and going right through the heart of Pukalani. I feel that the old setup should be done first.

Bypass this table temporarily, until -- if they have so much money to spend, why aren't they finishing these other three roads that I have mentioned? To continue, in regards to the bridges, it's ridiculous to be putting in all these bridges when they could be cut down into a much shorter and more feasible route and not have to cut the beautiful greenbelt across the bottom of the valley here.

As far as the -- the federal aid allows for a two-lane access road up here on the bypass. Two lanes is ridiculous. We found that out on the Haleakala Highway when they did not put in four lanes at the time when they should have and it would have saved millions and millions of dollars. Now they want to put it in, whoever is behind this wants to put in a two-lane road now, which in a very short time is not going to be sufficient.

And then, let's say ten years down the road, how much will it cost to make it four lanes, and they would probably wait another ten years on top of that and then it's going to cost that much more. Economically it's not feasible. The people of Maui have to start standing up and let this

steamroller slow down and back off so the people can understand.

I have talked to literally dozens of people in the last week or two and it's amazing how 80, 90 percent of them don't know the first thing about this. They have no idea what is going to happen to the community or the explosion of the population around here with all the new developments and everything. All anybody can think of is their own selfish interest, oh boy, I can get up and down to Kihei real fast this way, and not consider the entire development that's going to blow up and explode in their face.

I thank you for taking the time to listen to me for a few minutes. I'm sure I missed a few things I wanted to make, but I believe you get the idea that I am opposed to anything that wants to cut Pukalani in half. Thank you very much. Mahalo.

ROB PARSON: My name is Rob Parsons. I live in Haiku. My address is 579A Kawelo Road, Haiku, Maui. I have lived on Maui for 22 years.

I would like to see the Department of Transportation give higher priority to improving existing roads rather than to spend multimillions of dollars to add a new highway. When Mokulele expands to four lanes and Haleakala expands to four lanes, both slated to begin in the next two years, we will have greater time savings in commuting from Upcountry to South

Maui.

The draft EIS overlooks or dismisses the Upcountry community plan's mandate that highest priority be given to improving existing roads. And that if the road is to be built, that it would only be connected at Haliimaile. Before this common period ends, I believe all of the Upcountry community associations will concur with this. That is, Haiku, Pukalani Makawao and Kula. And I believe King Kekaulike's PTA or vice-principal has gone on record with his recommendation.

I carefully studied the planning going into the Kulamalu subdivision two years ago. At that time the county planning commissioners looked at the traffic analysis contained in the Kulamalu studies. It indicated levels of service at F for six out of nine intersections studied. It would be horrifying to connect this highway at the Kulamalu project, being that it would encounter not just the existing high school traffic but what would eventually grow to be a kindergarten through 12th grade Kamehameha schools, which could have 2,000 students commuting, as well as a 20-acre commercial center, five acres of elderly housing, and perhaps 400 new residence.

Besides that kind of congestion within and near the project, it would also create a situation, commuters from Haiku, Makawao, and Pukalani would have to go up to go down. This would clog the five trees intersection further and also Makawao Avenue would be major gridlocked.

My personal hope is that the Department of Transportation will spend more time looking at wide possibilities of solutions such as mass transit. I believe that if hotels were required to pick up their incoming visitors at the airport and shuttle them to the hotels, that we could reduce the number of rent-a-cars dramatically.

I'm also concerned that the cost estimates for the various alternatives do not reflect Everett Dowling's willingness to connect to his existing entranceway without charging for right-of-way acquisitions. This could amount to several million dollars, and I believe that this ought to be indicated to the public as they scrutinize this project. I'm happy that open meeting was added to this format because I believe that this sort of open house meeting, rather than a traditional town meeting, may be a Chapter 91 violation.

I'm concerned about letters in the draft EIS from a Mr. Mau and also from Mr. Kobayashi, both regarding the Kulamalu alignment. Mr. Mau's letter tends to indicate knowledge of a preferred Upcountry terminus well before a final decision was to be made. And Mr. Kobayashi's letter seemed to offer great savings to the Department of Transportation by connecting through the U-2B terminus, and also noted that if the road were to connect at U-2A, that they would be left with remnant parcels and they would need to be compensated at full value for unusable parcels.

There seemed to be the most challenging gulch crossings with the U-2B terminus. I've learned that Mr. Dowling has also traveled to Washington D.C. to lobby Senator Inouye for alignment to this project. I think the public deserves to know this. I think the public needs to know what is the status of an airport reliever road, as far as whether that is an independent project or if it can only be completed if Kahului Airport expansion of the runway goes through.

If there were to be a reliever road to replace Hansen Road, this would once again streamline the time savings from down country. I understand that there was a small turnout at the Kihei meeting last evening, but that each of the 14 people who gave testimony were in favor of building the road. This is a bit curious to me since one of the stated purposes of the road is to bring hotel workers living Upcountry down country. Why would the down country residents favor the road? I don't believe many of them work Upcountry.

I will be submitting written comments before the end of the comment period. Thank you for the opportunity to present my feelings across. Mahalo.

RICHARD POHLE: My name is Richard Pohle, P-O-H-L-E. I live in Crater Road. My address is R.R.1 Box 426, Kula, Hawaii.

I work sometimes at the top of the science -- and

sometimes at the research and technology park. My wife and I run the Valley View protea farm, which we ship out. And our daughter has moved back on the island and her husband works in the Lahaina restaurants area. We all strongly favor the road. Obviously -- and I favor the K-1, U-1 connection, the one -- Haliimaile and near Lahaina on the bottom connection.

Why Haliimaile, because when people, when they want to go downtown, they don't want to have to come up to go down. And the U-1 -- the K-1 because it's closer to Lahaina and it would take the travel off of the Mokulele Highway. We feel this road is necessary for the future. The adverse impact of Pulehu Road, extra travel, it's true, but eventually we'll get around to making the Pulehu Road better, anyway.

There is no reason not to do this except to make life -- except to reduce population in the Upcountry area by strangling the infrastructure development. So I can't say -- I can't be any more in favor of this and I support the DOT and Senator Inouye for putting together this fine show and the funding that goes with it and I'm very impressed by the procedure. And my wife and daughter agree with that and family agree with that. Thank you.

ZANDRA AMARAL: My name is Zandra Amaral. My address is 365 Hoalike Street, Kihei, Hawaii.

And I would like to give testimony regarding the forum of this presentation. I have had three or four older

couples, constituents of mine, in the Kula and Kihei area, who was very appreciative. Because the other forums of public hearings becomes very, how can I say, intimidating for them. It's hard for them to get in front of the public to speak their piece, and they feel like they need to have words of eloquence.

Some are blessed with the gift of speaking, and they really are not. They are gifted with more humble traits. And by sitting here and speaking to someone such as yourself, the court reporter, they get to give their testimony from their heart of hearts, without feeling they are being judged and they are very grateful, and there were several of them that brought it to my attention, the older ones, and for that I am very grateful.

And I would like to encourage the state to publicize this forum and let the public know that this is the way it's being done and that it is safe for all to testify, and it is okay for people to say what is in their heart, that they don't have to worry about debates, being ridiculed, being chastised, being judged or even worry about the words they need to use. But I want to thank the state Department of Transportation for this forum on behalf of myself, Zandra Amaral, as well as the older couples that approached me, both here Upcountry and in Kihei.

And I cannot tell you so you can put it in writing

the look in their faces when they got through testifying. They were so empowered. And these are people that have attended many public hearings but never felt they were safe to get up in front of a bunch of people to testify. But for me, it was gratifying just to see that look of empowerment in their face, to know that there was a safe environment for them to testify without feeling like they were competing.

And there are people who, with our other forums, who get up and testify with agendas other than the welfare of the topic being discussed, whether it could be to be heard, to listen to oneself talk or just to be exposed to the public, and that's okay, but I don't believe it's okay in matters that concerns individuals who are not as outspoken, outgoing, or as courageous to get up in front of people. So I cannot express enough my gratitude.

And as I stated earlier, I have been given the gift of gab and for that I am grateful and I like getting up in front of people. But I think I like more than being in front of people, is seeing the look of these older people's faces after they had been given a safe opportunity to share their manao. I believe that it is our older people that really have the answers that we are looking for. And through this forum, we provide a venue to get the valuable information we need and make it safe for them to share their manao.

I thank you all again and my only wish is to

advertize this forum so that people will be aware of it so they can take the stereotype public hearing of debate, arguing, fighting and getting in front of people away from their mind and know there is a safer venue. Because I believe that had more people from Kula or the island knew that this is the way this public hearing was going to be handled, where you could sit comfortably, as I am talking with you, sharing my manao, more of them would come because it would have been okay and safe for them to share their manao.

I don't know what else I can say, outside of the fact that I wish there was some way I could transcend in the words that describing now, the feeling I got from these older people, the look in their eyes of power and being able to contribute and know that seeing that feeling of like they have a say and it's safe for them to say what it is they want to say. I know I'm being redundant, but I am very grateful.

And as I said, I'm the type of person who likes to talk, as you probably know. I can go on forever and I love getting up in front of people. But I don't believe that serves the purpose of allowing all people the opportunity to say what it is they want to say, and I believe this venue fulfills the desire of people to speak up, both people like me who like to talk, and other people, like the older generation, who just want to be heard.

So I thank you. And advertise, please let them know

there's a safe venue in our public hearings for them to come sit and share their manao. Mahalo.

JANINE CARROLL: Janine Carroll. My address is 217 Pukalani Street, Pukalani, Maui.

I'm here on behalf of the Pukalani Community Coalition for Neighborhood Safety, which consists of two divisions: the Pukalani neighbor of crime watch and the Pukalani safe community group. The Pukalani Community Coalition for Neighborhood Safety members represent approximately 98 residents in the Terrace community, most of which support the construction of the highway.

More than 80 percent of the members support the U-1 Haliimaile terminus. It seems to be the most logical choice to be effective in reducing traffic congestion on not only Haleakala and Mokulele Highway, but Hana Highway, Paia town, and Dairy Road as well. Over 95 percent of members strongly oppose the U-2A and U-2B terminus because of an increase of unnecessary traffic coming through Pukalani.

Residents of the Terrace are concerned about the developer's plan to tie in the highway into the Terrace via Liholani Street using an existing roadway which is currently barricaded. This back entrance into the community would expose the community to more crime and safety concerns. Therefore, residents strongly oppose these, the U-2A or the U-2B terminus.

In conclusion, the Pukalani Community Coalition for Neighborhood Safety supports the construction of the urgently needed highway only if U-1 Haliimaile terminus is used. If the U-1 terminus is not chosen, we support a no build for the highway.

And that's about it. Thank you. Also, I have -- should I just turn this in? This is from one of our members.

JEFFREY JAMES: Jeffrey James. My address is P.O. Box 182, Paia, Maui.

I feel a little upset because of a lot of my friends, who I respect highly, don't agree with my conclusion. They are very attuned to the needs to protecting the Maui environment, and I am as well. And yet I feel the need to balance that with a concern for the humans living here and the traffic -- the situation of traffic congestion has become so extreme that I continuously think that an Upcountry connecter road would be just a wonderful blessing for many people, not only for tourists but especially for the kamaaina who are doing the daily commute.

When I look at some of the posters with information here for purposes and concerns in the building of such a road, one of the things I would like to see added is concern for, as much as possible, the continued preservation of the Kula area and its environs. So with that consideration, the Upcountry 3 option isn't as viable to me. Better than that would be the

Haliimaile or five trees or Kulamalu. I understand there's a concern for residents and congestion in that area.

And an interesting thought has crossed my mind, I don't know how feasible it is, but perhaps it would be appropriate to make a Y, a double outlet connecter at the top, one going to Haliimaile and one going to five trees that connected a little further down the hill. And perhaps the same consideration at the bottom of the hill between K-1 and K-2. Or between K-2 and Lipoa at the tech park, where there's a couple of emergency exits from the Kihei area, and so there wouldn't be so much congestion at any one outlet.

And I would also love to see avoiding building -- scratch that. Thank you. Thank you very much.

JONATHAN STARR: My name is Jonathan Starr. I am concerned about the possible impacts of additional streetlights at the intersections of the new proposed road. I hope that if the road does get constructed, that it not add additional streetlighting similar to the type of lighting that was added on Kula Highway at the intersection of Kulamalu. Thank you.

ARIC NAKASHIMA: Aric Nakashima, Aric with an A, A-R-I-C. I live at 121 Aulii Drive, Pukalani. Phone number is 572-1674.

My first comment would be about site U-1. It was mentioned before, that in a public hearing, public meeting with Pukalani Community Association, Mr. Sarat, Bob Sarat, mentioned

that the fourth lane of the Haleakala Highway, fourth lane of the Haleakala Highway would have -- already in the design of the fourth lane, lights, traffic lights, traffic control lights scheduled for the intersection of Haleakala Highway and Haliimaile Road. I would like to know if that's true. It's very important, my own decision making for myself whether I would choose the other sites over U-1.

Also, between U-1, Haleakala -- I mean, the U-1 site and U-2A, there is a place at the lower part of Pukalani where the road, old Haleakala road adjoins the bypass where they merge as you are coming down. Downwards. And we find that it's a very dangerous situation for the residents of Pukalani who use that; that there have been many near misses and accidents, actually, accidents happening at that point.

Because the traffic coming down in speeds of, say, 45 or better and a person just shooting out from that lane, the merge lane, sometimes overshoots it, making the other person swerve off the road. This happens every morning. If there was an observer there, they better not park on the side of that site because they would probably get killed. It is very dangerous.

My third thing -- by the way, that was not, I guess, related to this issue of the terminuses. Hopefully, the Department of Transportation would consider as far as the fixing.

My third thing, my third comment would be on the access to the rear of U-2A and U-2B roads, from the interior of Pukalani Terrace, this huge residential area that has a road called Ainalani Drive. Ainalani Drive is located right next to the gulch, with a small subdivision there. This other road that comes through the Pukalani Terrace is called Liholani Street. Liholani intersects Ainalani Drive.

Right now if you came to a stop at Liholani and Ainalani, to your right would be the residential. To your left going up the mountain is two iron gates which has a barricade across now. If you go beyond that, you would see some sewer manholes already put into the ground. This is supposedly the road that is supposed to join up with the Kamehameha school road. Now, if the U-2A or U-2B terminus would be used, this road would intersect those roads.

We would like to know the feasibility of this. Pukalani association, people over here should be let known about the feasibility of how many cars would be coming from the Makawao, Haiku, and Haliimaile residential sites areas, coming through Pukalani using the terrace road to go to the back of these terminuses. I say "the back," that means not coming to the stoplights where they are intended to go. They are using this as a short cut.

Our last meeting for the Pukalani Community Association, I'm speaking as an individual, I heard many

comments about the usage of this road, and how much this would impact the lifestyle and safety of kids walking down the street to the Pukalani Elementary School, possibly walking to Kamehameha school. How much traffic would be there every morning because these people refuse to use the intersection, seeing this as a short cut.

Could you please comment on that, please? And if you do comment, would you please tell me where you get your information from. Because I know myself and some neighbors would like to know about that. Safety is an issue and, of course, it can be held as a second matter when it comes to small children walking, using the bicycles. And in the afternoon when people come back from Kihei, they come back through there because they don't want to hit the intersection again going home. That's also a concern. Kids on the street, kids coming home from school, baseball practice, whatever.

We already seen people get hurt on the Terrace alone, being run over by cars, and this is something we just want to avoid. The residents do care about their children and their lifestyle. Right now there is a 20 miles an hour speed limit on these roads, there's also speed bumps. You can imagine possibly the impact on this area with traffic. As far as that goes, I think that's it. Those are my main concerns.

Probably I will be attending the October 13th meeting, also, at Kahului School, and probably give additional

comment there too. I would really like to have these questions answered, if possible, and again, the sources of your information. Because I am told from the Maui Economic Development Board that out of 12,000 workers, hotel workers, hotel and restaurant workers on Maui, that over half live Upcountry. I'm quoting them. If that's the case, I really am looking at some huge, tremendous traffic possibly coming through Pukalani or probably going to any place, and using any one of those terminuses.

Thank you very much.

(The deposition concluded at 9:45 p.m.)

C E R T I F I C A T I O N

STATE OF HAWAII)
) SS.
COUNTY OF MAUI)

I, GLORIA T. TAVARES, C.S.R. 262, Notary Public in and for the State of Hawaii, do hereby certify:

That the proceedings were taken by me in machine shorthand and was thereafter reduced to print under my supervision by means of computer-assisted transcription; that the foregoing represents, to my best ability, a true and correct transcript of the proceedings had in the foregoing matter.

I further certify that I am not an attorney for any of the parties hereto, nor in any way interested in the outcome of the cause named in the caption.

Dated this 5th day of October, 1999.

Gloria T. Tavares

NOTARY PUBLIC, State of Hawaii
My commission expires: 1/18/00

KIHEI-UPCOUNTRY MAUI HIGHWAY

COUNTY OF MAUI

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PUBLIC HEARING

Held at the Mayor Hannibal Tavares Community Center, Pukalani, Maui, Hawaii, commencing at 6:30 p.m. on September 30, 1999.

REPORTED BY: JEANNETTE W. IWADO, RPR/CSR #135

I N D E X

COMMENTS BY:

PUBLIC HEARING

TRANSCRIPT OF PROCEEDINGS

MS. D'ENBEAU: I am Madelyn D'Enbeau, my address is Post Office Box 1869, Makawao, 96768. I'm speaking on behalf of the Makawao Main Street Association. The Board has authorized me to come and make these comments.

The Makawao Main Street Association follows the guidance of the Makawao-Pukalani-Kula Community Plan, which if there is to be -- the first option is no build, that would be the first preference in the community plan. But if there is to be a highway, the choice of the Makawao Main Street Association is the Haliimaile intersection, which is U1.

As far as the Kihei portion of it, we felt like that really wasn't such an important matter for us, it was more a matter for the people in Kihei. But the reason that the Makawao Main Street Association was opposed to the U2-A, U2-B and U3 is because of a concern that increasing traffic would go through Makawao town, which is already pretty much at capacity in the early morning.

But if there are going to be residents from the Makawao-Haiku areas using this road to access Kihei, then they would have to go through Makawao town. Whereas at Haliimaile, Haiku people and Makawao people can go down Baldwin Avenue and come across and go from Haliimaile to Kihei. That would be the

first concern.

The second concern is there's nothing in the Environmental Impact Statement, the Draft Environmental Impact Statement about the effect on business in Makawao. Right now we have a fair number of people, visitors who come to Makawao because they go to the crater and then they perhaps want to eat, or they want to do something on their way back, or maybe on their way up there.

But particularly, if the selection were either -- well, actually, any of the three, U2-A, U2-B or U3, there's already a large shopping area planned at Kulamalu. And contrary to what we were originally told when the Kulamalu project came up, it was supposed to be a small country-town business district, but that metamorphocized into a large shopping center, with the anticipation that the Upcountry highway would come through Kulamalu. So there's been no study of what impact that would have on the businesses in Makawao, and we're concerned that it would be very detrimental. So that's it.

MR. WILSON: I'm John Wilson, and I live at 121 Holopuni in Kula. First of all, I'd like to state the official Kula Community Association board of directors' position, which is in here, but I'll say it again.

If an Upcountry-Kihei road is to be built, the Kula Community Association board considers the Haliimaile terminus

the best option available. The Kula Community Association board of directors opposes the Pulehu, Kulamalu and Five Trees termini options of the Upcountry-Kihei highway. Further, the Kula Community Association board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei: Piilani Highway, Mokulele Highway, Hansen Road and Haleakala Highway, to alleviate growing traffic concerns. If an Upcountry-Kihei road is to be built, the Kula Community Association board considers the Haliimaile terminus the best option available.

In addition, in the draft EIS -- and I am speaking as president of the board of the Kula Community Association -- I have a concern about the emphasis on the water supply being used as a perceived concept for the slowing of development. There seems to be an argument presented which discounts development because there won't be any water. Currently, the board of directors of the Kula Community Association is working on a policy statement that in essence will provide the intention of supporting the Board of Water Supply adequately supplying water to avoid drought situations. In non-drought situations, this will alleviate or tend to alleviate the lack of water argument for slowing development.

Throughout the EIS, the draft EIS, there is that comment being used to not address the impact of development by the road alternatives. In section 4.1.1.2, the DOT should be

aware that in the last review of the Upcountry Community Plan, that Alexander & Baldwin had proposed a 200 acre residential development at the intersection of Haliimaile and Haleakala. This would be on the Makawao side of the intersection, directly opposite the terminus of the U1 alternative. This is not shown as a possibility in the draft EIS. That section talks about the Upcountry land use impacts, and I would suggest from a planning standpoint, based on the already proposed development by Alexander & Baldwin, that a logical fill-in of the land between the U1 alternative and Pukalani would be something that would be easily forseen.

Further, the Kulamalu development includes a park area, I think it's approximately 15 acres, that was not identified in the draft EIS. This would be on the Kula side of the proposed U2-B terminus. That ends my comments relative to the official board position.

Now I will speak as John Wilson, a resident, 121 Holopuni Road, Kula Glenn, Kula, Hawaii. Of the various alternatives, I would select the U1 alternative, as it serves the greater population needs of the Upcountry area, primarily Pukalani, Makawao, Haliimaile, Haiku and Paia, as well as parts of Kula.

I support the mitigation of the cane hauling by use of underpasses, which there are two shown in the draft EIS. I would support that that alternative also show grade separation

and no intersection at Pulehu and Omaopio Roads, at this particular time, i.e., in the design stage, to avoid the misuse of those two routes as shortcuts to Kihei and Lahaina by some Kula residents, and to leave those roads as direct farm-to-market routes from Kula to Kahului.

As I have commuted to Wailuku on Pulehu Road from Holopuni every day for the last 19 years, I am aware that those roads are primarily used as shortcuts for commuter traffic, and are most heavily used between 6:30 and 8:00 in the morning, and 4:30 and 6:00 in the afternoon. I believe having grade separations of any of the alternatives would be appropriate. And given the terrain and slope of that area of the country, that with a little planning, the cut and fill could easily provide for underpasses for both those roads.

One other thing, the impact of lights. In the draft EIS what is not spoken to, aside from the very evident impacts, is the light impacts of any of the alternatives, specifically of those that would go through non-habitable areas at this time, such as U3. From my deck, the ridge upon which that road would go up towards the Lower Kula Highway would create approximately a quarter of a mile effect, and would create quite distinctive light impacts at night, and this has not been addressed in the EIS, and is part of the charm of the Kula country area.

In developing the U1 alternative intersection at

Haleakala Highway, that should be definitely a nongrade separation. Not just because of the traffic going onto the Kihei-Kula route, but because of the overwhelming traffic congestion of cars going up and down Haleakala Highway to and from Central Maui. Single crossings at that point would be absurd, creating multi-mile backups during rush hours. As it is, the average speed during the rush hour period is probably only 30 to 35 miles an hour because of the constant traffic. This would become the second planned overpass on Maui, the first one being the over-crossing of Haleakala Highway for the proposed new airport entrance.

The no build alternative is not inconsistent necessarily with the alternatives of the various routes at this time, because the real decision in terms of the road planning for the Kihei-Kula connection or Upcountry connection is a timing one. In fact, I am concerned that whatever alternative is chosen, that in the long run there will be a need for additional connections to that road, or another one to Kihei. And for long-range planning, that might impact the decision as to which alternative to choose at this time, including possibly the no build alternative.

Also, the U1 alternative avoids a conflict with school areas, such as Kekaulike and Kamehameha. And the grade situation at Kulamalu, as pointed out in the draft EIS, is a very serious concern for anyone who drives vehicles of any

size, including four-door passenger cars.

I think that's pretty much it. I think, in summary, I want to emphasize that the U3 alternative would destroy a very rural, agricultural area. It goes through one of the few places where our small farmers have a possibility of economically farming, i.e., the Maui Agricultural Park, as well as it ruins large sections of pineapple fields that were developed as part of the Maui Agricultural Park trade-off for water supply. Everything considered, if a no build alternative is not the chosen one, again, I would support the U1 alternative as my first choice.

MR. ST. JOHN: Skip St. John, 113 Pekelo Place, Kula. I favor having the Upcountry terminus as far towards the Rice Park end as possible because the area around Five Trees, with the new Kamehameha School opening, is very congested, and the Kihei terminus would be much more convenient. The Research and Technology Park works fine for me, but I think if you get down the mountain towards Haliimaile it defeats the whole purpose of the highway.

So in other words, let's rethink some of the earlier alternatives which were discarded, and try and put the Upcountry terminus around the telephone exchange, and work from this end down and see where we can come out, for a positive approach and a better driving environment for Upcountry citizens.

MR. DEPBONDE: I am Erwin DepBonde, RR4, Box 66-A, Kula, 96790. My opinion is I want the highway at Haliimaile because it would service a majority of the people that's working down in the down country area. One stipulation: When they bring it down Haliimaile they should go under the highway to make the section safer for Upcountry. I guess that's all I have to say.

MS. SMITH: My name is Louise Smith, and I live at RR1, Box 530, Kula, 96790. That is Kimo Drive. I feel very strongly in favor of the Haliimaile U1, I guess it's called, U1 to either K1 or K2. That part I have not taken a thorough study of as to the feasibility of either one of them being the one to come to.

I feel that the taxpayers of Maui deserve to have the one that's benefiting them the most, and to benefit the most people would be U1 because they're coming from Haiku and the east part of Maui, that not only are going to Kihei to work but some are going to Lahaina to work. And I don't think that we need to go over Kula to bring them down to go to Lahaina. I don't think Kula needs to have a road coming in any place near Kekaulike School, it's going to be too congested.

I believe that the Kula area doesn't have a roadway to take care of the majority of these people who have to drive through Upper Kula to get to the road. I also feel that the one going straight up from Kihei or Wailea almost to the top of

the mountain is not necessary. They have technology nowadays that they can do a lot of their work down below and not have to go to the top of the mountain. And if you are going to have one such as that road, I think they're only accommodating about a hundred people. And I don't believe there's anything that is urgent to have to get up there in a hurry. And nowadays we do have helicopters that can get them up there at a lot less expense than building a road from an area that is not going to benefit a majority of the taxpayers.

The other areas I didn't even consider because, well, I don't think they're as convenient as would be the Haliimaile option. I believe that as a former board member of the Kula Community Association, they have already gone on record supporting the Haliimaile junction. Thank you.

MS. BARRETT: I'm Gwendolyn Barrett at 104 Kalihi Place, Kula, Maui. Okay, I feel like Haliimaile is the best, personally. This is what I like the best because I feel like the people from Haiku and Makawao can feed in without coming up Kula Highway and adding to the congestion so that they would have to pass the school and all of the area that's in Pukalani. So I feel like that would be less congestion, and yet it's a very short distance for us to come down.

I really don't know what else to add to that, other than I'm sure any of them has their assets and their liabilities. But for me, because all of Upcountry goes to

Kihei, and Kihei goes to all of Upcountry, that's the best choice. That really I think is it.

MR. BROGOITTI: I am Mark Brogoitti, my address is Post Office Box 1276, Kula. It appears that the State has a vested interest in building a new highway where one is not needed. It also appears that the State has already made up their mind that they're going to build a new highway. I disagree with this decision. I think that the existing highway infrastructure should be improved. The Haleakala Highway, our three lane highway, should be a four lane. They should improve the Hansen Road, which connects Mokulele Highway, and make that four lanes, and make four lanes on Mokulele Highway all the way across to Kihei.

The Kihei traffic situation could also be improved by widening the existing Piilani Highway and putting in light controls which are timed with automobile speed. From the State of Hawaii video, the most viable alternative showed a 25 percent drop in miles traveled. Currently, it takes me 40 minutes to get from Kula to Kihei. If you drop the distance traveled -- strike that part. A reduction in mileage traveled could be far offset by improving the existing infrastructure, allowing people to drive more fluidly with less stops and delays on existing roads.

The current idea of putting in a two lane road and shortening the travel distance by 25 percent does not address

the actual time that a person will spend in his automobile. I believe that the two lane road will not allow the speeds that we have on the existing infrastructure, due to slow drivers. So the 25 percent reduction in distance traveled does not represent a 25 percent reduction in time spent in the automobile.

In closing, I think that Hawaii's money would be better spent if it was spent on upgrading the existing highways and solving our existing traffic problems using the infrastructure that exists. Thank you.

MS. GISE: There are four reasons for the new road, all of which are problematic. First of all, there are few scientists traveling from the technology park to the summit. Second, the projected increase in tourists is excessive. The proposed road will decrease travel time only about 10 minutes in a two hour trip. Third of all, this location has a low hurricane and tsunami risk. The fourth reason, commuters, is the only remaining reason for the road.

The road will encourage development; a shortage of water has been shown not to control development. Of the four Upcountry intersection possibilities, U1, the Haliimaile intersection, is already dangerous, and will become a death trap. The Environmental Impact Statement does not mention a traffic light at Haliimaile. Potentially, a cloverleaf overpass would be a solution, but this is not desired by the

community, and current funding requires more traffic before allocating the extra 10 million dollars for such an intersection.

The Haliimaile intersection will furthermore greatly increase the traffic down residential Holopuni and Pulehu Roads, which are not designed for traffic. Accident statistics on these roads are already bad.

With regard to the Five Trees intersections, U2-A and B, the impact statement is based on traffic studies which were done before King Kekaulike High School was built, and Kamehameha School as well, before the Kamehameha School plan.

With regard to the Kula Hardware Store intersection, U3, this choice will make the trip to the summit worse for both scientists and tourists, and 50 percent of the benefit to the Pukalani-Kihei hotel commuters will be lost. They will have to go to the Kula Hardware Store, and would need four lanes from Pukalani to the Kula Hardware Store, and there are no plans for this. The intersection of the Hana Highway and the Haleakala Highway is already bad, especially during school times, really needing a cloverleaf overpass.

Finally, Hansen Road could be fixed and/or moved and would siphon traffic away from the Hana Highway/Dairy Road intersection, which is also bad.

MRS. KAVANAGH: Patricia Kavanagh, 238 Nalani Street, Pukalani. Well, the route that I chose that makes the

most sense to me is U2-A to K2. I could be persuaded possibly on U2-B, but as of now, I would say U2-A, because it seems to make the most sense to me and would be the most convenient for us. We're back and forth to Kihei almost every day of the week from Pukalani, and this route would work the best for us, definitely. Thank you.

MR. KAVANAGH: My name is Walter Kavanagh. I live at 238 Nalani Street in Pukalani. I chose U2 because it's the most convenient, the shortest, and not the most expensive. Every day I drive down to Kihei clear around by Hana Road, and it's too far and too dangerous. All our friends live in Maui Meadows. They think we're foolish to live up here because it's too dangerous and too far away. They won't come up and see us. So this way it would make it a lot better and safer for everyone. There would be less traffic going in the same direction, and just a lot better situation.

I just hope it will happen, and not be talked about like everything else here, put off and put off, because that's how they live here. Everything is tomorrow. I have been working down there for 14 years, and we go down to Kihei every day of the week using two cars. We have to, because she has to have one and I have to have one, and it uses a lot of gasoline at $1.70 a gallon. Anyway, it is so nice that all you people are getting together to make progress on this wonderful island, thank you.

Also, there isn't any escape route at all. If any major catastrophe happens, everybody is in bad shape because there's no outlets for Wailea or for here or for Kihei. And it could happen. Look what's happening around now, earthquakes, tidal waves, and all those kinds of things. We have got to think of that for our kids. I'm getting up there, I'm 81, and I'm still working. I get up real early and go, and it's so beautiful in the morning. It's dark at that time, but I love to see the sunrise. I love living here, and the people are so nice, and everyplace we go we make friends. It just makes a happy life and you live longer that way. Thank you so much.

MS. CLAYTON: Okay, my name is Donna Clayton, and I live in Pukalani at 249 Kaualani Street. I feel that the new bypass highway right by the highway at Five Trees would be the best place for that intersection to go, mainly because it's busy now. And I don't think it's quite perfect yet, and this would give the State the opportunity to enhance that area, now that everybody is using it.

There's a lot of traffic from the school right now, and there's another school that's going to go in, and there's going to be more traffic in that whole area from the school, and I really think that whole area needs more work. By terminating the highway there it will all be cleaned up and just be smoother. It will also bring people a little higher up. I thought it was a road Upcountry rather than

mid-country. I think that's a more Upcountry terminus.

For me, I would prefer it there. I think any other site, the other sites are too far over. The U2-B and U3 and Haliimaile intersection is going to be improved anyway one day to Waiko Road, so that will be taken care of. So I really think the area should be cleaned up at Five Trees. Thank you.

MR. PARKER: My name is Stephen Parker. I live at PO Box 1209, Kula. I have lived in Kula for 30 years, on Pulehuiki Road for the entire time. I have traveled both to Wailuku, Kahului and to Kihei throughout that whole time. I primarily drive down Pulehu Road traveling to Kihei, and presently it takes me about 40 minutes traveling time and a tank of gas every four days. So energy conservation I think is the primary purpose of this.

Of the alternatives, I favor U1 to K2 for the following reasons: The backflow from the Haiku area through the Makawao/Baldwin Avenue intersection to U2-A and U2-B and U3 I think would make Makawao terribly congested. The far reaches of the uplands, Haiku area, traveling down the Kaluanui Road and Haliimaile and getting on the bypass road, and the Makawao/Pukalani people can travel easily enough down to that intersection.

I feel that the Kula to Ulupalakua people probably could go down Omaopio and Pulehu Road, which will put some pressure on those areas. But having traveled those areas

already, I am not sure how much of an increase in traffic they're going to see with that bypass road.

Living on Pulehuiki Road, the U3 terminus Upcountry will increase the traffic on a very substandard steep road, and I think it would cause a lot of traffic congestion and dangerous travel. The terminus in Kihei at K2 would provide a parallel alternative to Piilani Highway, so that for any accidents, the closing of the Piilani Highway would be an alternative method to get out of Kihei. I have been stuck a number of times in Kihei when they have closed Piilani Highway, and it takes at least two hours to get out of Kihei when that happens.

To my way of thinking, the choice that would have the least traffic impact and serves the most people is the U1-K2 alternative. Those who want to address planning issues and the fact that a highway might promote development Upcountry, I think there's nothing, as far as I know, no proof that this would happen. Development is more a function of planning and having other services available, rather than having a highway.

I object to the U2-B terminus in Kula or Upcountry due a lot to the expense at that portion, having to condemn urban zoned land and construct a very expensive bridge structure that they're going to have to plan, and the steepness of the slope. I believe the slope at the worst portion of the

Pukalani bypass is seven percent, and they propose a 10 percent slope. I think that would be absolutely dangerous going down. And coming up it's going to be hard on a lot of vehicles to make that kind of grade. Thank you for this format.

MS. CHAMBERS: My name is Kelly Chambers. My family lives at 1920 Baldwin Avenue in Makawao. I think that they should do the U1-K1, because if they do it, the cheapest one they said was at the Five Trees, but that's kind of -- it's like I go to school there, and it takes like 10 minutes to get through that intersection.

And even like going to Keokea, that is too far. And I think the one in Haliimaile could help everybody, like from Makawao and even Haiku and Kula and Keokea and everything like that. And they need like a stoplight there anyway. You know, that intersection, gosh, it's horrible. It takes like 30 minutes to get out of there.

I don't know anything about Kihei, but even by Kamehameha School is a bad idea because in the morning that is so congested that there would be too many cars trying to get in and out. Thank you.

MR. FLAMMER: I am William Flammer, and I live at 2102 Naalae Road in Kula. I think there should definitely be a divided highway. If you travel the highway to Kihei on Mokulele Highway it's incredibly dangerous. I was a traveling road rep for 17 years. I traveled in my car all day long every

day, and I never had an accident. This road scares me, this Mokulele Highway. If they don't put a divided highway, the road will be much, much more dangerous.

Also, I understand it's a two lane highway for now, what they're proposing, but by the time they get it built they will need four lanes, guaranteed. So the people that are in charge, do you realize how many baby boomers from the mainland are going to start moving here in the next five years? I don't know if you considered it. With the runup in real estate values on the mainland, with the appreciation of the 401(k)'s, of their other stocks outside of their 401(k)'s, and the baby boomers are set to inherit approximately two trillion dollars from their parents, they're going to have plenty of money to move to places like Maui. You are going to need four lanes by the time it's built.

My final comment, on a personal note, it pains me to see that the U3 possibility is the cheapest. I think that is the worst option. I think the road should go to U2 either A or B. I guess that's it. Thank you very much.

MS. ANDERSON: My name is Diane Anderson. I live at 114 Kainana Place in Kula. I just want to put in my preferences. I prefer either number 8 or number 6, and I'm very excited about having a road from Upcountry to Kihei. It's very much needed. And the way Maui is growing we need to plan ahead and really do something that's going to help the people

who live here and work here to be able to get to work and get back, and not be sitting in lines on 37 because there's only one route. Even now it's crowded. And if we don't look ahead and get this done, we're going to be sitting in lines just like they do on the mainland, and we don't want that. Thanks.

MR. ANDERSON: I am Donn Anderson, I live at the same address as Diane. Well, first of all, I just wanted to say thank you for this format. If we didn't have this kind of open house format I really doubt that my wife and I would be here, because the other style is very boring and takes too much time. So we're very happy with this.

I would just like to go on record to say no build is no choice. We are not in favor of a no build option at all. So my first choice would be number 8, which would be U3 to K1. My second choice would be number six, U2-B to K1, and the sooner this can be built the better. That's what I want to say.

MR. MAYER: My name is Richard D. Mayer, and I live at RR1, Box 518, Kula, 96790. I want to give some of my testimony today, but I am going to reserve most of it for the meeting on October 13th. The presentation today I feel is illegal and improper in the sense that the charts that have been shown to the public do not include the no build alternative. The public is being misled to think that we have to choose among the eight alternatives, not realizing that the

no build alternative is a viable statement, a viable position.

I strongly support the adopted community plan for the Upcountry region, which states very clearly that the preferred alternative is no build. It is beyond me to understand why the State Department of Transportation and Senator Inouye have totally disregarded the wishes of the community in this matter. This project seems more to be "Inouye's invasion" and is paralleling the project on Oahu which for 20 years involved many, many community groups, namely the H-3 freeway.

This is another project which is being built against the wishes of the residents of the Upcountry region, who through their legal community plan process have indicated the wish is for a no build. The community wishes were accepted by the Maui County Planning Commission, and the Maui County Council, and the Maui County Mayor. The exhibits presented this evening do not reflect those legally adopted statements regarding the no build alternative.

On another matter, the presentation maps indicate that the baseline route linking the Upcountry region and Mokulele Highway is from the Hana Highway along Dairy Road, and then left along Puunene Avenue to Mokulele Highway. This routing is absolutely not a routing that anyone from East Maui or Upcountry would take to go to the Kihei-Wailea area. All residents of those communities would utilize Hansen Road, which

has been totally disregarded in the presentations and in the EIS.

This is all the more surprising, because during the scoping meetings which took place several years ago, it was made clear that Hansen Road was the base route that should be considered. It was also indicated at that time that a routing which would include Haleakala Highway, Hansen Road and Mokulele Highways would not only be a viable alternative to the routes being presented, but a preferred route.

Let me add something else here. The format of this evening's meeting, which excludes oral presentations by community members and community leaders, is a travesty to open government and open decision making. We have no idea what others have said, and no ability to ascertain whether the comments being made by each individual are being accurately transcribed, replicated, and publicized. It would be very easy to have the record changed and have no one in the community know what others said.

This process of closed meetings and closed government is probably illegal under the Sunshine Law, which prescribes that all public meetings be held openly and in the sunshine. It is useful to allow people who do not wish to speak in public to utilize this transcription method if they so choose. However, there should be an opportunity for those who wish to speak publicly to do so. That's all.

MR. BARBIN: My name is Ry Barbin, my address is 24 North Church Street, Wailuku. I'm a 25 year resident of Maui, and I have resided Upcountry for 15 years, and I own a house near the Upcountry high school. I speak as a resident of Maui, and I consider that this road is not just an Upcountry-Kihei road, but an island road.

I support the road. First I want to say that I'm speaking strictly as an individual, not representing any organizations or individuals. I support the road as a vehicle for economic development, to provide jobs for the future, to support the high tech industry on Maui, to relieve congestion on other roads, to relieve maintenance on other roads, and to assist workers to get to and from work easily and quickly.

With regard to the alignment, I think we should choose the alignment that is the most direct from the Kihei High Tech Park to the Science City. I believe that the Haliimaile Road intersection does not serve the purpose for which the road is being constructed, from a traffic flow standpoint. Any of the other alignments I would support, although I believe U2-A and U2-B are probably the most direct. Beyond that, I don't really take a position over those two alignments. That's it.

MR. STARR: My name is Hugh Starr, and I live in Makawao at PO Box 33, and I'm in favor of the Haliimaile alternative Upcountry. I feel that the project area needs to

be expanded to include Haiku, Kokomo, Kaupakalua, because many of the people who work in Kihei-Wailea have to right now go through Paia to get down there from East Maui. The project district appears to actually end east, somewhere between Makawao and Pukalani. So I think the project area needs to be expanded. That's it.

MR. BURT: Thomas Burt, 277 Olulani Street, Pukalani. I really feel the best route would be the Haliimaile route, because it doesn't impact any residential neighborhoods or archaeological sites or anything along the way. The other consideration I feel would be to make, instead of doing any of it, any of the new proposals, would be to just make the highway, Pukalani -- not Pukalani Highway, Haleakala four lanes down through just the existing roads, improving those to four lanes. So that would be something that's not considered right now, but an alternate to everything that they're proposing, and probably cheaper. But if we have to do one of them, I'd rather see the Haliimaile route. Thank you.

MRS. BURT: I am Elizabeth Burt, and I live at 277 Olulani Street. Well, I think that improving the existing roads would be the best alternative. If that is not an alternative that's going to happen, then the Haliimaile route to Kihei. But I think that the roads that we already have, if they were improved into four lane roads instead of just two lane roads, it would accommodate the traffic flow a lot better

than it does now. That would be my first choice. It would have less impact on existing neighborhoods, archaeological sites, better planned for commercial use. That's it.

MS. MORRISON: My name is Sheri Morrison. I live at 2770 Palalani in Pukalani. I guess I empathize with the people in Kihei that we need another way out of Kihei besides the current situation. So I would support something, some kind of road rather than the no build. But of those options that are then available, I would prefer the one that runs from the northern-most part of Kihei to the Haliimaile intersection, which is U1. It seems to have the least negative impact, from my perspective. I live in Pukalani and I would use it, it would be a nice thing.

I also see it as a benefit to the population living in Haiku, Paia, the East Maui section, because it would give them another way to come Upcountry. South Maui, they would use that route rather than having to go through Paia, which is just inundated right now with traffic. So it seems the most positive link to me.

I don't like at all the intersection at Five Trees. It seems that we've already messed that up enough. It still has some meaning to people Upcountry, as opposed to just from an engineering standpoint. So I would hate to see them use that as the intersection. I would not like the intersection to go through the new Kulamalu area because it would be a

throughway right by Kamehameha Schools, and then also by the King Kekaulike school. So even though it would offer options for those people as far as traffic, it just seems a shame to have these schools next to high volume traffic.

The Omaopio/Pulehu area I don't think is good either, because it impacts negatively on the County agricultural park there, and just in general seems a huge expense, just looking at it from the expense side. So I end up dreaming about the good old days and wishing there was no build. But if we have to do something I would go from the northern-most intersection in Kihei to the Haliimaile intersection. Thank you.

MR. OHTA: I am David M. Ohta, and I live at 2678 Akalani Loop in Pukalani, Maui. Where it comes out at Haliimaile it would seem like that -- I mean after looking at this whole thing, not that the highway even crosses where I live. I won't even see the highway, I don't think. It's just that the school up there, I drive up there, I see the school, and you have got King Kekaulike and then you have got the Kamehameha School. It just seems like a bad intersection.

When I was talking with Unemori, he said, "Wouldn't that be the best place to bring a highway because that's where you have a gathering of people right there, a concentration of people." I said to him that I thought it would be just the opposite. To bring a highway into someplace where you have got

so many more things to consider when you bring it up to there. That's why I'm picking U2.

The Pukalani Association and the Kula Association, I think we just voted unanimously not to bring the highway up to U2-A and B. But I guess there was a meeting here the other week that I missed, when Everett Dowling came. I think Kathy Hall brought him up there. And the way he made it sound is that's where the highway is coming up already, U2-A or U2-B, right where he's got all his projects happening right there. And the people, the association, we didn't like that idea, somebody saying that's where the project is coming out already, the terminus.

That's all I have to say. I could care less where it comes out in Kihei, K1 or K2. As far as Upcountry goes, I have lived up there for almost 22 years, and I've seen the place grow. I mean when I first came up here there was no Pukalani here. There were like three houses over there. I think the Hicks Homes were right there where Ace Hardware is. That was it, there was no Pukalani. When we first moved up here I think there was no lights and it was a dirt road here at the end. And I have seen it grow and grow, and God, I just can't see a highway coming up here.

I mean people have selfish reasons why they don't want to look out at the highway, but I won't be seeing the highway. It's just I can't imagine that much traffic coming

right by the school. It would be a horrible place for that thing to come out. Thank you.

MR. STARR: My name is Jonathan Starr. I live in Kaupo and also at 3150 Wailea Alanui in Kihei, 96753. Okay, well, my largest concern is to see another route out of the southern end of Kihei. I think that's essential for a emergency evacuation. And also there are many days when I try to commute from Wailea to Kahului to go to work and there's an accident on Piilani Highway or Mokulele Highway, and it just ties up everything. In fact, even an accident on South Kihei Road will tie up Piilani Highway for a half hour or so. So my greatest interest is to see a way to get out of the southern end of Kihei without having to backtrack all the way down Piilani and Mokulele Highway.

So as far as the lower terminus, I feel it needs to be the one that's furthest south, and that to me is the most critical. As far as the upper terminus, I really feel that that should be up to the Kula community to decide, more than the Kihei community. But in any case, I'd like to see a connection that heads back toward the airport or Puunene, so that the road would be able to serve the people of southern Kihei, which is a very rapidly growing community, probably the fastest growing community in the state, with another route back toward the airport and back toward Kahului and also the government center.

As an aside, I really miss having the old Ulupalakua\Makena road. I used to use that road a lot before it was closed down years ago, and it was a very sad day for our community when that road became closed down. And I wish there was some mechanism for local citizens to be able to utilize that road without it being turned into a major highway.

I don't know how that could fit in with the plans, but that would really help both as an emergency evacuation route, also for those members of the community who have to get from the South Maui, Kihei side toward Ulupalakua, or in my case, where my other house is out in Kaupo and on toward Hana. So those are my comments.

MS. NIELSEN: I'm Helen Nielsen. I live at 3150 Wailea Alanui Road in Kihei. I wish I could remember exactly which is which. I guess now that I have my map in front of me I think I prefer the K1 to U2-A as my first choice. However, I just heard that U2-A is an archeologically sensitive site, so if it is and they haven't gone around those sites, then I would prefer U2-B.

I'd like to request that they be more sensitive to the lighting. I don't want to see more of the Dowling\Kula Highway lighting repeated at every intersection where the highway passes Pulehu\Omaopio, because I don't think the folks who live there would appreciate all the bright lights.

I would also ask that the side of the highway is

wide enough so that if people do want to bicycle up and down for the entire length it should be done in a safe manner. I understand they only have bike lanes for the urban areas, but they should consider bike lanes all the way up and down. And since Maui is such a sport center internationally, I think there's only going to be more and more people coming to do more cross country biking, and I think that would be a nice way to get around. And I appreciate the chance to comment. Thank you.

MR. MEYER: (The written testimonies of Paul J. Meyer and Thomas Worthington, Ph.D., are attached to the transcript)

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(Whereupon the hearing was adjourned at 9:30 p.m.)

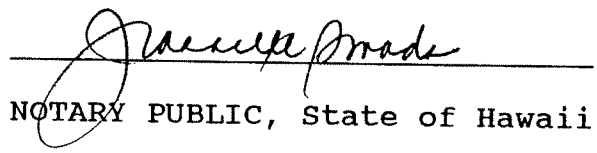
C E R T I F I C A T I O N

I, JEANNETTE W. IWADO, Notary Public for the State of Hawaii, certify:

That the hearing contained herein was taken by me in machine shorthand and was thereafter produced in transcript form under my supervision; that the foregoing represents, to the best of my ability, a true and accurate transcript of the proceedings had in the foregoing matter.

I further certify that I am neither attorney for any of the parties hereto nor in any way concerned with the cause.

Dated this 5th day of October, 1999.



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NOTARY PUBLIC, State of Hawaii

My commission expires 2/5/00

Kahului School
October 13. 1999
Public Hearing Transcripts

KIHEI-UPCOUNTRY MAUI HIGHWAY

COUNTY OF MAUI

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PUBLIC HEARING

Held at the Kahului School Cafeteria, Kahului, Maui, Hawaii, commencing at 7:00 p.m. on October 13, 1999.

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I N D E X

DEPARTMENT OF TRANSPORTATION

PUBLIC HEARING

TRANSCRIPT OF PROCEEDINGS

MR. TSUZUKI: It's a little past seven o'clock, and I think we had published in the ad that we had regarding this meeting, this public hearing, that we would be starting at seven o'clock, giving the public an opportunity to speak before an audience. So this is what this portion of the public hearing is about.

I wanted to extend my greetings to you, and we will come unite to this public hearing for the Upcountry to Kihei highway project. I bring something to you from the director of transportation, Kazu Hayashida, and also Pericles Manthos, who is the administrator of the Highways Division. Unfortunately, the two gentlemen I just mentioned are not able to attend tonight. But we will hear your testimony tonight, and I have a panel in front of you, and I am going to be introducing them tonight.

To my far left is David Atkin. David is with the consulting firm Parsons Brinckerhoff and Associates, Parsons Brinckerhoff Quade and Douglas, and their company is actually doing a lot of the environmental studies for this project. To my immediate left is Bob Siarot, our Maui District Engineer for Highways. To my immediate right is Warren Unemori of Unemori

Engineering, who is the prime consultant for this project.

And to Warren's right is Domingo Galicinao. Domingo is actually the bridge engineer for the Federal Highways Administration. The Federal Highways Administration has an important role in this project, since they will be providing most of the money for this project. Domingo handles all projects on the island of Maui.

Tonight what we wanted to do was try and receive as many public comments as we can about the project, and that's really the purpose of all of these public hearings that we have held so far. Some of you may have already attended the two hearings that we held about two weeks ago, one in Kihei and one in Upcountry Maui.

Some of you may be wondering why we are holding a third meeting. The primary purpose of holding this meeting tonight was the fact that I had received a phone call from, what was the name of that person, the president of the Kekaulike High School PTSA called me just before the public hearing was scheduled, about a week before the public hearing for Upcountry was scheduled, and he told me that the Upcountry public hearing conflicted with the opening of the Maui County Fair. And I guess we weren't aware of that when we had scheduled the hearing for Upcountry Maui.

He told me that a lot of the parents of students and whatever, were involved with the county fair and would not be

able to attend, so if we could either reschedule the Upcountry meeting or schedule another meeting. So we decided that we're going to go ahead with the meeting in Pukalani, but also schedule a third meeting, and this is the meeting that we scheduled to allow people who were not able to attend the previous meetings.

As most of you know, we used a different type of format for the two public hearings in Upcountry Maui and also in Kihei. That format did not allow for public testimony before an audience, and we received a lot, not a lot, but a few letters complaining about that format. And that's also another reason, a secondary reason why we're holding this meeting tonight, because we didn't want that to be an excuse for people not testifying about this project. We wanted to get as many comments as we could about the project and really find out what people thought about it.

As far as how we're going to run this portion of the public hearing, we have a court reporter in the front of the room, and we want to make sure that she captures all of your comments that you are making verbally. We have a microphone that's set up right over there in that aisle, and each person will have to go up to that microphone, state his or her name very clearly. Also if you could spell your name, because sometimes we can get the names misspelled, so we want you to spell your name, and also indicate if there's any organization

or whatever, that you represent or whether you are representing yourself.

We also have another court reporter that's just outside that exit sign in the far left of this room, and this is for people who are not used to speaking before an audience and who may want to still give comments to us. So we do have an opportunity for those of you who may be a little timid in speaking before an audience to go to that court reporter outside. We also have comment sheets which are located next to the table that you had signed in on, and those sheets can also be filled out and turned in tonight or mailed back to us. We want to make sure that all comments are received by October 28th or roughly toward the end of this month.

Also, if you testify at the microphone, we want to make sure we capture everything that you say. Some of you may have a written copy of what you plan to speak about, and if you do, we would appreciate it if you could turn that in to our court reporter, it will really help her.

The other thing we are going to observe is a four-minute time limit on each person. After all the people have had an opportunity to speak, we will give them extra time if they need it later. And we're going to take people in the order of how they signed in. So actually I'm going to go according to the list that was available at the sign-in table, and I'll call each person up individually.

Any questions? Yes, sir?

UNIDENTIFIED SPEAKER: Are we going to have a map for people to visually see what people are commenting on? How about the No. 2 map there?

MR. TSUZUKI: If we have to, we can bring a map up when you speak, if you need it.

UNIDENTIFIED SPEAKER: We will. Please bring it now.

MR. TSUZUKI: Okay, we will. I think they're getting it now. Okay, let's get started. Yes, sir?

UNIDENTIFIED SPEAKER: I know on numerous times you got public testimony, your two other meetings. This meeting we have verbal and written, so one individual could actually continue testifying throughout this process?

MR. TSUZUKI: That's correct. That's correct. And that's your right to do so.

Any other questions about the format of tonight's meeting and how we're going to run this? If not, let's get started. I am going to call on the first person, his name is Roger Dennis Hawley, who is the first person who came tonight, so he should be the first one to speak.

MR. HAWLEY: My name is Roger Hawley, I have been a resident of the Hawaiian Islands for the past 32 years. My last name is spelled H-a-w-l-e-y. I've testified at numerous state highway projects all over the Hawaiian Islands,

especially the H-3 freeway, which I started back in 1973. I have hiked just about every inch of all this territory, of all the proposed alternates, for many years, for the past 30 years, and all I can see under the present designs is that it's all half-assed as it presently is designed.

I'm from California. I've watched the freeways overtake all the residential areas, all the back country roads. And it was kind of sad, but there was, once in a great while, a beautiful highway, like a parkway that was used by everyone, the local people and the tourists. I feel that if people really understood how much tax money they have just expended in the last ten years through their income tax, it is nearly a hundred million dollars per year for ten years. That is a billion dollars for just the island of Maui. I believe that Maui should get a better deal in this whole thing.

I believe that this proposed highway from Kihei to Upcountry should not be a two-lane suicidal road where many people might be killed in the next 10 to 20 years. I feel it should be four lanes, and it should be divided. To prevent any delays and inconveniences in the following years, it should be concrete. I believe that the people of Maui have paid enough price through their income taxes that they deserve a very fine parkway between Upcountry and Kihei, and I am against all the proposed routes as they are.

I bet most of you have never even seen the herds of

deer that plague this entire region. They're in groups of 30, 40, 50, 60, vast quantities of deer all over this mountain site. Try to imagine driving at 55 miles an hour down or up this highway and a deer comes loping across the highway, and you hit it at speeds of 45 to 55 miles an hour. You are going to do a lot of damage to not only your car but to the deer, and you might end up dead.

I believe that as they presently are designed, I think and I feel that all the alternates should not be considered until a good four-lane highway from Pukalani down to Kahului, and a four-lane highway from the middle of the Haleakala Highway down to Kihei are built, that's what my feelings are. Thank you very much. (Applause.)

MR. TSUZUKI: Thank you.

The next person is Perry Artates.

MR. ARTATES: Good evening, Department of Transportation officials and project consultants. My name is Perry Artates, A-r-t-a-t-e-s, a construction resource specialist representing the Hawaii Operating Engineers Industry Stabilization Fund, and I have a copy for the reporter.

MR. TSUZUKI: Okay, thank you.

MR. ARTATES: I'm here this evening in support of the Kihei-Upcountry highway project because we are the pioneers of the Building Trades Industry. We build observatories on Haleakala and also the roads that lead to it; we build the

harbors in Kahului so that we can support the ships bringing in the necessities of our everyday life; We build schools for our children to have a better education; we build hospitals to take care of our sickly; we build police and fire stations to protect our communities; we bring electricity and water to your home for your everyday life consumption; and yet the trades industry work are not long term but short.

Work here on Maui for our membership of all of the trades keep us here that are born and raised, but statistics show that a lot of our people are moving elsewhere for work because of our economy. By supporting the highway from Kihei to Upcountry gives our local people hope to come back home to the island they love, Maui. Mahalo for your time and letting me express my testimony. Thank you. (Applause.)

MR. TSUZUKI: Could you turn that in to the court reporter?

The next person is Clarence Tavares.

MR. TAVARES: My name is Clarence M. Tavares. I have a residence at Kula and today I live in Makena. And when I say Makena, you must know how long we have got to get around to go to Kula again. I feel --

MR. TSUZUKI: Could you spell your name for the court reporter? Could you spell your name out for the court reporter?

MR. TAVARES: Last name or first name?

MR. TSUZUKI: Last name.

MR. TAVARES: T-a-v-a-r-e-s.

MR. TSUZUKI: Thank you. Sorry for interrupting.

MR. TAVARES: I feel that this project -- I have been talking to some people and mentioned that as a small boy with my dad we used to travel down the Ulupalakua way. And all those years he talked about it, and he told me he was waiting to see a road going to Kihei or Makena to Kula some day. Well, he's gone many years ago, and I tell you, I'm 70 years old today and I speak the same thing what he said. I want to see a road going from Makena to Kula and serving the people, because I know how it is and how they feel when you have to come all the way from Kula to Makena, what we face, the traffic, the time.

There's a lot of people that works in Ulupalakua, Kanaio, that goes to Lahaina, and I know everybody is fighting about the Pukalani road. But my feeling is and my proposal is let's have a road from Kihei to Kula. We've got a chance now, and I hope to see the road before anything happens to me. Thank you. (Applause.)

MR. TSUZUKI: Thank you.

Madelyn D'Enbeau.

MS. D'ENBEAU: Good evening. My name is Madelyn D'Enbeau, it's spelled D' E-n-b-e-a-u, and I gave testimony Upcountry to the court reporter on behalf of the Makawao Main

Street Association, I'm on the board of directors, expressing the concerns that the Main Street Association has about the choice suggested for the Dowling intersection. I don't know what number, I think it's U2-B, but you all know which one I mean, I'm sure. Because what wasn't taken into consideration is the negative impact that this will have on Makawao town.

And I won't reiterate what I've already said, but I just want the other members of the community organizations here to know that the Makawao Main Street Association is very concerned about the affect on their town for putting this roadway through Mr. Dowling's proposed shopping center. Which incidentally, according to his own market study, would not be feasible without this highway intersecting there.

But more particularly as an individual I would like to say that I am concerned about -- I don't even know what word to put on it. This process has already been gone through at great lengths over a great number of years by the county council. We have a community plan for Upcountry Maui; we have a community plan for Kihei. You cannot, in fact, as I understand the law, spend money on something that's in contradiction to the community plan.

So what are we doing here since the community plan has already designated what it saw as the most appropriate location for the most appropriate way of solving this transportation problem? That's a good question. I don't

understand that myself.

But just for the sake of the audience that doesn't have, perhaps, access to these community plans, the Upcountry community plans give priority consideration to the no-build alternative of the proposed Upcountry-Kihei connector highway and give secondary consideration to the alternative routes with the least negative impact to the Upcountry lifestyle and character by locating the Upcountry terminus in the vicinity of the intersection of Haliimaile Road and Haleakala Highway. So the first choice was no-build and the second choice was, I guess you have designated that as U1.

Now, the Kihei plan says, Upcountry transportation connection. The need to provide a transportation link to the Upcountry area has been identified for some time. This would result in saving valuable commuter time between the primarily residential area of Upcountry and job centers within the Kihei region. Choosing the optimal route for this length will involve consideration of positive and negative impacts to both regions. The focus should be on improving transportation services for island residents, thus the route should minimize travel times for the maximum number of island residents.

So we have two different perspectives here, but the more specific one, the Upcountry plan should govern, because that does follow the request by the Kihei plan and does designate a particular area. So I think that we need to show

that -- the state would be wise to show respect to the county council and to its community plans. And I understand that rather than looking at the community plan and saying, well, we have gone through a long process here and the community wants it this way, and for whatever reason we're still considering other alternatives. So that would be my point of view.

Is there time to come back at the end?

MR. TSUZUKI: Yes. Thank you.

(Applause.)

Steven Anderson.

MR. ANDERSON: Hi, my name is Steven B., as in boy, Anderson, A-n-d-e-r-s-o-n. I'm a graduate student in wildlife biology at the University of California Davis seeking my Ph.D here. I've been studying the axis deer here on Maui for a while, and I am going to be leaving here in six months. I don't have a strong opinion about the orientation of the highway and some of the major issues involved in this meeting, but I do have some serious safety concerns with regard to axis deer. So I will try to present an objective perspective on highway and deer collisions that need to be addressed, and as the current EIS stands they have not been addressed.

The EIS does point out that the area we're going through with these highways is primarily exotic nonnative species, and it does mention that road kill will be increased. Unfortunately, it doesn't mention that road kill will include

humans. There is no doubt that traveling 45 or 55 miles an hour through that area will result in some deer-vehicle collisions. The axis deer when crossing roads, frequently will not turn back, but will press on and will commonly cross roads single file, 60, 80, 100 at a time in various locations on Maui.

I propose several mitigation measures be addressed in the EIS regarding axis deer. First, my strong recommendation is that the maximum speed limit on that highway be 45 miles an hour. If that's unacceptable, a mainland-type of alternative that might work is a daytime speed limit of 55 and a nighttime speed limit of 45. The most likely deer-vehicle collisions are not going to occur midday but will be dusk and dawn, and frequently late at night.

The second mitigation measure I would propose is frequent signage of deer crossing throughout that highway network. Studies have shown that saying "Deer Crossing Next 12 Miles" is not effective. People slow down for a mile, and then speed back up. So I would suggest signing every three miles at the bare minimum. Another problem that is presented that I see on Maui is all reflectors on highways around here are yellow. There's yellow reflectors in the roads. That's exactly the color of axis deer eyes. It's almost impossible to detect an axis deer with all the yellow that's already out there.

Finally, with regard to the routing, my strong

recommendation would be to avoid the highest density areas of axis deer, and that would include the northernmost route, which would be the U1-K1 Haliimaile junction. Basically, ranchland is the much more dense area for axis deer; agricultural land is much lower density for axis deer. We already have at least 3,000 deer on the island of Maui. I expect 12,000 within the next eight or nine years total.

So that's pretty much what I had to say. I do have something just to flash around here. This is basically the picture we have, at the moment, of axis deer on Maui. You can see this is the Makena/Wailea strip right through here. The red area are deer approaching the thousands, and the yellow areas in Pukalani/Makawao are deer in the hundreds. So we can see that the highway is going right through the heart of the red area, and this is where my concern stems from. Thank you. (Applause.)

MR. TSUZUKI: Mr. Anderson, do you have anything in writing?

MR. ANDERSON: I will be submitting a comment on the EIS officially, and I will submit written commentary to this effect through a letter.

MR. TSUZUKI: What about that picture there?

MR. ANDERSON: I will try to get a picture of this for sure included in the written statement.

MR. TSUZUKI: Thank you.

John Wilson.

MR. WILSON: I want to thank you for being here and taking this time to let us speak to you in person. I have a five-page letter which I have already turned in, and I'll just read the general comments from that, and there are 13 specific comments relative to the EIS that we need to have addressed, I believe. Basically, I'm speaking for the Kula Community Association. I may want to speak later for myself, but I did not sign up for that.

The Kula Community Association board of directors wishes to place on the official Draft EIS record, two general comments followed by these specific comments. We expect that the final EIS will address both our questions and our concerns. The general comments about the EIS are, one, we desire that the final EIS reflect and respect the legally adopted July of 1996 Makawao-Pukalani-Kula Community Plan. Specifically, we urge you to note the following provisions.

Page 31 - Transportation Objectives and Policies. Give priority consideration to the no-build alternative of the proposed Upcountry-Kihei connector highway, and give secondary consideration to the alternative routes with the least negative impact to the Upcountry lifestyle and character by locating the Upcountry terminus in the vicinity of the intersection of Haliimaile Road and Haleakala Highway.

Page 13 - Interregional Issues. Kihei-Upcountry

Highway: The proposed highway between Kihei and the Upcountry regions is significant in terms of its land use and transportation impacts. The no-build alternative is the preferred option, but it is recognized that the selection of an alignment must consider the growth inducing impacts to the region's agriculture, rural character and open spaces. The need to maintain the unique Upcountry ambience is an essential parameter in analyzing alternative routing schemes. Recognizing the evaluation alternatives should weigh transportation costs and benefits as well as community and land use impacts, it is recommended that, if built, the Highway's Upcountry terminus intersect Haleakala Highway in the vicinity of Haliimaile Road.

Page 18 - In the Land Use section, the plan states in objectives and policies No. 4. Encourage land use patterns which will maintain a separation of character between the Upcountry and Kihei-Makena regions.

The Kula Community Association position on the proposed Upcountry-Kihei highway clearly prefers the upgrading of the present highway and road network connecting Upcountry Maui to Kihei. We support improvements to the existing highways as a means of solving present and future transportation problems.

The exact wording of our position follows: The Kula Community Association board of directors opposes the Pulehu,

Kulamalu, and Five Trees termini options of the Upcountry-Kihei highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei-Piilani Highway, the Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry-Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

And I have grouped these specific comments following in -- basically in terms of specific concerns relative to the trip generation and the draft EIS and cost benefit analysis questions traffic only at the highway termini, and correcting and error in one of the Hansen Road routes, accident statistics to be addressed, impact of traffic on numerous intersections that the proposed routes go through, the concern by the bike tours and where they would go, the shortcuts of cars going through Kula, especially with the U3 alternative, and some concerns about the funding and trip volumes related to people going to and from Haleakala. So with those, I will submit that with the proposal, rather than go through it in detail.

By the way, the name is spelled W-i-l-s-o-n.

(Applause.)

MR. TSUZUKI: Herb Squires.

MR. SQUIRES: My name is Herb Squires,

S-q-u-i-r-e-s. I'm an Upcountry resident for pretty near 15 years. I would strongly recommend that you not build this road. This is the biggest mistake that could happen to this island. It's probably the most significant project that's ever been approached here. We don't need this road, we have the four lanes of Mokulele Highway that's about to begin. None of us are in that much of a hurry that we need to save an extra five or ten minutes and spend $60-, $70-, $80-, $90 million to do that. We certainly don't need to worry about national security or national defense issues here.

We resent the fact that Haleakala is used as a military site and we don't want to encourage any more of that. If you are concerned about having your personnel be closer or have easier access to Haleakala, why don't you just move them up there instead of spending $80- or $90 million to build a road to get them there.

Going into Paia, we have A&B getting ready to build 450 new homes over there. We need a Paia bypass, we don't need this road. We need a Lahaina bypass. We need mass transit. We need things here that are much more significant and important than this road. We don't need a $65 million airport access road with overpasses. We need your help, we don't need you shoving things like this down our throats. And quite frankly, we're not going to take it. We'll do whatever we can to stop this project, those of us who realize the fact that

when you build a road, development follows.

We saw the rape of Kihei with the building of Piilani Highway, and we're still watching it, and it's disgusting. The whole world considers Maui the most beautiful place in the world. They come here because of the natural beauty. The more you carve up the place the more you destroy it, the strip malls, the cheap subdivisions, the less people will come. And quite frankly, you're degrading the quality of life for all of us here.

We know the people who stand to gain, such as A&B and all the other major players, who will go ahead and develop every square inch of that area on every side of the roadway. We want to put people to work, we want to have people doing projects that are important to us. We don't need this road. Take the road and shove it. (Applause.)

MR. TSUZUKI: Thank you very much. We're open to all of your comments, so that's why we're here tonight. I don't think we have a closed mind on what we're going to do or what we're not going to do.

The next person is Kennko Hofman.

MR. HOFMAN: May I defer until after all the speeches are made?

MR. TSUZUKI: You wanted to be last, is that what you're asking?

MR. HOFMAN: After what we just heard, I don't want

to follow that.

MR. TSUZUKI: All right, we'll skip you and save you for last, the best for last.

Zandra Amaral.

MS. AMARAL: Aloha Ahiahi Kou mau hoa aloha. O Zandra Amaral Ko'u inoa. Good evening, my friends. My name is Zandra Amaral, and I represent myself and my family and my neighborhood friends in Kihei who forwarded you a petition through me in 1996. I would like to open by thanking the state for the way they conducted their meetings in Kihei and Pukalani on the 29th and the 30th of September. It touched my heart to see citizens testify who would otherwise not get up in front of a group to testify.

Being asked by some of these citizens to assist them to the court reporters, where they could give their testimonies in private, privileged me. All expressed their gratitude in being able to speak their mind without fear of ridicule, being judged, or fear of not being eloquent and powerful speakers. There are not words adequate enough to express the pride and empowerment which radiated their being after they were given a safe haven to present their testimonies.

One elderly couple told me up in Pukalani, "Ms. Amaral, I always wanted to speak my piece, but I never felt safe getting up in front of a group, so I eventually stopped going to public meetings. Now I'm going to tell my friends

it's okay." It is my wish that many more will feel safe to share at our meetings because their manao is needed. Each and every one of your manao within Maui County and the State of Hawaii is needed.

I would also like to thank the state for your pursuing an alternate evacuation route for the residents of Kihei, our visitors, my friends, and for my family. We have had disasters, such as brush fires, which have crippled Kihei residents. Having only one route in and out of Kihei presents risks that we should not be taking. The risk is human life. If a major disaster occurred which blocked the existing route, we would be trapped.

I know what it feels like, ladies and gentlemen, to be trapped in a natural disaster. As a child growing up in Paukukalo, my parents had a farm which runs along Iao river and down to the ocean. One year we had a tidal wave. The river overflowed onto the street and there were waves coming to us from our backyard. Had we not left when we did, the river, which flooded the street and the ocean, which bordered our cow pastures and was flowing into our backyard, would have boxed us in.

Though this was many years ago and I was a little child, I will never forget how blessed I felt having a father who acted swiftly in securing his family at the He'au above Hawaiian Homes. The population then was not as great as it is

currently. Should a natural or unnatural disaster occur in Kihei now, our public safety officers would not have the passage to bring in needed emergency vehicles and/or equipment to assist our many residents and visitors.

I realize when streets and highways go in, there is growth around them. However, there is already a substantial amount of growth and development, my brothers and sisters, both in Kihei and in Kula, without the highway. There has been substantial growth on Maui from the time I was born into the Territory of Hawaii and until today. Nothing and no one will ever stop growth, we all know this. But we need to be prudent, diligent and insightful in preparing for this growth that allows us to live in harmony and safely. If we want to stop development, we must be diligent about attending the appropriate public hearings and address our concerns in that venue.

Allowing a highway does not provide for a carte blanche to all developers. They will still need to go through public review and scrutiny. It is at this stage that you have the power to stop or delay development until your concerns are addressed. Let us be proactive and not active.

MR. TSUZUKI: Would you wrap up your testimony?

MS. AMARAL: Let us address the safety and welfare of our citizens before the disaster strikes. I have six wonderful kanaka maule mo'opuna kanes, Hawaiian grandsons, and

I would like very much to provide an environment for them which is safe and is able to sustain their needs so they can stay here in Hawaii and not be forced off their aina, as I was.

I'd like to reserve the right to come back, sir, if I may, after everyone is done. Mahalo.

MR. TSUZUKI: The next person is Steve Sutrov.

MR. SUTROV: Good evening, my name is Steve Sutrov, S-u-t-r-o-v, and I'm a resident of Kula. I've been commuting from Upcountry to Wailea working, normally, five days a week for the last -- or more than 22 years now, either I've lived in Olinda or Makawao or Kula during that time. Kula for the last 14 years. I never have complained about how long the ride takes, I enjoy the ride down, it gets me ready for work, and gives me a chance too unwind on the way home so I am not kicking the dog when I walk in.

I recognize the many advantages of keeping these two communities separated by a direct route between the two. I see the advantages of preserving Upcountry for not only the residents who live up there but for the visitor industry which come to Maui for the rural atmosphere, and to take the mountainside and change it from what it is right now, basically agricultural and open space, you are taking one of the most valuable resources of this island from us. And I think a direct highway would eventually corrupt the Upcountry to a point where it could be compared to some other island.

I support the Makawao and Pukalani community plan. I support all the hard work that went into it, the 50 some-odd meetings between the CAC, from people, dignified people from all over Upcountry that were met many times, and from there went on to the Planning Department, the Planning Commission all supported the CAC process and the plan. The county council adopted it, the mayor signed it into law, and I support the process and the community plan that was accepted. I support its view on the no-road bill alternative with Haliimaile if it needs to be built.

To improve to four lanes all the existing roadways and to make them safe and efficient intersections is what needs to be done first, and I'm sure the state can handle that, to make it as efficient as possible. It might save me another 10 to 15 minutes to get to work. If you put in a new highway, it might save another 5 to 10 minutes on top of that. Improve the existing roads first. Improve the existing roads first.

The EIS takes into consideration -- should take into consideration all the intersections being planned from the no-build and for each alternative that's being planned right now. You have to plan those intersections now, before they can give us a level of service estimate for the year 2020. I'd like to see that in the EIS.

I'd like to see what the intersection is going to look like, whether they're going to be signalized and how many

there are going to be coming down from Kulamalu total, the quickest and the safest, and from now, not ten years from now. When you think you might have to add an intersection and might have to add another light, and then no longer an efficient rural limited access highway, you're dealing with another Kihei Road or Piilani Highway, where they're putting in even more intersections on that highway right now.

I want to see in the EIS a total number of intersections, the number of stop signs and lights planned, the upgrade percentage of each route, how steep they are, the speed limits that are going to be posted, and it must show what type of intersections are planned on the routes, including the no-build. The engineers said they can't do this yet, but it must be done so we can see what is going to be the shortest route. It might take much longer to travel from U to K, from Upcountry to Kihei, because of the number and the type F intersection and speed limits. It might take longer on a map, as a profile, just because of more intersections.

The comparison should be made in the EIS. The EIS should show a map of the community plan area with an overlay of the project district. The community plan takes up about 80 of -- the Upcountry community plan area takes up about 80 percent of this project district. It seems to me that the Upcountry community plan should have an overriding affect on this project. The Haliimaile connection should be the only

route considered if there needs to be one. The U2, along with U3, for one, they do not conform with the Upcountry community plan for the majority of the project district.

The EIS should show a comparison of U1 and an earlier Haliimaile version which cut a lot over, which only went over Omaopio Road, not Omaopio and Pulehu Road, which is more dangerous, more intersections that are being planned. It was only a 3.5 degree plan and now it's gone up to 6.6, something like that, and it would have been a more efficient, quicker expressway, straight shot down to Kihei, the original plan. Now it goes up, almost borders with Pukalani and then comes back down. With that design, it wouldn't be too hard, too farfetched for, let's say, the Kulamalu developer to put another road down and connect with it at his own expense.

Time out? Can I have more time later?

MR. TSUZUKI: Yes, you may.

Peter Wilson.

MR. WILSON: Unaccustomed as I am to public speaking, my name is Wilson, another good man around here with that name. My feeling is I certainly support the community plan. I think that the priority and the development of this road should focus on the well-being of the people Upcountry and their ability to move about in a safe and rapid manner. I think if you take the community plan for what it's worth, I think Haliimaile, if the road must be built, then Haliimaile is

the place where it should go.

I think that the priority, the people talk about savings and money. I don't think money should be a question at this point. If you are going to build a road, build it right. I'm sick and tired of seeing two-lane highways that go across where you have congestion. If you're going to build something, make it right so it's going to last. We have not done that anyplace that I can see around Maui.

The other thing is, I think the priority should be to, one, service and look after the welfare of the people Upcountry; and number two, to maintain the lifestyle, the ambiance that we have Upcountry. I mean, people come up there and they march very well at what we've got up there and it's something we should do everything we can to protect.

I do not like great big developments going on, I think it destroys the way we're living. Enlarging the airports, make more jobs, all it does is create more industrial development and reduces the beauty and the charm of our island. And I think that we should try to protect what we've got and make it a hell of a lot better and not bring in more buildings and more development and all that stuff. Thank you.

(Applause.)

MR. TSUZUKI: Thank you.

Dick Mayer.

MR. MAYER: My name is Dick Mayer, M-a-y-e-r. My

understanding is the purpose of the meeting tonight is to give you input on the draft EIS so that you can do the right job when you put the final EIS together.

MR. TSUZUKI: Yes, it is.

MR. MAYER: I have had 15, 20 years of experience reading the EIS statements for the University of Hawaii, and this EIS in many ways fails the grade. It's deceptive, it's incomplete, it's self-serving, and I don't think the people of Maui should be putting up with a document that is so one-sided in its whole approach and methodology as this one is. And I'd like to in my discussion give you some of the reasons why I think that.

First of all, the county general plan of Maui, which is the overriding document that we have to look to, I am not talking about the community plans now, is very specific in the area of transportation and its roads as follows. Under the area of transportation on page 10 of the Maui County, the general plan. Development of a Maui County transportation system linked to land use planning that is less dependant on the automobile as its primary mode of moving people. Direct economic development toward existing communities in order to minimize employee commuting and foster healthy job balance.

It also goes on to say, support and expand programs to reduce automobiles, dependent employee commuting for hotels, commercial and industrial projects. It could not be more

direct and clear in saying this project should not be built. Rather we should be building up quality housing in and around the job areas and not increasing the tendency of people to commute back and forth across the island.

Secondly, and it's been mentioned already, but I'm going to make sure it's on the record. I was the vice-chair of the Upcountry community plan, which met over a period of about a year. We made recommendations. Those recommendations went to the Planning Commission, they went on to the county council, and they are now the law in Maui County on the Upcountry area.

You have heard a discussion of those, had it read into the record already. I am not going to repeat it, but I will make it very clear that taking into consideration the ideas and thoughts of lots of people in the Upcountry area, we recommended that the highway not be built at all. And then we felt that since we wanted to give direction if somehow it was going to be forced on us, and that's what I feel this document is trying to do, that it be built in the location of the Haliimaile Road.

We made no comment as to what would happen down in Kihei and my understanding is the Kihei people have made no recommendation where it might go Upcountry. But it's very clear we didn't want that road built and that's the law now. So you have got the plan that you would have to change and the community plan that you would have to change to get this road

built. The final EIS has to address how they would change that plan in order to build this road, otherwise it's against our law.

When I said that the plan is deceptive, what it did do, it took a look at these various alternatives, the four termini, the mix and match set of alternatives there. What it slighted was the no-build alternative. It was said in this document that the Tier 1 analysis, the no-build was rejected. It gave very false reasons for doing so, and I would like to quote something from the EIS I am going to read here. It's in a letter that Mr. Wilson gave to you prior.

We're concerned in the manner in which the enhanced widening alternative; in other words, to not build it and to allow Mokulele Highway, Haleakala Highway, the airport access road, if that's built, the Hana Highway, have the various roads and Hansen Road to be improved as an alternative to building this road. That was rejected. The draft EIS indicated that nonsatisfaction of project goals eliminated the enhanced widening of existing roadways. In other words, it didn't meet the project's goals, so it was eliminated.

The draft EIS said that enhanced widening had a fatal flaw because it would not establish a roadway linkage between Kihei and the Upcountry area. There is nowhere in your purpose in the EIS that says establishing a roadway linkage with the Kihei-Upcountry area is a legitimate purpose. That

was something made up by the people who wanted to reject this document.

Reading on, please note that the established roadway linkage is not a purpose of the project, rather it says improve roadway system linkage, that's what your purpose is in your plan, is a listed purpose. This statement clearly means that the six proposed alternatives, the eight proposed alternatives do not meet the project purpose. The eight that you have selected for us to look at do not meet your project purpose because all of them establish new routes.

I'll reserve time for later.

MR. TSUZUKI: It sounds like you have a lot more.

MR. MAYER: I have a lot. (Applause.)

MR. TSUZUKI: Lexie Baldeson.

MS. BALDESON: My name is Lexie Baldeson, and I'm Associated Student Body President at King Kekaulike. First of all, I'd like to say, sir, Bob, if you don't sleep through my presentation, I'd really appreciate that.

Okay, I've noticed that on all these boards we failed to mention, the county has failed to mention that King Kekaulike would be affected along with Kamehameha School. And I am completely against this highway, but if it's going to be built, I have a very strong recommendation. I came here tonight to give the student perspective of the future highway with these four terrible choices.

The only sensible and unfortunate location should be at the connection at Haliimaile. With safety, of course, as our main concern, the Kamehameha Schools in the Five Trees area would be ridiculous to construct. As you know, children walk to school and loiter around the school premises. If there are large amounts of cars speeding by our school within 300 feet of our school, I don't know if you guys have been there, but the light, the stoplight is so close to the entrance, and I can't even imagine more cars there.

Because of a great amount of cars, it increases the risk of being hit because of the enlargement of more careless drivers. Not only with safety as a concern, but traffic in general would be a problem. The issue of traffic flow in and out of our school is excessively troublesome to begin with, with 500 to 700 cars on any given day, including the teachers, faculty, administration and parents coming and exiting our parking lot. To increase the amount of traffic would just be completely outrageous. It would cause a lot more safety problems.

For example, we already have problems with rear-ending and road rage, and I just can't imagine having commuters just psyching all the time. Also, since the time that our school begins is rush hour, which is 7:50, and as you know, you guys all probably go to work at that time, so hundreds of more cars would be added to the hundreds going up

to King Kekaulike.

In addition to all the previous arguments that were already said, I feel that the Upcountry/Kula area should not be turned into a superhighway. Right now it's comfortably functioning and doesn't need to be urbanized by future commuters and highways. Our Upcountry lifestyle be jeopardized, will be ruined, just for an easier way to get to work.

People have been driving to South Maui for over ten-years-plus and on the highway, newly built, I might add, without traffic problems. I mean, they have the cones. I mean, come on, just build another lane. If the attainment of no highway construction cannot be met, then I feel I'm trying to defend the Haliimaile connection.

The outlet from Haleakala Highway could seriously benefit from a traffic light being established along with the South Maui/Upcountry Highway that would be built there. This area of the highway is nonresidential, there's just cane fields and it's a half-assed built road, anyway. So there's nobody living around there, there's no other things, schools, people, kids. That's the only reasonable way.

As a community member and a student leader, I leave you with a thought: The safety and the residents of Upcountry should be our major concern, not the benefits of commuting time. A highway from South Maui to Upcountry Maui is a

reasonable and attainable idea; however, we must make sure it doesn't negatively affect Upcountry residents and students. Thank you. (Applause.)

MR. TSUZUKI: Rob Parsons.

MR. PARSONS: Aloha. My name is Rob Parsons, and I thank you for adding this meeting along with the other two that were earlier scheduled. I'm a board member of both the Haiku Community Association and Maui Tomorrow. However, I'll be speaking as an individual.

I may add, though, that my initial conversations with other board members of both of those associations indicate that before the end of this month and before the end of the comment period, that we're likely, both Haiku and Maui Tomorrow, to support what Mr. Sutrov and others have stated, which is the existing community plan of giving highest emphasis to improving the existing roadways. And if a road is to be built, only connecting it to Haliimaile.

You may ask what concerns does Haiku have in this whole equation. It was quickly pointed out to me that our high school students go to King Kekaulike and we're concerned about their safety in getting there. People that would access this road from Pukalani and from Makawao, Haliimaile and Haiku would all have to go up to go down. If U2-A, U2-B or U3 are chosen, this would intensify the existing gridlock on Makawao Avenue and create an unsafe situation at the intersections that have

been mentioned, particularly Five Trees.

I feel that the Department of Transportation has helped create the need for this highway relief by its own ineptitude. Ask people in the Paia traffic going home at night how they feel about this highway. They'd much rather see a Paia bypass. The same for people stuck in Puamana waiting 20 minutes to get to the middle of Lahaina town.

So I would love to see an equal emphasis put on public transportation. I think it would be a brilliant idea to require our hotels to pick up their incoming visitors at the airport rather than lock them into the rent-a-cars, which is helping to contribute to the gridlock on our roads. Or better yet, I'd love to see this much emphasis and money thrown towards education. But alas, this project is largely funded by our national defense budget.

Overlooked in all of this is exactly the nature of the work that Maui Research and Technology Park and of Science City. No one at the Department of Transportation has asked us how we feel about being a global strategic target, and how soon we forget Pearl Harbor. Instead, we are asked which alternative do we prefer. This gives the illusion that we have an actual say in the choice. Now, the open house format was an interesting switch but didn't provide me personally the answers to the questions that I asked.

First, what is the cost benefit offered by developer

Everett Dowling for the U2-B alternative? Two letters in the draft EIS are very revealing. One is traffic engineering consultant Howard Mau to Kulamalu Partners in 1997, stating the mauka terminus of the road is through the planned Kulamalu development.

The second letter is from Ronald Kobayashi of Honolulu, one of the general partners in Kulamalu Development, along with Mr. Dowling and others. While he offers a connection to their project road without requiring land acquisition or construction costs, however, he says, should the proposed road cross the Kulamalu parcel and connect with U2-A, he states Kulamalu will not dedicate the right-of-way land area and design funds for U2-A area, condemnation proceeds based upon the fair market value of this urbanized and fully-zoned property.

So while we have cost representations for all the connecting alternatives, we do not know how much of an actual dollar figure in millions of dollars it would be to connect with the Kulamalu roadway. Now, the larger question that remains unanswered by all the officials and consultants in attendance tonight is this: Which of these alternatives will be presented in the final EIS?

I know there are individuals here in this room who can tell me this tonight, but they won't tell. They must maintain the illusion of a fair public hearing. So I'll tell

you. It's U2-B, of course. Sold to the highest bidder. If I'm wrong, I'll take you all out to lunch. The Kihei terminus is perhaps less of a fix, but remember that K2 connects to another Dowling project, the yet-to-be-built ten-acre hotel site behind Kamalii School and his residential home development. And Dowling also holds the option and water rights to the only Upcountry zoned hotel parcel just above the Pukalani Country Club.

I studied the Kulamalu proposal with great interest two years ago. I put in perhaps 100 to 150 hours of research, attending meetings, phone calls, writing articles. Very great concerns were raised, at that time, about traffic. We're talking about running this road past two schools, the high school and one which will eventually be from kindergarten until 12th grade, which could encompass 2,000 students. Also a 20-acre commercial center, an elderly housing complex and 350 to 400 homes yet to be built in this area.

MR. TSUZUKI: Rob, could you continue later? Or could you wrap it up?

MR. PARSONS: I can conclude in less than a minute. The traffic showed existing or projected levels of service at six of the nine intersections studied. The county council tried to impose a condition that if a highway were built, it not connect through the project, through this project. The DOT representative persuaded them that their condition might not be

binding, being that this is a federal and state funded project.

In my 22 years on Maui, I've often spoken out for sensible sustainable planning. I now must add the issue of fairness. Please prove me wrong. Show me it's not a done deal. It would do my spirit and that of all of Maui County a world of good to know that we the people actually have a fair voice in our democracy. And as we're slowed down in our traffic, as Mr. Sutrov has been in the past years in his commute from Kula to Wailea, while we're looking at a beautiful countryside, we can remind ourselves of one of our favorite bumper stickers, "What's your hurry? This ain't the mainland." Mahalo. (Applause.)

MR. TSUZUKI: Thank you. I just wanted to say that we have not selected U2-B, so you're hearing it from me. We have not made a decision. I'm not saying that's not going to be selected, but I'm saying we have not made a decision.

Aric Nakashima.

MR. NAKASHIMA: Let's see, my name is Aric Nakashima. My last name is spelled N-a-k-a-s-h-i-m-a. I'm a resident of Pukalani. I am the Pukalani Community Association President, and I'm speaking on behalf of the association. I'm going to just read a few letters that either was mailed or is mailed, in the mail now, okay. The first one is on --

MR. TSUZUKI: Are these letters to you or --

MR. NAKASHIMA: To Mr. Hayashida, I'm sorry, I thought I said that. These are letters to the Department of Transportation, state Department of Transportation, to Mr. Kazu Hayashida. Dear Sir: On October 7, 1999, the Pukalani Community Association held its general membership meeting. The main agenda of this meeting was to address the proposed Kihei-Upcountry Maui Highway, which is a concern to the Pukalani community, both residents and businesses alike. After hearing testimony from many of our members at our September 9, 1999, general meeting, and committee meetings of September 16th and 23rd, the matter was put to a vote on October 7th by silent ballot. The outcome of the voting members, and therefore, the position of the Pukalani Community Association is that the preferred route for the Kihei-Upcountry highway run from the U1 terminus, Haliimaile to K2 terminus.

Further, it is our position and recommendation that the state look into a remedy to the current dangerous situation that exists at the bottom of the old Haleakala Highway as it merges into the bypass. Sincerely, and it's signed Tracy Feliciano, approved as to form by Aric Nakashima, Pukalani Community Association, cc to Daniel Inouye, Senator; James Kimo Apana, Mayor of Maui County; Abraham Wong, Administrator, U.S. Department of Highway Administration.

MR. TSUZUKI: Federal Highway Administration.

MR. NAKASHIMA: Federal Highway Administration.

Charles Jencks, Director of Public Works; David Morihara, State House of Representatives; Chris Halford, State House of Representatives; Avery Chumbley, State Senate; Patrick S. Kawano, Council Chair; Charmaine Tavares, Councilperson. By the way, these council people represent most of Upcountry. Okay.

Let's see. There is a second letter addressed also to Mr. Kazu Hayashida, Department of Transportation. In addendum to the previous letter dated October 13, 1999. Further, it is also our position and recommendation that the state DOT look into the impact of an access road located at the intersection of Liholani Street and Ainalani Drive.

This access road that would continue Ainalani Drive mauka of this intersection intersects with route U2-A and/or U2-B is not disclosed in the draft EIS, which is a concern among members of the Pukalani Community Association. Traffic looking for a shortcut to Kihei because of congestion at the intersection of U2-A or U2-B will ultimately use the Liholani and Ainalani access road, causing more traffic in their residential neighborhood.

When the state DOT officials and consultants to this project were asked about this situation, they all said they had no knowledge of this access road. Reference may be made to TMK, tax map key 2-3-61, and the Department of Transportation's map used to display the project at the September 30th hearing,

that was used on September 30th at the hearing at Hannibal Tavares Community Center.

Let me see. Here are some maps and some copies taken from the draft EIS, state draft EIS, and I'd like to turn your attention to table S-1, where it says social and economic impacts, I believe, under build alternatives. The arrow points to where it says social and economic, operational impacts, implementation of community plans would affect existing communities by increasing population and traffic and have environmental impacts, such as agricultural encroachment. This is a concern, it's on the impact statement.

Operational impacts. It says, I guess in response to this, no alternative would cut through or isolate existing neighborhoods. This very statement, I guess, is something that is of concern to the Pukalani residents, because as described on the map, in the circle, 2-3-61, we're worried about the traffic. Again to reiterate that, the traffic that might be caused because of backups at U2-A, U2-B. Actually, for those purposes, I guess it is a concern of the neighborhood, okay.

MR. TSUZUKI: Do you have another letter or any further --

MR. NAKASHIMA: Maybe about 30 seconds. Is that okay?

MR. TSUZUKI: Okay.

MR. NAKASHIMA: Another concern, I guess, an

addendum to the submitted written testimony is a verbal one I can express as far as the testimony at discussions by our members. For instance, why doesn't Maui have any overpasses? Okay, at the Pukalani bypass on Makawao intersection? The question came up, why didn't we have overpasses, okay, or an overpass.

At a hearing held in the Pukalani Baptist Church in the early eighties attended by members of the community and members of the Maui County Council and some people in this room, I believe, a question came up again, I mean, why can't we have overpasses? The response to that by the DOT was that there wasn't enough room. Okay.

So another response to that from the audience, was at Piikoi Street in Honolulu, okay, you have a five-lane street going up towards the mountain. As it turns to the left and going straight ahead, it makes a 90-degree turn, so the question was, again, why couldn't we have a road that went up, and you could have roads that adjoin and merge, or off ramps, simple off ramps that you could even make 90-degree turns. Because as far as the Piikoi Street example, again, why can't Maui have overpasses?

MR. TSUZUKI: Thank you. Do you have anything else?

MR. NAKASHIMA: I think that's about it. Thank you very much. (Applause.)

MR. TSUZUKI: Sam Hironaka.

MR. HIRONAKA: Good evening, everyone. My name is Sam Hironaka, H-i-r-o-n-a-k-a, resident of this island for seventy-eight-and-a-half years. I represent the Ikua Purdy Road Committee, which was formed in 1988, four-and-a-half years after the road between Makena and Ulupalakua was closed because of inaction by the County of Maui.

The county decided that the road was costing too much to maintain because the tourists began to use the old, 75-years-old, very historic road connecting the extreme south end of Maui to Upcountry Maui, particularly those tourists who began to go to the winery in Ulupalakua, and a very increasing number of tourists who trekked, who drive around Haleakala from Hana to Kipahulu to Kaupo and down to the hotel.

The county decided that too many tourists were using the road and they couldn't maintain the cost of the expense of paving the road and fixing it up for less maintenance. When the road was closed, it really took away the rights of the citizens, and for that reason, we became very unhappy. At one point some of the members of the community wanted to sue whoever was responsible. And we've now waited fifteen-and-a-half years, and still there's no road. And one of the reasons for the delay has been this, what we're here tonight for.

I'm not here to advertise Springfield drinking

water, but I want to use this gallon to point out to you and give you some very common-sense approach to this question which we face tonight. Now, the Kula community people want to decrease, they don't want traffic to go through Kula. That's their objection. The people in Kihei have been crying for an escape route. We've had floods there. I remember once when we had a flood that just locked everything up in Kihei.

So the people in Kihei want an escape route and also a faster, easier way to get up to Haleakala, particularly the high tech people. But I'll show you. This gallon, you fill it with water and if you open only one end of the gallon, it's going to take much longer to empty this gallon, right? But if you were to open the other end, it's going to -- the water can flow out a lot faster, and this is what I mean when I say we need a road on the other end of Kula and at the other end of South Maui, mainly from Wailea, and in Kula, the Upcountry area from Ulupalakua.

If you did this, the tourists won't have to drive through Kula and they wouldn't have to go up through Kula. You decrease, you eliminate traffic when people can go the back way up to the winery or the back way up to Kaupo or Kipahulu. People who work in Wailea from Kula or Pukalani, instead of everyone coming down Haleakala Highway, they can go the other way, so that, again, we flow the traffic, in this case the water, you flow it in opposite directions, making for less

congestion. Because the Kula, even Pukalani people will have a shorter route and an easier route if they went to work in Wailea by way of Kula and down through Ulupalakua.

Now, even the high tech people can save 25 miles of driving every time they go to Haleakala if there was a road that they can use by way of Ulupalakua.

MR. TSUZUKI: Mr. Hironaka, do you have anything else? You can come back later.

MR. HIRONAKA: One last thing. You know, the study shows that the Ulupalakua route was eliminated because it was going to be too costly to fix the road from Keokea to Ulupalakua. Now, that's a very unfair comparison, because the road from Keokea to Ulupalakua is an existing road, it's there, but that road, no matter where the highway is built between Kihei and Kula or Haliimaile, that road between Keokea and Ulupalakua has to be straightened out, has to be improved to eliminate danger.

The reason I say this is today we have the great big, you know, Greyhound buses taking tourists to the Tedeschi winery and trying to make all the sharp turns going to Ulupalakua. Not only that, Ulupalakua is shipping wine to the harbor, and you know what, it's 40-foot containers, that's how much wine is being shipped to the harbor. Another thing, the County of Maui will save a lot of money because they're fixing the road on the back of the mountain to Kaupo, about two or

three miles every year.

Right now the trucks have to go all the way up to the 3,000 foot elevation right by the junction of Upper and Lower Kula road, and then they have to go zigzagging down to Ulupalakua, which is 1800 feet. The county could save thousands of dollars because it will be a shorter road for them to haul all the asphalt for the highway improvement, and they don't have to drive all the way up to 3,000 foot, and drive that great big trail there.

MR. TSUZUKI: Mr. Hironaka --

MR. HIRONAKA: Thank you.

MR. TSUZUKI: Thank you very much. (Applause.) Cindy Lawrence.

MS. LAWRENCE: Good evening. My name is Cindy Lawrence, the last name is spelled L-a-w-r-e-n-c-e. I'm here before you this evening on behalf of the board of directors of the Maui County Farm Bureau. I have prepared testimony. The Maui County Farm Bureau opposes any route that intersects agricultural lands along the proposed Kihei-Upcountry Maui Highway. We reaffirm our past position that the selected route should have the minimum impact on the agricultural industry.

Transecting existing tracts of agricultural lands will mean economic hardships to existing operations. What the public sees as a mere inconvenience means significant impact to existing operators. Field layouts, irrigation systems, and

operational procedures will be affected, thus increasing costs of operations with no economic recovery. In routes such as those going through the Kula Agricultural Park, some farmers will need to give up their operations.

The Maui County Farm Bureau is opposed to routes that will transect agricultural lands. We appreciate this opportunity to voice our opinion on this subject. Thank you. (Applause.)

MR. TSUZUKI: Jeanne Skog.

MS. SKOG: I'm Jeanne Skog, I'm the president and CEO of the Maui Economic Development Board. Skog, S-k-o-g. The Maui Economic Development Board supports the building of this road, and we have for over ten years now. We are not taking a position on alignment because we simply believe this road is really important, and we'll support whatever the decision is, but we believe the road needs to be built.

It is very important to our economy in terms of the visitor industry, not so much in terms of the tourists, although it would certainly facilitate their moving around between Kihei and Upcountry, but in terms of the people who support and work in the visitor industry. We conducted a survey of the visitor industry workers and there was a tremendous cry for relief on the transportation that they have to undertake day-to-day to move from Upcountry to both West Maui and South Maui.

In terms of the support to high tech, we believe it will be a tremendous support to the high tech industry and the high tech industry is showing promise of providing jobs for our youth, our residents, and for attracting our youth back from the mainland to rewarding jobs. So we believe that anything like this that supports the continued development of tech on Maui is something that we're very, very interested in.

We want this, we want to not miss this opportunity to have the road built. Funding is a very real possibility, and it won't be there if we don't take advantage of it now. So we do support the road. Thank you for this opportunity.

MR. TSUZUKI: Thank you.

Charles Maxwell. I saw him here earlier. Is he back there? If not, we'll go to Rudy Ramirez.

MR. RAMIREZ: Hi, my name is Rudy Ramirez, R-a-m-i-r-e-z. After hearing this gentleman speak here, he brought up a really -- some really very important points. One, why does it just have to be this? Why can't we look at other alternatives? Nobody has ever talked about anything other than the plans that have been presented. I think that's something that should really be looked at.

Most of us that were born in Hawaii, who came here, I've been here for 35 years, I've watched Maui become exactly what it is today, and if anything, what we need to do is stop. I mean, nobody has ever talked about just stopping. Let's take

a look at this, look at this with some intelligence, boldness, a little creativity and let's create an environment that is going to be conducive to achieving the goals that we all want. Controlled growth, everybody has a good place to live, the quality of life stays at a high standard. This is what we have to look at.

I don't think I need to remind you gentlemen, I don't know if you work for the state or all of you are accountable. You work for us. We're the people, we pay your salaries, we pay your retirement, we pay your medical. You're accountable to us. You had enough people up here telling you throughout Maui expressing their views that this is something that we want to take a real good look at before we make any irrational decisions.

In 35 years, we've got three bypasses. When I first moved to Maui, there were 30,000 people living here, between Molokai, Lanai and Maui. We still have roads and an infrastructure that is designed for 30,000 people. We get a million-and-a-half tourists a year here. They're all driving rent-a-cars. We have no public transportation, none. Education? The public school system sucks. We've got $80 million? Come on, do we really need a road? $80 million. Can we divert it, can we use it somewhere that will be to the benefit of the people of Maui? Our children.

Anyway, I say we stop doing this. This is a sham in

a lot of ways because you are proposing three alternatives as though one of them is going to be the one that we're going to choose. I say let's put a fourth and a fifth and a sixth alternative. Let's take a look, let's really take a look. Anyway, thank you. (Applause.)

MR. TSUZUKI: Thank you. Anselm Pauls.

MR. PAULS: My name is Anselm Pauls, A-n-s-e-l-m, P-a-u-l-s. I am a 15-year resident, I am obviously not born in Hawaii. I probably have to repeat a few things that have been said before, but my background is actually in city and regional planning, I have a degree in there.

First of all, there's no denying that access will create development. This is one thing we have to remember. I've seen it many, many times. And there's no denying that we will create more development in Upcountry because maybe some of the people working down there in Wailea want to move up there, the whole corridor between Kihei and Upcountry is suddenly available. There's no denying that fact.

What is attractive so far about Upcountry? It is its remoteness, it is fairly remote still. It is peaceful and rural still, and that's what makes it attractive. So if we create an easier access, there will be more people, it will lose its character. It will lose its character also for the visitors that come here for the peacefulness and the quietness of Maui, which we are losing every day.

Right now I am working as a tour guide, I am driving tourists almost every day. I managed a bed and breakfast for a few years, so I had to do -- I worked in the tourism industry for at least the last five years. The unanimous opinion of all the tourists that I have been dealing with so far is that we don't need more development on Maui. They will not continue to come here any further if this is going on the way it's going on right now.

Putting it in a bigger context, because it is necessary at this point, we are destroying the very basis of Maui's economy if you go on like this. The question that we have been dealing with the whole evening is, so yes, we are putting in front of a few alternatives that we seem to have no choice about choosing anything else than those, and I totally agree with Rudy that just said we should also think about alternatives.

It seems like the picture is almost too big, because I would definitely 150 percent urge anybody to really think, start thinking about mass transportation, public transportation. Again, if we come to the point where I would have to choose a route down to Kihei, besides not building one at all, it would definitely be the Haliimaile as well, because one thing, everybody, Haiku, Makawao, Pukalani, Haliimaile, which will be expanded by A&B very soon, we all have to go uphill first through either Makawao Avenue or Pukalani bypass

or old Haleakala Highway, creating a huge congestion area.

So if one, definitely Haliimaile, but I would prefer having one not built at all. Thank you very much. Mahalo.

(Applause.)

MR. TSUZUKI: Thank you.

Mr. Hofman, I know you have been waiting very patiently. We're saving the best for last.

MR. HOFMAN: My name is Kennko Hofman, H-o-f, one f, m-a-n. We've had so many good speakers here tonight, I'm almost embarrassed to even say anything. And like this gentleman here, I've been around a few years, not on Maui. I would like to reiterate what a couple of people said. I started to mention a number of things, and they were brought up and they were brought up very well.

And rather than go through a diatribe of what everyone said and everything, I am just going to say, first off, that I echo the same thing that the majority of these people said, is don't build it. Now, my reason is this, and you were right. Some of them said a lot of things that I'd like to say, and a few things that I won't say.

I am a member of the Pukalani Community Association. Now, you heard from our president and he gave you the formal letter. The general feeling was that if this thing goes through, we're going to have quite a problem in the major, you can't call it major streets of Pukalani because they're

not, but there is going to be a lot of infiltration through there, especially if there is a Liholani access, which is the heart of getting to the lower parts of Pukalani. And if a road goes in, there will be -- in coming years, we know there will be developments just below the existing town, another swat all the way around.

By putting a road up along the gulch on U2-A and B, it's going to create one environmental hazard, it's going to create noise. And people say, oh, the impact report says no, we're not going to have any noises there. Baloney. I live there and there's one or two other people that live there, and in the last few years, the pineapple people, when they blow up their field and work over there, even through the night and everything, those of us living near the golf course and everywhere, which is what, maybe a half a mile or better, it's plenty noisy all through the night, and the sugar cane field just down below. So don't try to tell us there won't be any noise impact.

My main reason for wanting to get up and speak, though, is I'd like to know how many Kahului people are here. This meeting was held here and I was assuming that there would be Kahului people that would be here speaking and expressing their views on this thing that's not even in their backyard. Is there anyone here at all from this town?

MR. RAMIREZ: Were they notified?

MR. HOFMAN: It was in the paper and everything.

MR. TSUZUKI: Let me explain why we held the meeting here. You know, you already know that we held two meetings earlier in September, and at the beginning of this hearing, I did mention that we decided we're going to hold this third meeting. And this was really to accommodate those people who had to go to the Maui County Fair. I think that was the primary reason. We didn't want to have to schedule two more meetings, one in Kihei and one in Upcountry.

MR. RAMIREZ: Why not?

MR. TSUZUKI: Why not? Because we already went through two of those hearings and what we decided is we are going to pick a place that's in between Upcountry and Kihei, and that's the reason why this location was chosen.

MR. RAMIREZ: Shouldn't you take this to the public? You represent the state that's presenting this project. Shouldn't you present it to everybody as opposed to just making it limited to certain areas? That's part of your job, isn't it?

MR. TSUZUKI: I'm just trying to explain why we selected this site tonight, and that's the reason why. We did not want to go to more meetings in Kihei and Upcountry, and that's the reason why we held it here.

MR. HOFMAN: The reason I asked the question is, you get paid, don't you, to come here?

MR. TSUZUKI: Yes.

MR. HOFMAN: We don't. Some of us drive a long way to come here and express ourselves. So you gentlemen should be at our beck and call, if we want to have another meeting. But we're getting away from what I wanted to bring up.

MR. TSUZUKI: I think we've got to stick to the subject of this project, that's really what we want to focus on.

MR. HOFMAN: I want to bring up something that has not been touched on by anybody, and that's one reason why I wanted to hear everybody. And there are no Kahului people here, so I guess my question isn't feasible. Am I correct that this is one of the major reasons for this, is that's a quick evacuation route to get people from South Maui to Upcountry and into safety areas, is that correct?

MR. TSUZUKI: It's one of the reasons.

MR. HOFMAN: One of the major reasons.

MR. TSUZUKI: It's just one of the reasons.

MR. HOFMAN: What is the major reason?

MR. TSUZUKI: The major reason is to provide some kind of better connection between Upcountry and Kihei.

MR. HOFMAN: For whom?

MR. TSUZUKI: For the people that live in the two communities, live and work in the two communities.

MR. HOFMAN: Now, where did I get the idea that

military and people like that and everything, wanted a beeline road up, shortest point between point A and point B? I don't know where I got that idea. I must read the paper too much.

MR. TSUZUKI: Let me try and explain that. For those of you who know about this project, you know that probably the funding for this project was actually obtained by Senator Daniel K. Inouye. And Senator Inouye got this money, this is called discretionary funds. In other words, it's outside of our normal highway program. It's extra money that the senator has gotten for the State of Hawaii.

And when he went before congress, the United States Senate, to obtain this funding for this project, for us to do this work that we're doing right now, that was one of the arguments that he used in congress to get the funding approved, but it is not the primary purpose of this project.

MR. HOFMAN: Well, then, who is going to benefit from all this, is what I'm trying to figure out. You're going to say the people Upcountry to get down and the people downcountry to get up, is that right?

MR. TSUZUKI: If the people don't want this project, I'm pretty sure Senator Inouye is not going to proceed with this. As far as whether or not we proceed with this project, if there's enough opposition to this project, we don't go ahead, we won't go any further.

MR. HOFMAN: How much opposition does that take,

sir?

MR. TSUZUKI: We need to find out from the people of Maui.

MR. HOFMAN: I've been to all these meetings and everything, and to be honest with you, there's not enough representation objecting. I mean, there's a lot of objections but there isn't multiple numbers, I'll put it that way.

MR. TSUZUKI: That's correct.

MR. HOFMAN: But you have to admit that there have been a lot of good questions raised and there's a lot more questions, unanswered questions, and that's why I say we need some more meetings. And as long as you're getting paid for it, you should be willing to go along with it.

MR. RAMIREZ: If the majority of people testifying don't want the road, you're not going to build it, is that correct?

MR. TSUZUKI: It's not a counting game of how many people are against it and how many people are for it. Because what we're going to take a look at is what is the best for the community and Maui.

MR. RAMIREZ: Let the people of Maui decide that.

MR. HOFMAN: There you are. Is there any way that there can be a vote?

MR. TSUZUKI: As far as a vote, not for this project.

MR. RAMIREZ: Oh, really, why?

MR. HOFMAN: We cannot --

MR. RAMIREZ: We can't decide for ourselves what we want?

MR. HOFMAN: It's power politics, that's what it is.

MR. TSUZUKI: As far as tonight, I am not here to debate with you as far as what's going to happen or whatever. We're here to hear what you want.

MR. RAMIREZ: We're getting that you don't hear us, you've already made up your mind.

MR. TSUZUKI: We have not made up our minds, and I told you that earlier when somebody brought up this thing about U2-B.

MR. RAMIREZ: It happened in the Seibu project out in Wailea when they held those meetings out there and half the guys were sleeping on the council and they passed that thing through because Seibu was willing to bring that water all the way out.

MR. TSUZUKI: We are not talking about Seibu or whatever.

MR. RAMIREZ: These are real issues. You just can't ignore them. These are real issues. I want to know who owns the property that this highway is going through.

MR. TSUZUKI: Mr. Hofman, I guess you have the floor.

MR. HOFMAN: Oh, I'm sorry. I thought I had taken --

MR. RAMIREZ: Can we get that now?

MR. TSUZUKI: So are you through, Mr. Hofman?

MR. HOFMAN: He brought up a point.

MR. TSUZUKI: Mr. Hofman, you have got to wait until the other people who wanted extra time. There is one other person -- Mr. Hofman had a lot of time. There is one other person who had signed up, Laurel Murphy.

MS. MURPHY: Mr. Chair, my name is Laurel Murphy, I'm a former Maui News reporter, I'm on the board of the outdoor circle and the food bank, and I'm speaking as a very impassioned local person. I think this road would be a disaster for Maui. It's presented to us, it's almost a fait accompli. Do we want this? Do we want this? I hear speakers making a choice, well, Haliimaile then, if we have to have it. But we don't have to have it.

Who is going to benefit? Tourists going Upcountry, they're equally happy taking a little longer, spending more money as they go. So about a hundred people that work in the tech parks. The argument for getting Upcountry people to and from work more quickly is the most obvious one, but at what price, selling out our island?

I'm writing a book now, I am on the history of Maui, and I am deeply saddened by the changes I see every year. This

island used to be the most beautiful community, little plantation communities, and in fact, this is what the tourists come here to see. This is what we love about this place. This is what old-timers, like Mr. Hironaka, remember about this place. And we are losing it daily because we are all in our cars rushing around on ever increasing faster roads, not talking to each other, not communicating with each other.

Everybody knows when a road goes in that development goes in. That's just been proven time and time again. So if you build this road, where it goes to help Upcountry folks get to work and Kihei folks get to the crater faster, you will have opened an entire development corridor and changed the face of the island. And even if you pick the Haliimaile route, it's in the middle of the cane fields, these people are going to be bothered by cane smoke, they're going to argue about the existence of one of the island's last agricultural industries that the tourists come to see. And please don't build this road, we don't need it. We can get around it.

MR. TSUZUKI: Thank you. (Applause.)

Madelyn D'Enbeau. We will give you a few more minutes.

MS. D'ENBEAU: Thank you very much. I just wanted to point out that the public hearing notice that was signed by the Director of Transportation states a panel of DOT officials and project consultants, that would be you all, I assume, will

convene at 7 p.m. to answer questions and accept testimony. So I think the questions certainly are in order if that -- does that mean something different than what it sounds like?

MR. TSUZUKI: No, you can ask questions.

MS. D'ENBEAU: Thanks. Well, my question is, looking at the EIS, I note and I asked this question last time but I didn't get a response, unfortunately. It says here, finally, federal highway administration participation in this project requires that transportation systems management, the acronym being TSM, be considered among the alternatives. TSM could be -- and/or augmenting Maui's paratransit system in the region and implementing selected transportation control measures, TSM's such as high occupancy vehicle lanes and ride sharing. Are you all sharing that federal requirement? Could anybody give me the citation to that?

MR. TSUZUKI: No, not specifically.

MS. D'ENBEAU: So it is a federal requirement but you don't have the -- I asked for this last time and somebody promised to fax it to my office. I'm sorry, if I had known it was not going to be done, I would have certainly taken his name down. In any case, I am going to ask that again, if you could please provide that information, I'd appreciate it. My fax number is 575-2125. And I'm referring to page 2-22 of your environmental assessment.

And for the sake of the audience, who is probably

interested in knowing why, in fact, there is no transportation alternatives considered in the plan, the reason is that that federal requirement didn't survive the fearsome Tier 1 criteria because, and I quote, the TSM alternative would also not satisfy this goal nor other goals such as providing additional roadway capacity and infrastructure to meet existing and future travel demands in the region.

So we apparently have a federal requirement that before you build a highway, you look at public transit and other considerations, as Maui County general plans so artfully puts forth. It's a federal law. So we're saying, well, we don't have to do that because, hey, we want to build a road. And looking at alternatives for transportation is not building a road. Well, I would suggest to you that the federal law is not quite that ingenuous.

In other words, they know you want to build a road, that's why you're going for federal funds so you can't come back to them and say we want to build a road. So that's a very worrisome thing, I think, that we're going to have to look more seriously at other kinds of alternatives.

You know the way in which the Kihei-Makena community plan was translated into the EIS, and I read this into the record before, where they talked about a primarily residential area of Upcountry, which we all agree that there's some business but it's primarily residential, and that got

translated in the EIS. And by the way, this isn't, as your consultant stated, an advisory type of thing, this is the law of the County of Maui.

People ask, well, what kind of procedure could we go through that would be fair and involve voting and so forth. I would suggest to you that we have that procedure here on Maui, we have a county council, they're elected, they go through an election process, we have the community plan process, which involves a tremendous amount of community input, and then the elected officials act on this. And why this is being ignored or how it can be ignored is just mind boggling to me.

At the last meeting, some state -- I'm sorry, I don't remember his name, I asked him about that and he said, "We don't have to listen to the county, we're the state." Well, your state law requires you to look at the county plans, but never mind that. So here is how it's translated just for kind of fun. So instead of having the primarily residential area, here is what they say and this is the Kihei community plan.

This proposed plan, of course it's already adopted, but never mind. It recommends a roadway that would link the primary residential area of Upcountry with job centers within the Kihei region. The plan, therefore, favors those alternatives with mauka termini near Pukalani and makai termini at or north of the Maui Research and Development Park.

Yeah, that's quite a leap, isn't it? But that way they can say that there's a conflict between the Upcountry plan and the Kihei plan. It's actually a criminal offense to alter public documents. Whether or not this would meet the intent, I don't know. What class of a felony or misdemeanor it might be, I'll leave that to the people who might be concerned about their actions to investigate themselves. But I would urge you to be careful in quoting the community plan and attempt to do it accurately and try to avoid this, and therefore we're drawing these conclusions.

MR. TSUZUKI: We will look into it, definitely.

MS. D'ENBEAU: Thank you. (Applause.)

MR. TSUZUKI: Zandra Amaral.

MS. AMARAL: Hana hoe. I will reiterate. I realize when streets and highways go in, there is growth around them. However, there has been, there is already a substantial amount of growth and development both in Kihei and in Kula, without the highway. There has been, as I stated earlier, substantial growth here in the County of Maui, which has benefited many of you who are against the highway growth, from the days I was born into the Territory of Hawaii to this very day, so nothing, as I had stated there, and no one will ever stop growth.

We all know this, but we need to be prudent, diligent and insightful in preparing for this growth that allows us to live in harmony and safely. If we want to stop

development, my friends, brothers and sisters, I suggest that we diligently attend the appropriate public hearings and address our concerns in that venue.

Allowing a highway, as I stated earlier, does not provide any developer with a carte blanche ticket to develop, it just doesn't work that way. These developers will still need to go through public review and scrutiny from the public, and that is you, that is me, my ohana, and the state, county, and the federal government. It is at this stage, my friends, that you have the power to stop or delay development until your appropriate and individual concerns have been addressed. Let us be proactive and not reactive in our societal needs. Let us address the safety and welfare of our citizens before disaster strikes.

As I stated, I have six wonderful kanaka maule mo'opuna kanes, six Hawaiian grandsons. I am a native of the territory myself and I would, like myself and my kanaka maule mo'opuna kanes, to have an environment which is safe and in which they are able to sustain their needs here on their aina so they will not have to leave Hawaii, such as I was forced to do in 1982.

I stand in support of route K2, Ke Ali'i Ala Nui, as the Kihei alternative. I selected this route because it is a route that was suggested by the hundred some-odd signatures that we submitted to you, it is DOT individual's petition in

1996, and we selected that route because it is surrounded by miles upon miles of undeveloped space from the mountains to Piilani Highway. It also comes down to where Kamali'i School is and can assist in alleviating traffic congestion. If planned properly, it could facilitate, my brothers and sisters, efficient and safe flow of traffic in and out of the school area before and after school hours.

I am opposed to the K1, Kaonolulu, route, so are the subscribers on the petition I issued to you in 1996, because it would have a direct impact on already existing residential subdivisions, such as Kaonolulu Estates, the highway would run right through the subdivision. Piilani Village and others which sit makai side of Piilani.

As for the Upcountry route, we are all in consensus, myself and all those that I speak with, my ohana as well as those that signed the petition that I submitted to you. We are in consensus in the fact that we believe that the choice for the Upcountry route should be left to the people that it impacts the most, and this would be the residents of Upcountry, Kula and their surrounding neighborhoods.

I realize that K2 is the most expensive alternative but money isn't everything when it comes to the safety and welfare of our citizens and there is alternative funding, as we understand, for the development of this highway.

I will conclude in a little bit. May I? Thank you,

sir.

From Mr. Siarot's office of the DOT, if the selected route is used as a defense route, the federal government will provide 100 percent funding. This would mean no burden on already saturated state tax dollars. This road would tie the sky lab on Mount Haleakala to our super computer housed in the tech park in Kihei.

This would provide opportunities for industries in astrology, which Maui could capitalize on, which my grandsons could benefit from directly and would impact them being able to stay on their island if they so chose. This partnership would bring together the people, the county, the state and the federal government all working for you, my brothers and sisters, my friends, in a cost efficient partnership.

In closing, I'm open to be proven wrong because my only motive in selecting a route is for the safety and welfare of our residents, visitors, my friends and my family and for mostly my ohana, my kanaka maule mo'opuna kanes. However, whatever it may be, it should be the choice of the people, the majority and not a selected few. This is our home and we all live here together, one with another. Mahalo, A hui ho, e malama pono.

MR. TSUZUKI: Thank you.

MR. SUTROV: Steve Sutrov. Do I need to spell my name again? Okay, what's lacking also in the EIS is a complete

destination study. A weak one was done during the long-range transportation plan in 1984, but they stopped a few people on at different locations like that. I think it's totally unprofessionally done and it was the only origin destination study that was done in the whole EIS.

So I suggest in a final you'd better have one, because that's pertinent information for all your formulas on LOS and how many people are actually traveling on the road from point A to B. Okay. The U-2 is -- both of them should have never been considered. I see some serious flaws that U2-B, if it wasn't for political connections, Everett Dowling, the DOT probably would have dropped that long ago.

You have got your own very serious concerns about the grade of that project area, and how you are going to accommodate traffic speeds, and in that area it was also -- what wasn't done sufficiently was a noise study. The noise study was done before the school was built and there was just cows in the field. I was told by the engineer, "So you heard cows." You'd better get up there when trucks are coming up and down that road and commercial vehicles supplying a commercial area and do some accurate sound samplings there.

King K also, the sound samples that were done there, there was only two grades at that school at the time and it was during the summer, school was out. You're supposed to do it at the noisiest time to get the noisiest times possible, the

busiest times of the day. How about the busiest times of the year, let's try that next time around.

The archaeological sensitivity of the U2 is extremely important. More so, I would say that the Kulamalu area, the excavation has already been done, damage has probably already been done to the archaeological areas there that weren't even noticed. I would say the sensitivity in that whole area there should not even be considered as far as another roadway coming up into that area.

U3, I believe it is not a serious plan to begin with. U3 was just thrown into the mix to confuse everybody, give somebody else something to split up the opposition a little bit. And to say that you are going to mediate the traffic into residential neighborhoods with a sign, it's a joke. I guess maybe not when you consider that there's over 250 signs on Piilani Highway from Mokulele to Wailea. I guess if you try signs for everything, so you might as well try a sign to say Haleakala is three miles down this way. Don't take the residential roads right in front of you.

Any highway can be considered a divided highway for safety, do it from the beginning, don't do it at year 2020 after people have died in head-ons. Plan it now. If you are going to do a highway, do a divided highway, please. Anytime you are going to put the state Department of Transportation in the hot seat, as far as possible lawsuits for injuries on any

of these roads, you are boosting the cost of that highway millions of dollars, so you have to take that into consideration.

And as far as, hey, I sympathize with them needing another road out of their community for emergencies, but do they want to go to Kulamalu to buy a Big Mac? They want to get emergency services in and out of the Kihei area. They want to utilize the hospital, the airport to get the visitors off the island, you want to get help in and out.

So I believe if you are going to go for a terminus, you want the one that is closest to that area as possible and Haliimaile would be that one, connecting either up to Haleakala Highway or if necessary, go up to Omaopio, Pulehu, and then back down to town or another road possibly from Hawaiian Homes off of that exit of Kihei. That's all I've got. If I have any time left, I'd like to give it to my cohort here, Dick Mayer.

MR. TSUZUKI: Okay, Dick.

(Court Reporter Rachelle Primeaux reported the hearing from this witness forward)

MR. MAYER: My name is Dick Mayer, M A Y E R. I first want to ask a favor of you all. Many people have given testimony. A number of people have given written testimony and they don't know who to address it to. In the EIS it says we should send it to Mr. Wong, the Federal Highway Administration. What I'm asking for that the letters the people have written to you from the Community Association, individual letters, some addressed to Mr. Hiyashida, Mr. Matthis, various other people, yourselves, all of those be considered equal as part of the record. And I would like your public assurance on the record of that.

MR. TSUZUKI: Yes, it will be, because Mr. Wong is the Division Administrator of the Federal Highway Administration.

MR. MAYER: In the EIS it says all letters should go to him. And I want to make it very clear all the letters from the people in the community for or against, various opinions, are equally valid.

MR. TSUZUKI: Yes.

MR. MAYER: Thank you. I want to go back to the idea of the no build thing, which was neglected. Mr. Lake, the Federal Highway Director Chief here, came to a public hearing in April '93. This is in regard to the no build scenario. He said, "An analysis of the point of view of what is the cost of doing nothing is required." In other words, I think that he

said and the obligation to the public is a no build scenario should be considered as much as any of the alternatives in all of the analyses being done.

It comes in and out of the EIS at various stages and is not given its correct weight. You were very kind a few minutes ago in talking about Senator Inouye's discretionary spending. We all know it's what's called pork barrel. That's a more correct term for it. What we really seemingly have is something similar to what happened on Oahu with the H-3 Freeway in attempt by the Federal Government to lure the community into thinking funds are available. And I'm not sure if this is another of Inoyue's invasions here on Maui or what, but I would very much urge us to be very cautious if money is being offered to us, that we really look at what comes with it; namely, a lot of problems.

One of the things, I'm going back to the EIS itself. The EIS document does not do a benefit cost ratio for the eight alternatives or for the no build or for the transportation alternative technique at all in this study. Tier 1 was done, but those are alternatives not even being considered now. We have eight alternatives being considered, and there is no benefit cost ratio. I'm asking that be done in the final EIS and that in that effort that you do that, you don't just do the dollar cost of gasoline, et cetera, but you consider safety as well because what we are really comparing on

these eight alternatives is a two-lane highway, traffic going 55 miles an hour at each other much like Mokulele Highway is today.

The alternative, the no build scenario, will be a four-lane highway from upcountry down Haleakala Highway around the Hana Highway with access roads and then the Mokulele Highway and then down the Kihei-Piilani Highway, all four-lane. The stakes on that road will be far, far superior to the two-lane highway that is being proposed here. And in any benefit cost analysis, you have to weigh the cost of accidents, et cetera. And I call your attention to the traffic study that is done in the EIS showing the number of accidents that are now taking place on Dairy Road and Mokulele, two roads that are extremely dangerous and have much, much higher accident rates than the four-lane other roads that are around like the Hana Highway, for example.

Consider what you're proposing is a death trap and an accident trap and that has to be put into the calculus of benefit costs. It also, by being a four-lane highway, will increase the speed of what it presently would be. It also has better intersections than there presently are so people who may be visualizing that this is going to be such a direct route compared to what we have now.

They should not be comparing it to what we have now. They should really be comparing it to what we would have once

these other highways, which have been funded, are completed. Your study also talks about lots of mitigation measures. In particular, things like we'll study if traffic lights are needed, we'll study whether this has to be done, whether the signs have to be put up, et cetera, et cetera.

Have those costs been put into the cost of the highway? If not, which I doubt they have, you're way underestimating the cost of constructing this highway. The traffic lights at each end, the roads, either under or over for cane haul trucks, et cetera, et cetera, there are many other expenses that may or may not have been included in this. And I think the final report should be an accurate cost of the highway so we know how much the Federal Government, our tax dollars, is going to be shipping to us.

It was mentioned earlier that nowhere in the study is there a trip analysis. How many people would actually utilize this route? The least you could have done was taken the records from the military and indicate how many people actually commute from this so-called military base in Kihei to the military base at the top of the mountain. You must have Air Force log records, official documents, because those vehicles have to be logged in when they travel back and forth.

You should be able to get those records and put them into the file, whether it's 10 a day or 15 a day, which are utilizing the $50 million to $75-million-highway. We now have

a fiber optic cable connecting the computer to the summit. We do not need a road for the few people who traverse it for the military.

Also, please make sure when you do your trip analysis you do not include Haiku and Paia people. They are not going to go upcountry to go down to Kihei. They will go along routes, Hana Highway and Mokulele, and they are not -- yet many of the studies that we were referring to earlier that the hotel industry said, Oh, we have all these people upcountry. They were adding many, many people who would never use the road in Haiku and in Paia. They would use that route to Kihei.

Also the no build scenario was discounted and you can look up in the chart here where it was a given a low priority on a benefit cost here on the Tier 1 scenario, and the reason was they attributed it as costing $78 million. No build means that is money that is being spent already. That is not an additional $78 million. There is no benefit cost analysis utilizing that $78 million. That's money that's already spent. So your no build is a no action scenario, not a low benefit cost ratio.

Crime rates were mentioned in the thing and I want to call to the public's attention at least that in the study it shows that the rates of crime in Kihei were either 2, 3 or 4 times higher than the communities of Pukalani, Kula, Makawao

and Haliimaile. And that's it. They mention it. No implication of what that might mean for the residents of upcountry and destroying the life-style that they would very much like. And that's in Appendix H.

A major error in the EIS is the avoidance of looking at the cumulative effects of taking agricultural land. I do not see in there the total numbers of agricultural acres taken of the various alternatives. And in addition to the acreage taken for the various routes that are being discussed, we must also consider the other, and that's where the cumulative part comes in that you're required to put in there, the other takings of agricultural land going on currently; namely, the hundreds of acres at the airport, the access road behind Eagle Hardware, the land along, next to Haliimaile that has just now been converted into urban use, the Spreckelsville project that A&B is coming forth to the County Council tomorrow on and a whole host of other projects. All that land has to be taken.

And what you also neglected to do is talk about the quality of the land that you're taking. This is a very important thing in Hawai'i that we respect our prime lands. You are taking agricultural land, pineapple land, going through the Kula Ag Park. You're taking a lot of prime land and you make no reference to the quality of the land. You only talk about agriculture in a very vague sense. That has to be put into the final EIS.

There is no letter from the DOE that I could find, it may be in there, and we have had students talking about the potential problems at King Kekaulike High School and Kamehameha School. Of course, DOE is not responsible for Kamehameha. They are responsible for Kekaulike, and what we have now are deaths waiting to happen and accidents have already happened on that intersection right in front of the school. You only mention the main entrance as if the back entrance to Kekaulike is just unimportant.

Kekaulike has two entrances, and the traffic, depending on the route, would pass both those entrances with students going to school at the same time that the tourists are coming down the mountain from sunrise around 7:30 in the morning, tourists descending the mountain, and depending on the routing, will pass that entrance twice taking left turns perhaps coming down the intersection and coming across the traffic of the students. We have very dangerous situations not even mentioned. We need to know what the design of that intersection will be because that's the only way we will know what the cost of the highway will be.

The costs right now we talk about the two lanes of traffic between two lanes of material between Kihei and upcountry, but what happens at the ends? What happens to the traffic there? We need to build sidewalks, traffic lights, et cetera, et cetera. That has to go in there, and that's why

these cost figures are woefully inadequate.

What about passing lanes? We all know that for many years the Haleakala Highway from the Hana Highway up to Haliimaile and upcountry was a very dangerous road. It had two lanes of traffic and finally a third lane and it was coned. It's safer now in the sense that people going up the hill have a passing lane. In the past, we didn't have that. You're building a highway without a passing lane with grades of 5, 6, 7, 8 percent up to 10 percent depending on the configuration and there's no provision for passing lanes and what we will have are tour buses going up that hill fully loaded. We will have oil trucks going up that hill. We'll have construction equipment perhaps going up that hill and there's no provision mentioned at all in the study for any passing to take place. Are we trying to set up accidents?

A fire threat. That road passes through an area that is extremely susceptible to fires. Will you put up signs saying please don't smoke? If one cigarette is dropped out that window that area, it will burn up that hill. The winds every day, as you may well know, you don't have a weather chart in there, but you may know, the winds blow uphill from Kihei towards Kula every day from about 10 a.m. to about 3 p.m. If a fire were to start there, it would burn and spread out on a very wide front for several hours before any vehicles, fire fighting equipment, could get to it, it's such inaccessible

land. There's no roads in there, no way to stop fires.

You'll need to have some kind of a landscape strip on the mauka side of that highway all the way up to prevent a cigarette from burning so we have a Greenbelt essentially on that area. Once a fire starts and you've got all of Kula and Pukalani inflamed, depending on where that fire goes, it's very dry land.

MR. TSUZKI: Mr. Mayer, I wanted to ask if anybody else had any further comments or whatever? Mr. Hofman?

MR. HOFMAN: He's doing a lot of things I was going to add, so go ahead.

MR. TSUZUKI: Nobody else? About how much longer?

MR. MAYER: About another three minutes. You used the words fatal flaws to knock out of some of the alternatives of Tier 1 level. I would argue that at least 3 of your 4 routes have fatal flaws built into them as to the upcountry area. U3 itself has a fatal flaw; namely, it cuts through the Maui County Ag Park. It cuts through Maui Land & and Pineapple fields, and it's close enough to a number of minority owned Kula vegetable farms and farmed by local families for generations. And in your statement, you make a statement that you're not supposed to disrupt minority owned areas. These are minority owned operations that you don't reference. And they would disrupt the travel of these farmers and the passengers of agricultural vehicles in that vicinity. And I would argue for

that and a number of other reasons that are obvious, bike routes and things of that sort, U3 should not be considered.

U2-B has a severe 10 percent grade in the neighborhood of the recently opened Kamehameha School and the projected elderly housing project which would go just above and across the street from the Kamehameha School. There would be loud, disruptive noise from trucks and tour buses going up the mountain and application of air brakes as those same vehicles descend.

Many of the tour buses will pass the elderly project between 3:30 and 5 a.m. on the way up to the Haleakala summit sunrise. Furthermore, this 10 percent segment lies between Kamehameha School, the proposed park and the proposed large shopping center at the corner. We feel that the children or I feel that the children who will be walking along the highway in this area will be in great jeopardy if the 2B route is used and other reasons as well as the traffic passing by Kekaulike High School.

2-A is also offered as a possibility and it is in immediate proximity of Kekaulike High School resulting in a number of potential problems; A, many students now walk without sidewalks along the highway since bus service is provided only for students living over 1 mile from the campus. Many tourists, as they descend from the sunrise thing, and there already have been a number of accidents at that intersection.

So at least those three I think all are fatally flawed termini in the upcountry area.

I would argue obviously that the no trees -- the no build -- no trees, yeah -- the no build scenario be considered as the legal choice that the people upcountry have expressed and that if the highway ever were built, that only Haliimaile be considered or a variation of it in or around that intersection. Let's see if I have anything else.

One last thing I would like to do, and I would like to utilize the map to do that. I would think the only reason to build this road is not for some of the reasons that came out today, military or tourists, but as a safety valve for the people of Kihei. The people of Kihei, all of their safety routes funnel through the area either in front of Suda Store or behind it close to the tidal wave zone, fire danger. Somebody could be trapped on the other side of it. And I believe they do need an exit from that area, so I would like to show on the map a possibility that would be a safety valve for them that should be considered.

MR. TSUZUKI: Could you also try and describe it because it's going to be difficult for us to have it on the record.

MR. MAYER: I'll describe it. What I'm talking about is the people in Kihei at present either come from this highway or this route here all close to the ocean here where a

tidal wave or fire could come in. I would suggest exploring a route from somewhere around this part of Kihei, whether it be the Tech Park or a little further out here, that runs above it and over to the Puunene airport area.

In other words, it would be far enough from the ocean that it would not be a danger. It would not necessarily have to be a fully operational highway. I'm talking about a safety valve that might utilize cane roads in that area that would be paved up to standards that would allow ambulances and other vehicles to get in and out of that way, but would not necessarily have to be open to the public at all times.

This would allow for that safety valve. And I think that's the only legitimate reason perhaps to consider a highway. They could even have it gated at each end, so the public couldn't generally use it, but could be remotely controlled from the police station to open gates to allow, if there was ambulances, if there was a fire, if there was a tsunami, to allow that kind of traffic to take place on an otherwise closed road. That would allow for safety. We don't have to have a whole new highway put in to solve some of the problems that have been mentioned, because of the problems that have been mentioned. And I thank you.

MR. TSUZUKI: Thank you. Before I let you go up, I think Mr. Hofman indicated he wanted to go up. Also Mr. Nakashima.

MR. HOFMAN: Gentlemen, I know I got under your skin a little bit earlier when I said there are questions. I believe you just heard a few. Several of them I was going to bring up. And there's several people here that are over 70 years old. And I am, too, and I'm sure we're getting brain fatigue and everything else, but the one thing I would like to bring up, not the one thing, but the major thing that no one has talked about, and Dick just started to touch on it and I thought he was going to steal my thunder. An evacuation route is mentioned a number of times and it's been in the paper and everything else, and one reason I wanted to come all the way down the hill here to Kahului is to find out how the people in Kahului felt about it.

And I guess there isn't anybody here to find out. But he's talking about an evacuation area from Kihei up. I understand tsunamis could come down from the Aleutians in Alaska and everything and hit north side, too. And what about these people getting out of here? That's a question that I think you should address. And that, of course, takes us back to what a couple of these gentlemen have said earlier. If we've had approvals and everything to have the existing roads made into four lanes and make a route here, that should cover it. You shouldn't have to go to all this trouble. Just straighten this out, get this bottleneck Puunene here squared away, and if you measure it, I'm sure if you measure it, you're

going to find out this distance is almost equal and this distance is almost equal and you've got existing roads. You don't have to go spending all this money. I thank you for your time.

MR. TSUZUKI: Thank you. Mr. Nakashima.

MR. NAKASHIMA: Good evening. Hello. My name is Eric Nakashima. N A K A S H I M A, that's my last name. Speaking on behalf of the Pukalani Community Association continuing on what I was saying. Let's see. I have a message for Mr. Atkin. I got called several times by one of our members asking if you received her letter and map concerning Ainalani Drive, the connection to that access road. Did you receive anything like that?

MR. ATKIN: I understand it's en route.

MR. NAKASHIMA: It's en route. Okay, you're going to have it. Thank you very much. Let's see. Getting back to the issue, well, one issue, one of many said tonight.

When it comes to Maui, over the years, we've all seen roads built in Kihei. We've seen them resurfaced. We've seen bridges built on Honoapiilani Highway, beautiful bridges, even back in Kaupo. But these capital improvements that the state makes on behalf of the people, I was wondering, that is in the area concerning Pukalani, which is our concern, is that getting back to the question, remember the question about the overpasses, I was wondering since I have all the experts right

up here in front of us right now, not to put you on the spot, but is there a simple way of saying why overpasses or more of them have not been built on Maui?

Is there a simple -- can any of you maybe like comment on that? Because many of our members were again saying that, why, and it's very hard to understand.

MR. TSUZUKI: Normally, I think when you talk about overpasses and things like that, you're talking about interchanges, you know, which we have in Honolulu. We have a lot of those where we separate traffic where there are grades separated where one roadway crosses over another one. I think that's what you're talking about, right?

MR. NAKASHIMA: Yes.

MR. TSUZUKI: At a lot of these intersections, many of them started off at grade; in other words, you know, just at one level as maybe a signalized intersection or something like that. And really the reason why we would convert say an at grade signalized intersection to a grade separated one would be because there's so much traffic that is going through that intersection where that intersection no longer, even if you put in double left turns and whatever, you know, it can't really take all of that traffic that's occurring. And that happens quite often in Honolulu, so it's justified through traffic.

One of the reasons why it's not done too often is because of the high cost. Because these things, whenever you

build a bridge, which is essentially what you're building when you have an overpass is a bridge, the cost of a bridge is very high. An interchange could cost anywhere from 20 to $40 million just by itself. You know, we're talking about a cost of a new highway about say $80 million, but just one interchange could cost $40 million.

So one of the reasons why we are slow to consider interchanges or overpasses is because of the cost and because we need to see a lot of traffic that justifies the need for that kind of overcrossing. And there are a lot of intersections in Honolulu that are still at grade. They probably could justify the need for an overpass that we haven't even done yet.

I can give you two examples in Honolulu. On the Pali Highway at Castle Junction, this is on the windward side of Oahu, just by the Pali Golf Course, that area justifies really an interchange, an overpass, but we haven't done it because people are against it. Actually, because they feel that it is a visual type of intrusion and that kind of thing.

Another area would be Kahekili Highway where we have Kahekili and Likelike. Again, an interchange could be done there, but again, because of the high cost, we haven't done it. And those areas have a lot more traffic than we're talking about than up here, than upcountry, so that's probably one of the reasons why we're not doing that kind of thing right now or

we're not considering it.

MR. NAKASHIMA: Okay. That kind of answered my question. I guess now it leaves us at a terminus, if you would, that we need to do something as far as the associations is maybe to organize and maybe appeal to our maybe the State Senators and some people in this room that maybe they could make an exception for this Kihei to upcountry road. It seems that we are looking at some huge traffic.

For example, the Maui Economic Development Agency had a presentation at the Research and Technology Park in Kihei. And one of the things that was touted as far as how busy this road might be is that of 12,000 hotel workers and restaurant employees that live on this island, over half live upcountry. That's what was told to us at this meeting. That seems to be quite a lot of people and quite a lot of cars if you think about it.

And that's just hotel and restaurant workers, so if you think about how much people might be traveling this road. I know this is not Honolulu, okay. Honolulu Proper probably contains about a million and a half, 1.8 million people, something like that, yeah. But anyway, if you think about it, I think our lives are just as important as those people there. Maybe if we can just get together and appeal to our Senators and our Congressmen, our Legislators, maybe we can all enjoy one of the first capital improvements that is money driven for

Maui that we haven't seen in a long time, okay.

I don't think there's been any overpasses built on Maui yet besides the Wailuku Bridge I think. So, if possible, maybe we can appeal to the Department of Transportation in this testimony. Maybe as a Community Association that are present tonight, maybe we can all just appeal to them and say please ask, consider an overpass for this road because I think it would be very helpful wherever we put it, you know.

Besides saving lives. Again, I go back to the Makawao Avenue and the bypass road, okay. That was pretty horrendous. We've never seen accidents like that happen on Maui at any intersection I think in the history of Maui. But going back to the person that died and the lady who amputated the leg, that was pretty graphic. But the thing is, again, on behalf of the people of Maui, I thank you very much for helping us. I thank Mr. Bob Siarot for coming to our meeting and all the rest of the politicians that also came to our meeting, too, for Pukalani Community Association. I really thank you, but please consider Maui. Thank you.

MR. TSUZUKI: We will, thank you.

MR. HIRANAKA: Thank you. My name is Sam Hiranaka. After listening to the many speakers this evening, I would just like to take a minute to summarize that and ask you to please consider the Wailea-Ulupalakua route for a simple common sense reason that, Mr. Mayer, you talked about the escape route. I

think it makes more sense to have an escape route on the extreme opposite end of the present way to get away from Kihei, which is the Mokulele Highway. And anything closer to Mokulele would still cut off the people on the extreme south end, which is Maui Meadows, Wailea and Makena.

So we need that escape route from the extreme opposite end, which is the Piilani Highway from Wailea up to Ulupalakua. And another thing that I want to reemphasize is the fact that the only road which will not sacrifice any agricultural or farm land is the road from Wailea to Ulupalakua, because that's 100 percent pasture land at low, low value, low need, you know, really, you won't be taking away anything from the economy of Maui and the State of Hawai'i.

In fact, it will be enhancing the economy of that area of Maui if we took the road from Wailea up to Ulupalakua because you would have the Tedeschi Winery, the strawberry farm of Roy Hamamura and others. Thank you very much.

MR. TSUZUKI: Thank you. Does anybody else have any further comments or questions or whatever? If not, I want to thank all of you who have remained this late, and I want to thank you all for your comments. We definitely are going to consider all of them. It's going to be a tough job to decide what we're going to do about this highway. I want to thank you again on behalf of the Department of Transportation.

UNIDENTIFIED SPEAKER: When is the last time we can

submit --

MR. TSUZUKI: October 28th. Also as a reminder, we do have these sheets that you can take with you. In case you have any comments or ideas or whatever that may come up after this meeting, you have until October 28th to submit those to us. So those forms should be out in the back of the room. Thank you again and I will now officially close this public hearing. Thank you.

(The hearing ended at 9:50 p.m.)

C E R T I F I C A T I O N

I, Rachelle Primeaux, Notary Public for the State of Hawaii, certify:

That on the aforementioned date and time the proceedings contained herein were had;

That the proceedings were taken by me in machine shorthand and were thereafter produced in transcript form under my supervision;

That the foregoing represents, to the best of my ability, a true and accurate transcript of the proceedings had in the foregoing matter.

I further certify that I am neither attorney for any of the parties hereto nor in any way concerned with the cause.

Dated this 29th day of October, 1999.

Rachelle Primeaux

Notary Public, State of Hawaii

My Commission Expires June 14, 2000

LS

CERTIFICATION

I, JEANNETTE W. IWADO, Notary Public for the State of Hawaii, certify:

That the meeting contained herein was taken by me in machine shorthand and was thereafter produced in transcript form under my supervision; that the foregoing represents, to the best of my ability, a true and accurate transcript of the proceedings had in the foregoing matter.

I further certify that I am neither attorney for any of the parties hereto nor in any way concerned with the cause.

Dated this 29th day of October, 1999.

NOTARY PUBLIC, State of Hawaii

My commission expires 2/5/00

KIHEI-UPCOUNTRY MAUI HIGHWAY

COUNTY OF MAUI

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

PUBLIC HEARING

Held at the Kahului School Cafeteria, Kahului, Maui, Hawaii, commencing at 6:30 p.m. On October 13, 1999.

I N D E X

PUBLIC HEARING

TRANSCRIPT OF PROCEEDINGS

MR. ANDERSON: My name is Steven B. Anderson with a V, 749-B Pulehuiki, P U L E H U I K I, Road. That's in Kula, 96790.

I am currently a researcher here on the island getting my Ph.D. from the University of California Davis and I have spent two and a half years researching axis deer on Maui from Makena through to upcountry. I am a temporary Kula resident who will be leaving here in six months. And I'm speaking entirely from a safety perspective with regard to axis deer vehicle collisions.

The Environmental Impact Statement made a short mention that road kill will be increased as a result of this highway. Unfortunately, I think the road kill will all but certainly include humans. Several mitigation measures can be proposed to help address deer vehicle collisions on this highway. First, I would suggest that the maximum speed limit of the highway throughout be 45 miles per hour. If that is not doable, then perhaps a day/night speed limit like on the mainland could be used, 55 daytime, 45 nighttime.

Most deer vehicle collisions will occur at dusk and dawn and late throughout the dark of the night. I would also recommend that the highway be frequently signed for deer

crossing. Studies have shown that signs that say "Deer Crossing Next 10 Miles" are ineffective. And drivers should be reminded each 3 miles of deer crossing and danger potential.

Also, I don't know if the Department of Transportation can accommodate this, but the unfortunate fact that reflectors used on the highway are yellow is a real problem with regard to axis deer because their eyes shine back yellow at night. It's all too easy to pass up axis deer eyes in the sea of yellow reflectors up the road, so if there's any way to change reflector colors away from yellow, that would be very beneficial.

Finally, from strictly a deer perspective, I would argue that the routing most preferable with regard to deer is to avoid areas of high deer density. Deer density is generally greatest in ranch lands and reduced in agricultural lands such as HC&S sugar areas. As a result, the preferred routing from a deer perspective would be picking the northernmost route as deer density is at the southern portion of the island toward Makena and Wailea and moving northward from there, so that would lead to a K1-U1 positioning for the highway.

Finally, my last comment is that unfortunately we don't have very good data on deer vehicle collisions currently occurring on Maui. I've spoken with the Police Department trying to get those records more clearly defined. Basically, animal vehicle incidents are recorded and it could be a

mongoose or a cat or a deer, and we can't search for deer vehicle collisions. This is a critical element of population monitoring for scientists. It's a random sample of deer vehicle collisions, and as population goes up, deer vehicle collisions go up. And it would be a very important marker for the next 20 years on Maui. That's it.

(End of comments.)

C E R T I F I C A T I O N

I, Rachelle Primeaux, Notary Public for the State of Hawaii, certify:

That on the aforementioned date and time the proceedings contained herein were had;

That the proceedings were taken by me in machine shorthand and were thereafter produced in transcript form under my supervision;

That the foregoing represents, to the best of my ability, a true and accurate transcript of the proceedings had in the foregoing matter.

I further certify that I am neither attorney for any of the parties hereto nor in any way concerned with the cause.

Dated this 27th day of October, 1999.

Notary Public, State of Hawaii

My Commission Expires June 14, 2000

DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS THAT REQUIRE RESPONSES

Transmittal Letter to Governmental Agencies from the Department of Transportation

Letters from Government Agencies and Responses from the Department of Transportation

Transmittal Letter to Non-Governmental Participants from the Department of Transportation

Letters, Comment Forms, Paraphrased Oral Comments from Non-Governmental Participants and Responses from the Department of Transportation

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
JEAN L. OSHITA
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PA
2.4849

December 17, 2001

Aloha,

Subject: Kihei-Upcountry Maui Highway

Thank you for your comments on the Draft Environmental Impact Statement (EIS) for the proposed Kihei-Upcountry Maui Highway project. We appreciate your time and effort in providing these comments. We entered the planning process for this project in an open fashion and the amount of civic involvement has been truly overwhelming.

We have identified the U1, K1 alignment as the preferred alternative. The Upcountry terminus of this alignment would be at the intersection of Haleakala Highway/Haliimaile Road, and the Kihei terminus would be at the intersection of Piilani Highway/Kaonoulu Street. This decision was reached after full consideration of the project's transportation benefits (e.g., travel time savings, travel markets served), prior community planning processes, environmental and social impacts, construction cost, and the hundreds of comments generated through an extensive public review process.

The next step in the project development process is to begin the design phase. Several aspects of the U1, K1 alternative will receive more attention in the next phase of project planning, including mitigation to lessen the impact on agricultural areas, and other particulars, such as details on future intersections.

This letter transmits our responses to your comments on the Draft EIS whether they were provided in letters, pre-printed comment forms and/or oral comments at one or more of the project's three public hearings. Copies of your written statements are attached, and specific comments numbered. Responses to these comments are numbered to match the comment. If oral comments were provided, your comments were paraphrased for brevity. These comments are immediately followed by responses.

We will distribute the Final EIS for the project upon approval by the Federal Highway Administration. Copies of all Draft EIS comments will be part of the Final EIS, including transcripts of the oral comments provided at the public hearings.

Again, thank you for participating in our environmental review process. If you have any questions, please contact Wayne Kawahara of our Highways Planning Branch, Advance Planning Section at (808) 587-6357 or you can contact him using Maui's toll-free voice access number at 984-2400, extension 76357.

Very truly yours,

BRIAN K. MINAAI
Director of Transportation

Enclosure

ed States
epartment of
griculture

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Conservation
ice

.O. Box 50004
lonolulu, HI
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USDA

Hwy 3437

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

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Our People...Our Islands...In Harmony

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DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

September 15, 1999

Mr. Abraham Wong, Division Administrator
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Wong:

Subject: FHWA-HI-EIS-99-01-D - Draft Environmental Impact Statement (DEIS) - Kihei-Upcountry Maui Highway, County of Maui, Hawaii

We have reviewed the above-mentioned document and have the following comments to offer:

1 With regards to the alternatives, you will be removing portions of prime farm land. Highly undesireable are those alternatives which dissect sugarcane lands. This makes it difficult for HC&S to operate since it affects their road systems, irrigation systems, major water distribution systems as well as agricultural practices.

2 None of the alternatives will have physical interaction with the Upcountry Maui Watershed; however, the U3 alternatives may have some interaction with yet-to-be planned Lower Kula projects.

Thank you for the opportunity to review this document.

Sincerely,

STATE DEPARTMENT OF TRANSPORTATION
SEP 21 11 05 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Acting
KENNETH M. KANESHIRO
State Conservationist

cc:
Mr. Kazu Hayashida, Director of Transportation, State of Hawaii, Department of Transportation, State of Hawaii, 869 Punchbowl Street, Honolulu, Hawaii 96813

Mr. Kenneth M. Kaneshiro
State Conservationist
U.S. Department of Agriculture
Natural Resources Conservation Service
P.O. Box 50004
Honolulu, HI 96850

1. Of the four Upcountry termini options considered, the U1 alternatives would convert the most prime agricultural land to a roadway. Although the preservation of farmland and minimizing disturbance to agricultural practices are important to the State, a U1,K1 alignment was identified as the preferred alternative for reasons stated in Section 2.2.4 of the Final EIS. As described in Section 4.2.4, mitigation measures to maintain the productivity of the agricultural fields adjacent to the Kihei-Upcountry Maui Highway will be developed in coordination with Hawaiian Commercial and Sugar Company.

2. Thank you for this information. A U3 alternative was not identified as the preferred alternative.

HWY 3935

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

ER-99/731

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HAWAII DIVISION

Mr. Abraham Wong
Division Administrator
Federal Highway Administration
Post Office box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

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STATE DEPARTMENT
OF TRANSPORTATION
OCT 22 11 33 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Dear Mr. Wong:

This is in response to the request for the Department of the Interior's comments on the Draft Environmental Impact Statement (DEIS) for the Kihei-Upcountry Maui Highway, Maui County, Hawaii.

Section 4(f) Evaluation Comments

Park and Recreation Resources

The DEIS indicates that there are no publicly-owned parks or recreational facilities, or wildlife refuges within the path of any of the alternative alignments. The Section 4(f) resource nearest to any of the proposed alignment alternatives is the proposed Kihei Regional Park. The DEIS indicates that the K2 Alternative with a terminus at the Ke Alii Alanui Street/Piilani Highway intersection would facilitate access to the future regional park for Upcountry residents. The DEIS also indicates that the K2 Alternative is predicted to have a noise impact at the future park because there would be a "substantial" increase in noise from its present level. The DEIS concludes that a "constructive use" of the park would not occur because the Hawaii DOT (Division of Highways) would work with Maui County to ensure that noise impacts are mitigated
1 by the construction of buffer zones or berms. However, the DEIS does not make clear why the use of buffers or berms would be the most appropriate measure to minimize harm to the park.
2 The K1 Alternative would not affect the future park and would appear to be the most prudent and feasible alternative.

Federal funding for the planning of this project was appropriated because of the national interest in an improved mobility between defense-related activities at the Maui R & R Park in Kihei and Science City at the summit of Haleakala volcano. The Maui R & T Park, currently at about eight percent build-out, houses facilities of the U.S. Air Force, the Pacific disaster Center, Lockheed Martin, the University of Hawaii and the University of New Mexico. Science City is a Federal facility used for space and defense related research and development. It is located next to Haleakala National Park.

3 The stated "improved mobility" between the defense-related activities at the Maui R & T Park and Science City needs further clarification with regard to possible impacts on Haleakala National Park. Access to Science City is via the Haleakala Highway, the last ten miles of which is within the boundaries of the national park. What additional traffic load, if any, would be put on this national park road as a result of the proposed highway?

Historic and Archeological Resources

Archeological reconnaissance surveys have been performed for all of the alternative alignments. Construction activities connected with implementation of any of the alternative alignments would adversely impact archeological sites. However, according to the draft, these sites are important only for data recovery and do not require preservation. None of the alternative alignments would affect National Register properties. Based on the findings of the reconnaissance surveys, two alternative alignments were developed to avoid four sites identified and judged to be significant under National Register criteria and required preservation.

4 The DEIS indicates that an archeological "inventory survey" would be performed on the Preferred Alternative to be identified after the issuance of the DEIS. If the inventory survey indicates that archeological resources would be affected by the Preferred Alternative, preparation of a Memorandum of Agreement (MOA) in cooperation and coordination with the State Historic Preservation Officer may be necessary, in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. A signed copy of the MOA should be included in the Final Section 4(f) Evaluation if one is prepared.

Environmental Statement Comments

Invasive Alien Species

Overall, the DEIS adequately describes the proposed project and the potential environmental consequences. However, the DEIS does not address the project's potential effects on the movement of invasive alien species. These effects and the measures required to mitigate them need to be fully addressed. Hawaii's biota has a very high rate of endemism and is highly vulnerable to biological invasions. Over one-third of the federally endangered species are found here and alien species provide the primary threat to most of them. We believe that the project has great potential to facilitate the spread of alien species on Maui.

5 In 1994, the Hawaii Department of Land and Natural Resources noted an expanding infestation of fireweed (*Senecio madagascariensis)* in the Pukalani-Makawao area. It is believed that this weed, which is a major pest in Australia, was the major seed source used in hydromulching along the steep roadcuts in connection with the 1990-1992 construction of the Pukalani Bypass which is located at the Upcountry terminus of two of the alignment alternatives. Fireweed is highly poisonous to horses and cattle and the State Department of Agriculture recently elevated this species on its list of priority weeds. Nearby, Haleakala National Park has documented considerable evidence that the appearance of approximately 30 new weed species in the national park along the Crater Road was connected with a major road improvement project carried out in

the mid-1970s to early 1980s. There is also evidence that the Argentine ant is a threat to all endemic arthropods found in the national park. There is additional evidence on Maui as well as on the islands of Oahu and Kauai that the seeds of invasive alien plants such as fireweed and
5 cat's claw *(Caesalpina decapetala)* are spread by heavy road equipment. The same problem exists on the mainland. The U.S. Department of Agriculture's Witchwood Eradication Program in the eastern Carolinas found that road building is a very potent vector for spreading of invasive plants. Construction equipment contaminated with soil was the main culprit.

Suggested mitigation measures would be to apply the standards agreed to by the U.S. Air Force and Haleakala National Park in connection with the recent installation of a telescope at Science City. These standards include inspection of all construction equipment used on the project to
6 ensure sterile supplies and materials coming to Maui. Included also would be inspections of containers and crates at their initial storage areas, inspections of all raw material sources prior to acceptance for the project, as well as inspection of all trucks used to haul materials. All local prefabrication sites on Maui also should be inspected. New supplies, materials and equipment should be powerwashed.

Suggested additional mitigation would be for the project to support a Hawaii Department of Transportation (DOT) employee with the responsibility for ensuring that all proper precautions
7 are taken with regard to alien species concerns. The project should also support a Hawaii Department of Agriculture employee responsible for monitoring operations for adherence to all inspection measures, including crates, shipping containers, equipment, supplies, and raw materials. That employee would also be responsible for preventing the use of improper seed.

Fish and Wildlife Resources

The U.S. Fish and Wildlife Service (FWS) has completed its review of the draft and believes that it adequately describes the primary fish and wildlife resources present in the proposed project area. By letter, dated December 24, 1997, the FWS had earlier concurred that the proposed project is not likely to adversely affect any endangered or threatened species, thereby satisfying Section 7 consultation requirement of the Endangered Species Act.

The FWS advises that the DEIS is deficient in its assessment of potential project-related impacts and in the identification of measures to avoid or minimize these impacts on important resources. Specifically, secondary resource impacts related to human-caused fire are not fully addressed in Section 4.8 Ecosystems. While the DEIS does mention that the project may increase the potential for human-caused fire adjacent to the road, it neither assesses the potential impact of wildfire on existing, rare native dry land forested habitat, nor proposes mitigation beyond the
7 provision of warning signs for motorists.

The FWS believes that the K1 alternative, in combination with either the U1, U2-A, or U2-B alternatives should be considered as the Preferred Alternative since these routes place the road alignment the farthest distance from the dryland forest habitats of Puu o Kali and adjacent areas. Moreover, since alternatives U1, U2-A, and U2-B are located in areas currently being used for agriculture, it would be much easier for fire-fighting crews not only to access adjacent wildfires, but also to access sources of water to contain fires. The FWS believes that a road alignment

comprised of either the U3 or K2 alternatives would pose a greater threat to wildlife resources from fire since these alternatives are closer to the dryland forest habitats and would have
7 logistical disadvantages for fire-fighters. The FWS recommends that the shoulders of the Preferred Alignment be maintained to minimize the growth of weeds to reduce the risk of human-caused fires.

Summary Comments

The Department of the Interior may have further comments on the Section 4(f) aspects of this project when the results of the archeological "inventory survey" is performed on the Preferred Alternative and addressed in the Final Environmental Impact Statement.

We appreciate the opportunity to provide these comments.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

cc:
Mr. Kazu Hayashida
Director of Transportation
State of Hawaii Department
of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Mr. Willie R. Taylor
Director, Office of Environmental Policy and Compliance
U.S. Department of the Interior
Office of the Secretary
Washington, D.C. 20240

1. As described in Section 4.6.3, some of the planned uses of the future Kihei Regional Park would not be noise-sensitive. For example, ball fields are not noise sensitive, and could be used as buffers to protect noise-sensitive uses, such as camp grounds. If buffers cannot be provided, berms would be the first choice to physically block traffic noise. Noise walls would probably not be preferable because they would cause an adverse visual impact in a park setting.

2. The U1,K1 alignment was identified as the preferred alternative.

3. Over one million people visit the summit of the volcano in Haleakala National Park annually. In comparison, the number of persons traveling for business purposes between the Maui R&T Park and Science City would be quite small in comparison to the volume of tourist travelers. As described in Section 4.11, the health of Maui's visitor industry is the fundamental factor affecting the traffic volume to Haleakala. Roadway capacity does not constrain the number of visitors. Therefore, the additional traffic load on the National Park roadways that would be generated by the proposed highway would be minimal.

4. Thank you for this information. Based on the results of the inventory survey of the U1,K1 alignment, the preferred alternative, the project would have an "adverse effect" on three sites identified along the preferred alignment. The State Historic Preservation Officer concurred with this determination. Since none of the three sites require preservation in place, they are not considered Section 4(f) resources. A Memorandum of Agreement was signed, which completed the Section 106 process. A Final Section 4(f) Evaluation was not prepared because no Section 4(f) resources are being affected.

5. The potential that the proposed project would cause alien species invasion is now described in Section 4.8 of the Final EIS.

6. Mitigation measures to prevent alien species invasion are now described in Section 4.8 of the Final EIS. The Department of Transportation does not believe that all of the mitigation

measures agreed to by the U.S. Air Force and Haleakala National Park for the Science City installation would be appropriate for this project. Science City is directly adjacent to the National Park, and therefore a very high degree of mitigation is appropriate. In contrast, the proposed highway will be several miles from the National Park, terminating near suburban neighborhoods of Pukalani and Makawao. Furthermore, because of current and prior agricultural activities in the region, the area affected by the new highway does not support native species (see Section 3.8.1 of the EIS). Therefore, the Department believes that the mitigation measures described in Section 4.8 of the Final EIS are appropriate for this project.

7. The U1,K1 alignment was identified as the preferred alternative, which conforms to the recommendation of the Department of Interior, as stated in the comment letter. This alternative is the furthest from the dryland forest habitats of Puu o Kali and adjacent areas. This alternative also traverses agricultural fields and, therefore, has easier access to water for fire control than the other alternatives. Finally, in addition to signage that would alert motorists of the danger of human-caused fires, the Department of Transportation will conduct regular maintenance to control weed growth along highway shoulders, as recommended by the Department of the Interior.

HWY 3968

U. S. Department of the Interior
U. S. GEOLOGICAL SURVEY
BIOLOGICAL RESOURCES DIVISION
PACIFIC ISLAND ECOSYSTEMS RESEARCH CENTER
Haleakala Field Station
P.O. Box 369
Makawao, Maui, Hawaii 96768
(808) 572-4470 FAX (808) 572-1304
Email: Lloyd_Loope@usgs.gov

Kazu Hayashida
Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

To whom it may concern:

Aloha no. Let me introduce myself. I am Art Medeiros, biologist on Maui since 1981, first with the research division for Haleakala National Park, and currently with the Maui field office of the Biological Resources Division of the U.S. Geological Survey.

I am writing you to provide input on the proposed Kihei-Makena/upcountry highway project and specifically to inform you of the proximity of the project with what is considered to be one of the finest lowland dryland forests in the state and the finest remaining example of this forest type in the world - the Pu'u-o-kali dryland *wiliwili* forests.

The Pu'u-o-kali dryland forests occur on lands owned by the Department of Hawaiian Home Lands (DHHL) and Haleakala Ranch. They are located on the lower southwest flank of Haleakala, between the towns of Keokea and Kihei from 600 to 1200 feet elevation. *Wiliwili* (Erythrina sandwicensis) forests of the Pu'u-o-kali area are described in a Nature Conservancy report as "the best remaining stand of this forest type in the world".

Recently, we became aware that this unique Hawaiian ecosystem is being rapidly degraded by browsing and trampling by wild axis deer. I spoke of this problem at the recent 1999 Conservation Conference and have been working with the two landowners and numerous funding sources and currently there is much hope for a positive solution with a coordinated interagency effort.

Axis deer have been present in the area since the 1960s. By the early 1990s, deer had became much more numerous on Maui and began to use native plants on the Pu'u-o-kali flow as food during the hot summer when range grasses disappear. The native vegetation of many special areas was decimated. I estimate about 60% of the Achyranthes shrub (rare throughout the islands and found nowhere else on Haleakala volcano) were killed last year. The Endangered yellow hibiscus (Hibiscus brackenridgei), our state flower, has been nearly wiped out, though genetic material still exists for possible reintroduction.

Seven native Hawaiian plant species worthy of concern by the U.S. Fish and Wildlife Service are currently found in the Pu'u-o-kali area. Four of these are listed as Endangered and three other plant species as species of concern (SOC). The Pu'u-o-kali forest supports the largest known occurrences in the world of three taxa of concern Abutilon menziesii (E), Hibiscus brackenridgei ssp. brackenridgei (E), and Canavalia pubescens (SOC).

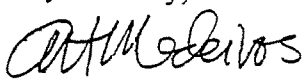
Two rare native Hawaiian animals also occur in the Pu'u-o-kali forests: the *'ope'ape'a* or Hawaiian hoary bat, listed as Endangered by the USFWS, has been seen in the area, as well as the proposed Endangered Blackburn's sphinx moth (Manduca blackburni). This last taxa presents a more direct issue to the proposed project as its larvae often utilize non-native tree tobacco (Nicotiana glauca) as one of its few host plants. Populations of this plant occur in weedy areas and may well be present along the currently proposed highway route.

The landowners recognize the importance of these forests, agree to their long-term protection but lack the funding to accomplish it. I predict that in literally a few more summers of deer browsing, the degradation of the area will have reached the point where everything now worth protecting will be gone. A consortium of concerned individuals and agencies are working at acquiring funding (estimated at 250K, half already secured) to construct a 250 acre deer-proof fenced exclosure at Pu'u-o-kali. I have been involved in conservation on Maui for two decades and cannot recall a more catastrophic yet resolvable situation.

In its current proposed routing, the highway passes near but not directly through Pu'u-o-kali forest. However, the proposed highway project, potentially, has serious negative indirect impacts on this unique forest, especially proximity introductions of invasive non-native species. As you probably know, non-native species constitute the greatest threat to
1 the long-term survival of native Hawaiian biota. Despite problems with axis deer, one site attribute of Pu'u-o-kali forest critical to its conservation potential is its relatively weed free status. Even the introduction of a single non-native species, such as fountain grass, native to Africa, and locally introduced with project construction would have a devastating effect at Pu'u-o-kali.

Native Hawaiian ecosystems are one of our countries greatest natural resources. The Pu'u-o-kali dryland forests are without equal as superlative examples of this otherwise dramatically modified forest type. I am presenting these issues to you so that we mutually arrive at the best plan of action for Maui, her people, as well as her unique natural heritage. Please feel free to contact me at anytime (572-4471, artmedeiros@juno.com). I am always happy to work towards proactive positive solutions to our complex land use issues. Thank you for your attention.

Very sincerely,



Art Medeiros, Research biologist

Mr. Art Medeiros
Research Biologist
U.S. Department of the Interior
U.S. Geological Survey, Biological Resources Division
Pacific Island Ecosystems Research Center, Haleakala Field Station
P.O. Box 369
Makawao, Maui, HI 96768

1. Thank you for your comments regarding the lowland dryland forests around Puu o Kali and the various threatened and endangered species present in this area. Avoidance of this valuable resource was considered in the evaluation of the EIS alternatives. The U1,K1 alignment, which was identified as the preferred alternative, is located the furthest from this forest.

United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Water Resources Division
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813

August 23, 1999

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr Wong:

In response to your transmittal, received August 11, 1999, I am providing the following comments on the Draft Environmental Impact Statement (DEIS) for the proposed Kihei-Upcountry Maui Highway.

1 During recent highway construction on Oahu, stream sediment loads increased by as much as four times above pre-construction sediment loads, and state water-quality standards for suspended solids were frequently exceeded (U.S. Geological Survey Water Resources Investigations Report 96-4259, prepared in cooperation with the State of Hawaii Department of Transportation, 1996). Sediment loads increased during construction despite the use of erosion-control measures such as those described on pages 4-69 and 4-70 of the DEIS. Given the importance of water quality in Maalaea Bay, the receiving waters for streams draining most of the project area, I suggest that the adequacy of planned erosion-control measures be carefully evaluated in the Final Environmental Impact Statement.

Thank you for the opportunity to comment. If you have any questions concerning our comments, please contact Barry Hill of my staff at 522-8290.

Sincerely,

Gordon Tribble
Acting District Chief

cc: State of Hawaii Office of Environmental Quality Control
Warren S. Unemori Engineering, Inc.

Mr. Gordon Tribble
District Chief
U.S. Department of the Interior
U.S. Geological Survey, Water Resources Division
677 Ala Moana Blvd., Suite 415
Honolulu, HI 96813

1. The erosion-control measures listed in Section 4.17.4 of the EIS are typical Best Management Practices (BMPs) employed during roadway construction. The Department of Transportation acknowledges that standard BMP measures are sometimes insufficient. However, the Department is committed to ensuring that construction of Kihei-Upcountry Maui Highway does not adversely affect the quality of nearby water bodies, such as Maalaea Bay. For this project, specific BMPs cannot be developed during the current phase of project planning because detailed design has not been prepared. Specific BMPs will be developed during the design phase of the project in coordination with the State of Hawaii Department of Health during the application process for a National Pollution Discharge Elimination System (NPDES) permit.

HWY 3938

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 30, 1999

Abraham Wong, FHWA Division Administrator
Federal Highway Administration
PO Box 50206
Honolulu, Hawaii 96850

Dear Mr. Wong:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the ***KIHEI UPCOUNTRY MAUI HIGHWAY, County of Maui, Hawaii***. Our comments on the DEIS are provided pursuant to the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508). The DEIS addresses the environmental impacts associated with a proposed two-lane limited-access rural highway from Kihei, a village on the southern coast of Maui, to Upcountry, a region on the western flank of Haleakala Volcano. Eight build alternatives and No Action are addressed in the DEIS. The eight alignments consist of combinations of two Kihei and four Upcountry terminus options. A preferred alternative was not identified in the DEIS. Instead, page S-8 indicates that the project's preferred alternative will be identified at the Final EIS (FEIS) stage after considering agency and public comments on the DEIS.

Because the DEIS does not identify a preferred action alternative, we have rated each of the action alternatives, and the overall DEIS, as ***Category EC-2, Environmental Concerns - Insufficient Information***. We have rated the No Action (No Build) Alternative as Category LO, Lack of Objections. Please refer to the attached "*Summary of Rating Definitions and Follow-Up Action*" for a detailed explanation of EPA's rating system. In terms of the proposed project's environmental impacts, we are particularly concerned with potential impacts to water quality and associated resources (e.g., wetlands) due to construction and operation of the proposed transportation facility. We note that the DEIS indicates that the roadway would cause run-off and pollutants to drain into previously pollutant-free areas. However, the DEIS indicates that no mitigation measures to protect water resources are needed.

1

We believe that the Federal Highway Administration (FHWA) and the Hawaii Department of Transportation (HDOT) have an affirmative obligation under the Federal Clean Water Act to satisfactorily protect water quality and designated uses for such waters. Accordingly, we strongly urge FHWA and HDOT to design, construct and operate the project so that adverse impacts to water resources are avoided and minimized to the fullest extent practicable. On a related matter, the DEIS should address whether the proposal is, and will be, consistent with State-adopted, EPA-approved water quality standards, absent mitigation measures to protect water resources. Please refer to our detailed comments (attached) for a more detailed explanation of our concerns.

1

2

We appreciate the opportunity to comment and trust that FHWA and HDOT will satisfactorily address EPA's concerns in the Final EIS (FEIS). Please send one copy of the FEIS to me at the letterhead address (mailcode: CMD-2) when it is filed with EPA's Washington, D.C. office. Any questions which the FHWA may have regarding EPA's comments can be directed to David Tomsovic of my staff at 415-744-1575.

Sincerely,

FOR

David Farrel, Chief
Federal Activities Office

Enclosures: 3
* Summary of Rating Definitions and Follow-Up Action
* Detailed EPA Comments on DEIS
* Pollution Prevention Checklist

cc: Mr. Kazu Hayashida, Director, Hawaii Department of Transportation
Mr. Bruce Anderson, Director, Hawaii Department of Health
Mr. Dean Higuchi, U.S. EPA, Honolulu
Ms. Wendy Wiltse, U.S. EPA, Honolulu
Mr. Dan Harris, FHWA, San Francisco
Ms. Sara Purcell, FHWA, San Francisco

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

WATER QUALITY

Surface Waters

The DEIS (page 2-10) states that, for both the project's rural design and its urban design, roadway runoff would be discharged to the nearest gulch. The DEIS (3.7.1) briefly describes the surface water resources in the project area, which primarily consist of intermittent streams or gulches. Ten prominent gulches are mentioned (pp. 3-41 and 3-42). According to page 3-42, these gulches are considered to be "waters of the United States," thus subject to the jurisdiction and protections afforded by the Federal Clean Water Act (CWA). The DEIS also indicates that no wetlands are in the project area, the nearest wetlands being at Kealia Pond and along the Kihei-Makena coastline..

3 In terms of water quality impacts associated with the project, page 4-42 states that roadway run-off would be expected to contain roadway-related pollutants (petroleum products, metals, rubber, etc) and that such runoff would drain "into previously pollutant-free areas." However, there is no discussion or analysis in the DEIS about the effects (impacts) of such runoff on water quality or the waters' uses, which need to be protected under the CWA, nor of planned mitigation measures. Protected uses which can be adversely affected by increased pollutant loading include the propagation of fish, shellfish and aquatic life, and domestic water supply. Although page 3-42 informs us that the gulches are "usually dry," there is no confirmation for agencies and the public that there would be no adverse effect from discharging pollutants into areas now free of such pollution.

Coastal Waters

4 Page 3-42 states that gulches "collect rainfall and direct flows toward the ocean," with page 4-42 indicating that, during heavy rainfall, polluted run-off "could enter coastal waters," which can adversely affect coastal water quality. Again, there is no discussion or analysis in the DEIS as to whether increased water pollution from the project may adversely affect coastal waters. In terms of protecting the quality of marine waters, Hawaii's Water Quality Standards establish two classes - class AA and class A. Class AA is a more protective category, whose waters shall "remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions." Although the protections afforded class A marine waters are less stringent than those afforded to class AA marine waters, they are nonetheless quite stringent. According to Hawaii's Water Quality Standards, it is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Additionally, any use of these waters shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife. Lastly, class A waters "shall not act as receiving waters for any discharge which has not received the best degree of treatment or control...." (underline added). The phrase "[a]ny discharge" may be interpreted to include discharges from point and nonpoint sources (runoff of pollutants).

Wetlands

5 For purposes of the CWA, wetlands are considered to be "waters of the United States" as well as a "special aquatic site" under EPA's regulations governing the discharge of dredged or fill material into waters of the United States at 40 CFR Part 230. Page 4-43 indicates that wetlands along the Kihei-Makena coastline would be unaffected by the proposed project. However, the previous page indicates that polluted run-off "could enter coastal waters during heavy rain," which may be hydrologically connected to any coastal wetlands. It thus appears that polluted runoff may have the potential to adversely affect coastal wetlands. This should be addressed in the FEIS and, as necessary, reasonable and appropriate mitigation measures presented.

Water Quality Mitigation Measures

6 We are very seriously concerned about the absence of mitigation to adequately address potential and projected adverse impacts to water quality, both to surface waters such as the gulches and receiving coastal waters.. Page 4-44 states that, except for immediate containment and clean-up of hazardous material spills, "[n]o additional measures to minimize potential impacts to water resources is (sic) needed." We believe that FHWA and HDOT should identify all reasonable and feasible measures to control polluted runoff from the project's construction and operation. Appropriate commitments to satisfactorily protect water quality should be reflected in the FEIS and Record of Decision (ROD).

CWA Section 313

7 Section 313 of the CWA provides that each department of the Federal Government "engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants....shall be subject to, and comply with, all Federal, State...and local requirements...respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity...." The control and abatement of contaminated runoff from the project to gulches (waters of the United States), and thence to coastal waters, is the type of activity contemplated under CWA Section 313. The FEIS and ROD should clearly address FHWA's obligations under CWA Section 313 to protect water quality from the project.

Storm Water Permit

8 Section S.7 briefly discusses approvals and permits required prior to construction of the project. Page S-25 references the need for a permit to control storm water from the construction site, as required by the Hawaii Department of Health. Additional information regarding this storm water permit should be provided in the FEIS, including any Best Management Practices (mitigation) to protect water quality and aquatic resources. The FEIS should address whether the Best Management Practices in the storm water permit may be improved and strengthened to protect water quality not only during the construction phase, but be reflected in the permit for post-construction traffic operations as well.

Consistency with FHWA's Technical Advisory

FHWA's 1987 technical advisory (p. 28) provides that, for each alternative under detailed study, the DEIS should have exhibits and discussion identifying the extent and location of water body modifications. It should identify the use of any water body for recreation, water supply or other purposes. It should identify impacts to fish and wildlife resulting from a project. Other than a few brief references to water quality impacts (e.g., page 4-42), the DEIS does not provide the level of analysis contemplated by FHWA's technical advisory. We recommend that the water quality discussion (in the sections on affected environment and environmental consequences) be substantially improved at the FEIS stage, consistent with the technical advisory. This would need to address the ten intermittent streams or gulches identified on pages 3-41 and 3-42, the wetlands at Kealia Pond and along the Kihei-Makena coastline mentioned on page 4-43 (to the extent that polluted runoff may affect wetlands), and coastal waters (again, to the extent that polluted runoff may adversely affect coastal waters and aquatic resources susceptible to pollution such as coral, fisheries, turtles and other species). 9

POLLUTION PREVENTION

The DEIS does not reflect the Council on Environmental Quality (CEQ) memorandum to Federal agencies on integrating pollution prevention features in Federal projects under NEPA (see 1/29/93 *Federal Register*, pp. 6478-6481). The notable absence of water quality protection measures is a clear example of failing to integrate pollution prevention measures into the project. CEQ encourages Federal agencies to incorporate pollution prevention techniques and mechanisms into NEPA planning and decision-making. We encourage FHWA and the Hawaii Department of Transportation to incorporate a wide range of pollution prevention measures into the project's design, construction, and operation. For your reference we have attached a pollution prevention checklist (developed by EPA HQ) to reduce and avoid adverse environmental impacts associated with highway and bridge projects. FHWA should include, to the fullest extent, appropriate and reasonable pollution prevention features in the project's design, construction and operation. 10

SOLID WASTE

We recommend that the FEIS discuss potential opportunities for waste reduction as a component of the proposed project. Specific measures could include:

11

(A) reuse and recycle demolition waste,
(B) reduce and recycle construction-related waste; and
(C) recycle other facility wastes associated with the proposed project.

POLLUTION PREVENTION/ENVIRONMENTAL IMPACT REDUCTION CHECKLIST FOR HIGHWAYS AND BRIDGES

How Can Highways And Bridges Affect the Environment?

The planning, design, construction, and operation/maintenance of highways and bridges can have a variety of effects on the environment. They include the destruction or alteration of wildlife habitats, erosion, sedimentation, soil compaction, chemical pollution resulting from deicing activities, gaseous and particulate emissions from vehicles, contaminated roadway runoff, the generation of waste construction materials (including asphalt, concrete, metals, and wood), material from worn brake lining, and scrap rubber tires, as well as litter and other debris.

Also see checklists on Ecosystem Preservation and Protection, Vehicle Maintenance, Siting, Landscaping, and Pest Management.

What Questions Should Be Asked To Ensure That These Effects Are Minimized or Eliminated?

Ecosystem Concerns.. Highways and bridges can have significant effects on the ecosystems in which they are built. These impacts can include fragmentation and degradation of wildlife habitats, contamination of surface water and groundwater, and soil contamination, erosion, and sedimentation. Techniques can help to mitigate/reduce these effects, however.

- Have other transportation options or pricing structures (i.e., mass transit or improved traffic management) been considered as alternatives to constructing a new highway or bridge?
- Have all environmentally sensitive areas been characterized? Have attempts been made to avoid construction in environmentally sensitive areas? Construction footprints in such areas as floodplains and wetlands should be avoided whenever possible.
- Does the project minimize construction parallel to rivers or streams to reduce the potential for direct runoff discharge from the roadway?
- Does the project make use of existing roadway alignments (if possible) to reduce the amount of waste generated as a result of clearing and construction activities?
- Does the project include provisions for curb design and catchment basins to reduce pollution impacts associated with runoff and debris from the roadway?
- Has the project incorporated mitigation measures to reduce the impact of pollution runoff from the roadway? These measures may include stabilizing cut and fill slopes, shoulders, and medians with perennial vegetation and non-erosive materials, such as rip-rap or geotextiles, or establishing permanently controlled discharge points for stormwater.
- Does the construction plan provide for erosion and sediment control during and after construction? This may include the installation of mitigation measures, such as erosion curtains and/or settling ponds.

- Will stream crossings be designed to enable fish passage and to maintain natural in-stream structures, such as large culverts? *
- Does the plan include native plant revegetation of areas disturbed by construction to minimize erosion and sedimentation?
- Have safe wildlife crossing structures and appropriate fencing been incorporated into the project to accommodate the movements and needs of resident wildlife and to mitigate habitat fragmentation? Have bridge structures been designed to accommodate wildlife passage, thereby providing a dual purpose? *
- Does the project include the use of noise walls or other techniques to reduce the impacts of noise pollution? *
- Does the project include the planting and maintenance of grass covers or other indigenous plant material to reduce pollutant concentrations in roadway runoff?
- Does the project provide for regular preventive maintenance of the highway or bridge to reduce the potential amount of waste generated by reconstructing portions of the roadway? *
- Can existing roadways or bridges be closed and reclaimed as a result of the construction and opening of the new project? *

Hazardous Material Concerns. The construction of highways and bridges can involve the use of hazardous materials. The use of these materials can affect the environment through improper storage, air emissions of volatile chemicals, and spills and other uncontrolled releases, as well as the potential for the generation of toxic waste materials.

- Are there opportunities to reduce the amount of hazardous and toxic materials used as part of the project? For example, will the least toxic paints and deicing chemicals be used?
- Are there provisions for reducing any potential spills of hazardous materials? Is there a spill prevention and control plan?
- Is there a plan for properly managing the storage, handling, and application of deicing chemicals, salts, and sand?
- Is there an Integrated Pest Management (IPM) plan to reduce the use of chemical pesticides and to minimize human and wildlife exposure?

Procurement Concerns. Purchasing decisions are an important element of pollution prevention. Making environmentally sound purchasing decisions can help reduce the amount of waste generated by a highway or bridge project. In addition, the purchasing of recycled-content material helps support markets for materials collected for recycling.

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* Indicates an environmental impact reduction opportunity.

Executive Order 12873 directs all Federal agencies to review and revise their specifications, product descriptions, and standards to increase their purchase of environmentally preferable and recycled products.

- Are there provisions for the proper storage of construction materials to reduce the amount of waste generated by damage or exposure to the elements?
- Will perishable construction materials, such as paints, be purchased incrementally to ensure reduced spoilage of unused materials?
- Will the project include the use of durable, long-lasting materials that will not need to be replaced as often, thus reducing the amount of construction waste generated over time?
- Will the project use construction materials containing recycled content when possible and in accordance with accepted standards? Examples of recycled-content materials include concrete containing fly ash, as well as asphalt containing "waste" asphalt, glass, roofing materials, or recovered scrap tires. "

Reuse and Recycling. Many of the waste materials generated as a result of highway and bridge projects can be reused or recycled into usable products. The benefit of reuse and recycling is that it removes materials that would otherwise be disposed of from the waste stream.

- Does the construction contract specify that construction materials not used in this project be reused in other projects rather than be disposed of? "
- Will trees cut down during construction activities be used or sold for lumber or compost? "
- Will any metal, wood, or packaging wastes generated as a result of construction activities be collected for recycling into other usable products? "
- If the project is a repair of an existing highway or bridge, are there provisions for the reuse or recycling of "waste" materials? "

Other References

U.S. Environmental Protection Agency, Office of Federal Activities. April 1994. "Evaluation of Ecological Impacts From Highway Development."

U.S. Environmental Protection Agency, Office of Water. September 1992. "Storm Water Management For Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices."

" Indicates an environmental impact reduction opportunity.

Mr. David Farrel
Chief, Federal Activities Office
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

1. The Department of Transportation appreciates EPA's concerns about potential impacts to water quality and associated water resources due to construction and operation of Kihei-Upcountry Maui Highway, and understands its obligation under the Clean Water Act. During construction, Best Management Practices (BMPs) will be implemented to prevent erosion and maintain water quality. A NPDES permit will be required prior to the initiation of construction, and the scope of review of the permit application will include sufficiency of the proposed BMPs to maintain water quality standards.

2. The Department of Transportation believes that the proposed project is consistent with the State water quality standards since the project would decrease the generation of roadway pollutants on a regional basis, in comparison to the No Build condition.

3. The gulches in the project area, which are usually dry throughout the year, are not suitable for the propagation of fish, shellfish, and aquatic life. Storm events typically occur during Kona weather conditions. At these times of short duration, high intensity storms, storm water containing roadway pollutants would flow into the gulches, but be substantially diluted by the large runoff volume created during these high-intensity rains. As stated in Section 4.7.1 of the EIS, under most cases, storm water would percolate into the ground because of the high permeability of the soils. Therefore, only during extreme rainfall conditions would roadway pollutants reach the ocean, at which point they would be highly diluted. Of more concern during such an event would be the non-point source turbidity that would be generated. Additionally, Section 4.7.1 of the Draft EIS was not accurate in stating "previously pollutant-free areas" since the project area has and is currently being used for agriculture and ranching. These activities also generate pollutants. This statement will be corrected in the Final EIS.

4. Section 4.7.1 of the EIS states that because Kihei-Upcountry Maui Highway would reduce regional vehicles miles traveled (VMT) through the reduction of trip lengths, pollutant loading of coastal waters from roadway runoff will be less than under the No Build

condition. As stated in Section 4.15 on Cumulative Impacts, the level of roadway-generated pollution in the coastal waters of Maui is not well documented, but does not appear to be a substantial problem.

5. If coastal wetlands, such as Kealia Pond, are being affected by roadway-related pollutants, construction of the Kihei-Upcountry Maui Highway will lessen these impacts because it will reduce regional VMT, and therefore the generation of roadway pollutants, in comparison to the No Build condition.

6. During construction, BMPs will be implemented to prevent erosion and minimize or prevent adverse impacts to State waters (see Section 4.17.4). The State of Hawaii Department of Health (SDOH) will require such BMPs when they issue a National Pollutant Discharge Elimination System (NPDES) permit and when they provide Water Quality Certification under Section 401 of the Clean Water Act. Operationally, Kihei-Upcountry Maui Highway will cause a reduction in regional VMT in comparison to the No Build condition. Therefore, pollutant loading of surface waters would be less with the new highway. The Department of Transportation does not construct special drainage collection and treatment facilities for its highway facilities unless there is the possibility that a specific surface or ground water resource that requires special protection (e.g., sole source aquifer) could be adversely affected by the facility.

7. The construction of Kihei-Upcountry Maui Highway will comply with all federal, State, and local requirements relating to the discharge of water pollutants.

8. BMPs will be implemented in compliance with a NPDES permit, which is required for the construction of Kihei-Upcountry Maui Highway. The erosion-control measures listed in Section 4.17.4 of the EIS are typical BMPs employed during roadway construction. Specific BMPs cannot be developed during the current phase of project planning because detailed design has not been prepared. Specific BMPs will be developed during the design phase of the project in coordination with the SDOH during the application process for a NPDES permit. A NPDES permit is not required for the operation of the highway.

9. The discussion provided in the EIS is consistent with the requirements of the FHWA Technical Advisory (TA). The proposed project will not modify any water body, as defined in the TA, which is the reason there is no such discussion in the EIS. The use of water

resources will be limited to the construction of bridges and embankments at the Haleakala gulches that the highway will bisect. As stated in Section 2.1.1, the decision to use a bridge or culvert would depend on the estimated storm water flow in the affected gulch. These impacts will not affect any fish or wildlife.

10. Thank you for providing the "Pollution Prevention/Environmental Impact Reduction Checklist for Highways and Bridges". We have reviewed this list and believe that we fully comply with all applicable items. The project is incorporating pollution prevention features that are appropriate and reasonable to the fullest extent.

11. Thank you. A discussion of solid waste management is provided in Section 4.17.5 of the EIS.

BENJAMIN J. CAYETANO
GOVERNOR

MAJOR GENERAL EDWARD V. RICHARDSON
DIRECTOR OF CIVIL DEFENSE

ROY C. PRICE, SR.
VICE DIRECTOR OF CIVIL DEFENSE

PHONE (808) 733-4300
FAX (808) 733-4287

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

August 30, 1999

TO: Federal Highway Administration
300 Ala Moana Boulevard
P. O. Box 50206
Honolulu, Hawaii 96850

ATTN: Mr. Abraham Wong

FROM: Roy C. Price, Sr.
Vice Director of Civil Defense

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE KIHEI-UPCOUNTRY MAUI HIGHWAY, ISLAND OF MAUI, STATE OF HAWAII

We appreciate the opportunity to comment on the DEIS from the Federal Highway Administration/State of Hawaii, Department of Transportation, Kihei-Upcountry Maui Highway, County of Maui, State of Hawaii.

1 While State Civil Defense (SCD) does not have negative comments specifically directed at this draft, we do have a proposal that, whichever route is chosen, the installation of a four-inch telecommunications conduit with adequate number of hand holes be installed along one shoulder. The petition area is vulnerable to natural hazards such as earthquakes, volcanic activity, and the threat of wind and torrential rainfall associated with tropical cyclones/hurricanes. Another proposal entails that any future developers purchase and install outdoor warning sirens and that siting, design and construction of structures within the petition area address the types of natural hazards that present a threat to the lives and property of future residents/occupants of the area. Also, transportation engineers must design and construct this roadway for use as a possible emergency evacuation route.

2

3

Just as parks, schools, fire hydrants, underground/overhead utilities and sidewalks are a planned, integral part of subdivisions and industrial areas, so must mitigation measures such as early warning and emergency warning systems and evacuation routes be planned for the safety of communities.

Our State Civil Defense planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Norman Ogasawara of my staff at 733-4300.

c: Governor, State of Hawaii
c/o Office of Environmental
Quality Control
235 South Beretania Street
Honolulu, Hawaii 96813

Mr. Warren Unemori
Warren S. Unemori Engineering, Inc.
2145 Wells Street, Suite 403
Wailuku, Hawaii 96793

Mr. Roy C. Price, Sr.
State of Hawaii
Department of Defense
Office of the Director of Civil Defense
3949 Diamond Head Road
Honolulu, HI 96816-4495

1. The right-of-way for Kihei-Upcountry Maui Highway will be available for other infrastructure, such as telecommunication conduits. Please coordinate with the Department of Transportation during the project's design phase so that your specific requirements may be accommodated.

2. The suggestions to install outdoor warning sirens and to consider other location, design, and construction issues for structures in the project area are all worthwhile but beyond the enforcement ability of the Department of Transportation.

3. One of the purposes of the project is to provide additional evacuation capacity from South Maui. Kihei-Upcountry Maui Highway will be designed for use as an evacuation route.

HWY 3931

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
File:

September 28, 1999

99-183/epo

RECEIVED
OCT - 5 1999
HAWAII DIVISION

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Boulevard
P. O. Box 50206
Honolulu, Hawaii 96850

RECEIVED
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
OCT 22 11 54 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Dear Mr. Wong:

Subject: Draft Environmental Impact Statement (DEIS)
Kihei - Upcountry Maui Highway
TMK: 2-2-2: 1, 3, 4, etc.

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Control of Fugitive Dust

1 Due to the characteristics of the soil in the area, there is a significant potential for fugitive dust to be generated during grading, excavation and construction activities for this project. The arid climatic conditions and the close proximity of residential subdivisions only adds to the potential dust problems. Implementation of adequate dust control measures during all phases of construction is necessary. Construction activities must comply with the provisions of Chapter 11-60.1, Hawaii Administrative Rules, "Air Pollution Control" section 11-60.1-33 on Fugitive Dust.

The contractor should provide adequate measures to control dust from road areas and during the various phases of construction activities. These measures include, but are not limited to:

a. planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;

b. providing an adequate water source at site prior to start-up of construction activities;

c. landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;

d. controlling of dust from shoulders, project entrances, and access roads; and

e. providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities.

If you have any questions regarding fugitive dust, please contact Ms. Jill Stensrud of the Clean Air Branch at 586-4200.

Water Pollution

1. Section 401 Water Quality Certification (WQC)

   a. In a letter dated February 26, 1999, the U. S. Army Corps of Engineers (COE) indicated that based on the Environmental Assessment and a February 9, 1999 meeting, a Department of the Army permit would be required for the proposed project. The COE letter stated that the proposed project, assigned File No. 990000206, "could possibly be authorized under Nationwide Permit #14, Road Crossing."

   b. The Clean Water Branch (CWB) of the Department of Health will process the Section 401 WQC under the April 15, 1998 blanket certification procedures (File No. WQC 0000335) if the project meets all of the blanket certification requirements. The applicant would be required to submit a site-specific Best Management Practices Plan and an Applicable Monitoring and Assessment Plan for the road crossings in the proposed project.

2. A National Pollutant Discharge Elimination System (NPDES) General permit coverage is required for each of the following activities which discharge into State waters:

   a. Discharge of storm water runoff associated with construction activities, including clearing, grading, and excavation that result in the disturbance of equal to or greater than five (5) acres of total land area;

3

b. Discharge of hydrotesting water; and

c. Discharge associated with construction activity dewatering.

4

3. The applicant may be required to apply for an Individual NPDES Permit if there is any type of process wastewater discharge from the project into State waters.

The application form(s) for those discharges which need to obtain a certification, coverage, and/or permit will be provided upon request.

If you have any questions on this matter, please contact Ms. Joanna L. Seto, P.E., Engineering Section of the Clean Water Branch at 586-4309.

Noise Concerns

5

Activities associated with the construction phase of the project must comply with the Department of Health's Administrative Rules, Chapter 11-46, "Community Noise Control."

a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules as stated in Section 11-46-6(a).

b. Construction equipment and on-site vehicles requiring an exhaust of gas or air must be equipped with mufflers as stated in Section 11-46-6(b)(1)(A).

c. The contractor must comply with the requirements pertaining to construction activities as specified in the rules and the conditions issued with the permit as stated in Section 11-46-7(d)(4).

Should there be any questions on this matter, please call Mr. Jerry Haruno, Environmental Health Program Manager of the Noise, Radiation and Indoor Air Quality Branch at 586-4701.

Polluted Runoff Control

6

Proper planning, design and use of erosion control measures and management practices will substantially reduce the total volume of runoff and limit the potential impact to the coastal waters from polluted runoff. Please refer to the *Hawaii's Coastal Nonpoint Source Control Plan*, pages III-117 to III-119 for guidance on these management measures and practices for

specific project activities. To inquire about receiving a copy of this plan, please call the Coastal Zone Management Program in the Planning Office of the Department of Business and
6 Economic Development and Tourism at 587-2877 on Oahu.

The following practices are suggested to minimize erosion during construction activities:

1. Conduct grubbing and grading activities during the low rainfall months (minimum erosion potential).

2. Clear only areas essential for construction and in phases.

3. Locate potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas.

4. Protect natural vegetation with fencing, tree armoring, and retaining walls or tree wells.

5. Cover or stabilize topsoil stockpiles.

6. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drain.

7. On long or steep slopes, construct benches, terraces, or ditches at regular intervals to intercept runoff.

8. Protect areas that provide important water quality benefits and/or are environmentally sensitive ecosystems.

9. Protect water bodies and natural drainage systems by establishing streamside buffers.

10. Minimize the amount of construction time spent in any stream bed.

11. Properly dispose of sediment and debris from construction activities.

12. Replant or cover bare areas as soon as grading or construction is completed. New plantings will require soil amendments, fertilizers and temporary irrigation to become established. Use high planting and/or seeding rates to ensure rapid stand establishment. Use seeding and mulch/mats. Sodding is an alternative.

7 The following practices are suggested to remove solids and associated pollutants in runoff during and after heavy rains and/or wind:

1. Sediment basins.

2. Sediment traps.

3. Fabric filter fences.

4. Straw bale barriers.

5. Vegetative filter strips.

Any questions regarding these matters should be directed to the Polluted Runoff Control Program in the Clean Water Branch at 586-4309.

Sincerely,

GARY GILL
Deputy Director for
Environmental Health

c: CAB
CWB
NR&IAQB
OEQC
Warren S. Unemori Engineering, Inc.

Mr. Gary Gill
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

1. Fugitive dust will be generated by construction activities as stated in Section 4.17.2 of the EIS. Appropriate dust control measures will be implemented, as described in Section 4.17.2 and your letter. The level of dust control will be most stringent near residential areas and less stringent in agricultural areas far from homes and commercial areas.

2. Thank you for this information. The project will comply with all requirements of the Clean Water Act.

3. Thank you for this information. A NPDES permit will be obtained prior to the construction of Kihei-Upcountry Maui Highway.

4. The project will not generate process wastewater. An Individual NPDES Permit will not be necessary.

5. Potential noise impacts during construction are described Section 4.17.3. Since construction would normally occur during daylight hours, and since most construction will occur in isolated areas away from noise sensitive land uses, extended noise disruptions are not anticipated. A noise permit would be obtained if needed.

6. Thank you for your suggestions The project will minimize erosion during construction by implementing Best Management Practices as approved in the NPDES permit. The suggestions provided will be considered.

7. Thank you for your suggestions for controlling runoff pollution. The Department of Health will have an opportunity to review the specific BMPs proposed during your review of the NPDES permit application.

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

TIMOTHY E. JOHNS
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
JANET E. KAWELO

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

September 20, 1999

Federal Highway Administration
Attn: Mr. Abraham Wong
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Wong:

Subject: Draft Environmental Impact Statement for the Kihei-Upcountry Maui Highway, Makawao, Maui, Hawaii.

We have reviewed the above referenced draft EIS and provide the following comments:

1) Although the draft reports the presence of axis deer in the study area (sec. 3.8.2) and anticipates "The highway would increase the number of road kills, however" (sec. 4.8.2) . . . there are no measures offered to mitigate these hazards in the draft EIS.

1

2) The proposed highway alignment goes through prime axis deer habitat and we anticipate an increase of deer/vehicle strikes. State highways will need to consider appropriate means to alert drivers of deer in the area and be responsible for the recovery and disposal of all injured or dead axis deer along the highway.

3) It is also recommended that State highways seek a preliminary legal opinion on the matter of liability concerning deer/vehicle incidents to prepare for litigation actions which will arise.

2

Thank you for allowing us to comment on this proposed project. We look forward to future participation and comments of the project. Please call our Maui Branch Office, Wildlife Section at (808) 984-8100, if you have questions.

Sincerely yours,

for Michael G. Buck
Administrator

C: DOFAW, Maui District
OEQC
Warren S. Unemori Engineering, Inc.

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
54 SOUTH HIGH ST., ROOM 101
WAILUKU, HAWAII 96793-2198

September 20, 1999

MEMORANDUM

TO: Nelson L. Ayers, DOFAW Administration

FROM: John Cumming, Wildlife Biologist, Maui

A review of the Kihei Upcountry Maui Highway Draft EIS has generated the following concern.

Although the draft acknowledges the presence of Axis deer in the study area (sec. 3.8.2) and anticipates "The highway would increase the number of road kills, however" (sec. 4.8.2) no mention is made of measures to mitigate the hazard.

As all the proposed highway alternatives pass through prime Axis deer habitat there will be a dramatic increase in deer/vehicle strikes.

It is our recommendation that SDOT consider and implement all appropriate means to alert drivers of the potential of deer on the highway. SDOT must become responsible for the recovery and disposal of all injured or dead Axis deer along the highway.

It is also recommended that SDOT seek a preliminary legal opinion on the matter of liability concerning deer/vehicle incidents in preparation for defense against the inevitable claims which will arise.

Mr. Michael G. Buck
State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street
Honolulu, HI 96813

1. Section 4.8.4 of the Final EIS includes mitigation measures to lower the chance of vehicle-deer collisions. The Department of Transportation is responsible for collecting and disposing of injured or dead animals on its highways.

2. Thank you for your suggestion. A preliminary legal opinion will be sought.

Hwy 3955

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

October 28, 1999

Mr. Kazu Hayashida, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: Draft EIS for the Kihei-Upcountry Maui Highway

Thank you for the opportunity to review the subject document. We have the following comments.

1 | 1. Please evaluate whether traditional and customary gathering rights of native Hawaiians will be impacted by the project. For guidance, please refer to the attached Guidelines for Assessing Cultural Impacts prepared by the Environmental Council.

2 | 2. This project will increase the number of road kills. Please discuss and propose mitigation measures to minimize the number of roadkills.

3 | 3. To minimize visual impact, please ensure that final cut and fill slope faces will be made to blend with the surrounding landscape.

4 | 4. Please discuss the probability of encountering caves or lava tubes in the construction corridor. Please consult with the Hawaii Speleological Society on this matter.

5 | 5. Please describe mitigation measures to minimize the potential spread of alien organisms.

6 | 6. Please develop a program to increase the environmental awareness of all construction workers who will be working on this project.

7 | 7. Please evaluate all the mitigation measures described in the 1999 Final EIS for Saddle Road Improvement, Island of Hawaii and include the appropriate measures in this study.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185. Thank you.

Sincerely,

Genevieve Salmonson
Director

c: FHWA
PBQD

GUIDELINES FOR ASSESSING CULTURAL IMPACTS

Adopted by the Environmental Council, State of Hawaii
November 19, 1997

I. INTRODUCTION

It is the policy of the State of Hawaii under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making. Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, including submerged cultural resources, which support such cultural practices and beliefs.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

(1) identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua'a;

(2) identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;

(3) receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;

(4) conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;

(5) identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and

(6) assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1. A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.

2. A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.

3. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

4. Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.

5. A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.

6. A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.

7. A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.

8. An explanation of confidential information that has been withheld from public disclosure in the assessment.

9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

10. An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call us at 586-4185.

Ms. Genevieve Salmonson, Director
State of Hawaii
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

1. The project will not affect traditional or customary gathering rights of native Hawaiians. Because of the uncertainty regarding the cultural impacts of the project, a cultural impacts study was prepared after the Draft EIS (see Appendix I). The results are summarized in Section 4.10.

2. Section 4.8.4 of the Final EIS includes measures to minimize the chance of vehicle-deer collisions.

3. Details of the slope faces will be developed in the next phase of project planning. However, the design intent is for the highway to blend in with the surrounding landscape as effectively as possible.

4. Caves were encountered in the vicinity of an early U2-A alignment during the archaeological reconnaissance survey. In addition, comments have been received on the existence of caves in the vicinity of the U2-A and U2-B alignments in Kulamalu. The archaeological inventory survey of the U1,K1 alignment, the preferred alternative, did not identify any caves along this alignment.

5. Measures to control the spread alien species are now described in Section 4.8 of the Final EIS.

6. Project specifications will include environmental protection measures. The contractor, who is responsible for the actions of its workers, will be required to follow the specifications. The workers will receive training on the project's environmental protection measures.

7. Thank you for this suggestion. The mitigation measures of the Saddle Road Improvement project were reviewed and considered.

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

September 15, 1999

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, HI 96850

(EIS #334)

Re: Kihei-Upcountry Maui Highway
Draft Environmental Impact Statement

Dear Mr. Wong,

Thank you for the opportunity to comment on the Kihei-Upcountry Maui Highway Draft Environmental Impact Statement (Draft EIS). The proposed project is being designed to satisfy the following six purposes and needs:

- improve roadway system linkage;
- support economic development;
- address existing intersection capacity deficiencies;
- satisfy increased transportation demand;
- promote the National interest as expressed through legislative directive; and
- increase coastal evacuation capacity.

According to the Draft EIS, a total of eight (8) combinations of two (2) Kihei and four (4) Upcountry terminus options are being considered as alternatives. All of the alternative alignments, combined, could potentially destroy 15 prehistoric and post contact archaeological sites because they are within the alignments' 120 m (400 feet) archaeological analysis area.

Also, the U.S. Fish and Wildlife Service (Service) noted alternatives using the K2 segment pass within 1.5 km (1 mile) of Pu'u o Kali, one of the few remaining examples of dryland forest in the State, which may contain three federally endangered plants and rare plant species.

The service also reported that the alternatives that use the U2-A, B segment pass near a reservoir which may be used by migratory or endangered waterbirds.

In addition, the botanical field surveys conducted on January, February and September of 1997, identified three small clusters of the endangered Ko'oloa'ula that were found between the 210 m and 230 m of the U2-A, B segment pass.

As stated in the draft EIS, "Implementing the Kihei-Upcountry Maui Highway project would require an irreversible commitment of natural, physical, human, and fiscal; resources, as follows:

- archaeological resources would be damaged, destroyed or lost in constructing the project."

It also mentions that the commitment of these resources would be appropriate because the benefits from the completed Kihei-Upcountry Maui Highway are anticipated to outweigh the commitment of the resources.

1 OHA is opposed to any potential damage to the prehistoric archaeological sites, natural resources, and endangered and rare plant species that the construction of the proposed highway will create.

According to OHA's Master Plan, OHA is mandated, "To assist and encourage the conservation and culturally responsive management of historic and culturally significant Hawaiian sites and natural resources to prevent further destruction."

2 Moreover, we suggest that you require the preparation of a cultural impact statement for the proposed project area. We further suggest that the cultural expert chosen to work on the statement be someone recognized within the Hawaiian community for his/her cultural expertise. The concerns of the community will not be addressed if the cultural impact statement contains information and analysis provided solely by a person whose knowledge of Hawaiian culture is limited to a study of archaeology or anthropology.

3 Finally, we request that OHA be a required consultant to the project, pursuant to Section 106 of the National Historic Preservation Act.

OHA anticipates the Final EIS for our review and further comment on the Preferred Alternative of the project.

If you have any questions, please call Mark A. Mararagan – Policy Analyst at 594-1945.

Sincerely,

Colin Kippen
Deputy Administrator

C. Sebastian Aloot
Hawaiian Rights Division Director

cc: Board of Trustees
Office of Environmental Quality Control (OEQC)
Maui CRS
Mr. Warren S. Unemori

Mr. Colin Kippen
Deputy Administrator
Office of Hawaiian Affairs
711 Kapiolani Blvd., Suite 500
Honolulu, HI 96813

1. The U1,K1 alignment, the preferred alternative, will result in an "adverse effect" on three temporary habitation sites. A memorandum of agreement (MOA), pursuant to Section 106 of the National Historic Preservation Act, has been prepared, and will specify data recovery measures for these sites. The Office of Hawaiian Affairs was asked to participate in the MOA process. The project will not result in the damage, destruction, or loss of unique or valuable natural resources, or any threatened, endangered or rare species.

2. Because of the uncertainty regarding the cultural impacts of the project, a cultural impacts study was prepared after the Draft EIS (see Appendix I). The results are summarized in Section 4.10.

3. The Office of Hawaiian Affairs has been consulted in accordance with the Section 106 regulations throughout the planning phase of this project.

University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
2550 Campus Road · Crawford 317 · Honolulu, Hawai'i 96822
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RE: 0694
October 28, 1999

Mr. Abraham Wong
Division Administrator
Federal Highway Administration
P. O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Mr. Kazu Hayashida
Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Gentlemen,

Draft Environmental Impact Assessment
Kihei-Upcountry Maui Highway
County of Maui, Hawaii

The referenced project proposes construction of a 2-lane limited access highway linking the Kihei-Makena area with Upcountry Maui. Project goals include: (1) to improve the roadway system linkages between the two areas and thus reduce distance, travel time and fuel consumption; (2) to stimulate economic development by providing greater accessibility between science and technology centers, between tourist accomodations and visitor attractions, and by funneling federal funds into the local economy through highway construction; (3) to address existing intersection capacity deficiencies by relieving traffic; (4) to satisfy a projected increased traffic demand; (5) to promote national interest as expressed through legislative directive by improving the connection between defense related activities in Kihei and Science City on Haleakala; and (6) to increase the coastal evacuation capacity by providing an alternate route out of Kihei in the event of an emergency. The Draft Environmental Impact Statement (DEIS) examines eight possible alignments, some of which will run through agricultural lands and/or affect traffic patterns at the termini and represent issues to be considered carefully. This review was prepared with the assistance of Linda Cox, Agricultural and Resource Economics; Richard Mayer, Geography and Economics, Maui Community College; and Sherri Hiraoka, Environmental Center.

General Comments

In general, our reviewers found the Draft EIS to be fairly complete and systematic in its approach, although at times, the style seemed biased towards support of the project. Several specific issues were brought up that we believe deserve your further consideration.

Relationship of the Proposed Action to Governmental Plans, Policies and Controls

1 Hawaii State Plan. The DEIS states that "The No Build alternative would not support the goals and objectives of the Hawaii State Plan." (page 4-6) but there is no reference as to how the No Build alternative would violate the State Plan.

2 County of Maui General Plan. The DEIS fails to take into account the County of Maui General Plan 1990 (as amended by Ordinance No. 2234 on April 23, 1993) which states as transportation objective #3: "To develop...land use planning that is less dependent on the automobile as its primary mode of moving people." Policies offered to reach this objective include:

"c. Direct economic development toward existing communities in order to minimize employee commuting and foster a healthy job/housing balance."

"f. Support and expand programs to reduce automobile dependent employee commuting for hotel, commercial and industrial projects."

The project does not appear to comply with these policies and objectives.

3 Community Plans. Land use descriptions in the DEIS noted that unplanned development in the Upcountry area is not expected due to the lack of water resources (page 4-3). There are also no expectations for improvements in the near future to accommodate unplanned development due to high cost (page 4-4). The Maui County Board of Water Supply is required to follow community plans, which in this case designates very little additional growth. However, it is likely that the proposed highway will make development in the Upcountry area more attractive. This will inevitably increase pressure to modify the Community Plans to allow for such growth, and make the higher cost of water provisions in the area less of a deterrent. The Final EIS should acknowledge the long-term development stimulation, which is a likely indirect impact of the proposed highway, and address the changes needed in the Plans as well as any mechanisms necessary for such changes.

Farmland

4 The Final EIS should provide specific information such as the total acreage of each alignment, as well as the amount of agricultural land that would be removed from production within the 162-foot minimum right of way (page 2-9) and at the intersections. Land Quality
5 ratings should also be included for those lands used for sugar, pineapple, or vegetable crops.
6 Also, disruptions to the daily activities of the farms that would be affected by each alternative should be discussed and specific mitigative measures suggested.

Socioeconomic

7 Public Facilities and Services. Alternate U-2A is in close proximity to King Kekaulike High School which could result in safety concerns through increased traffic in an area where many students walk to school. The Final EIS should consider this problem of school-related traffic and safety and offer mitigation measures.

8 Crime. There is community concern that the high crime rates of Kihei will spread to Upcountry due to the accessibility provided by the proposed highway. Differing crime rates are noted on page 3-24, but no mention of the possible effect on crime rates is made.

Infrastructure

9 Traffic Patterns. The DEIS discusses relief of traffic feeding into the proposed highway from various roads and highways including Dairy Road (page 4-24). It has been suggested that Dairy Road is not a common route taken by those traveling between Upcountry and Kihei, as Hansen Road is shorter and faster. Hansen Road will be realigned in the near future as indicated by the Kahului Airport Final EIS.

10 One of the purposes of the project is to promote the "national interest" by "providing an improved connection between defense-related activities at the Maui Research and Technology (R & T) Park in Kihei and Science City at the Haleakala summit."(page S-5) There is a lack of daily traffic volume figures specifically between the Maui R & T Park and the summit observatories to allow for evaluation of the need for these improvements.

11 The final EIS should discuss the impact on traffic that each of the intersections and turn-
12 offs will have along the various alignments. Traffic lights, potential grade separations, acceleration and deceleration lanes, and other traffic control elements should also be considered.

13 The summary of the proposed action states posted speed limits in urban areas will be 70 km/h (45 mph) (page S-8). This was seen as unsafe in areas that pass near schools, parks and shopping centers. The use of the 45 mph speed also exaggerates the time that would be saved by implementation of the proposed highway.

14 Our reviewers considered the dismissal of the "enhanced widening" alternative during the tier 1 screening a poor decision. Enhanced widening was rejected as it "would not establish a roadway linkage between Kihei and the Upcountry area." (page 2-28) However it was noted that "establish a roadway linkage" was not one of the purposes of the project. It seems that enhanced widening would serve one of the purposes of the project: "improve roadway system linkage" (page S-3).

15 The additional dismissal of the Transportation Systems Management (TSM) alternative was seen as another poor decision. "Non-satisfaction with project goals" (page 2-28) was given as justification for elimination of TSM as an alternative, as it did not meet the goal of establishing a roadway linkage between Kihei and Upcountry Maui. However, the Federal Government requires that TSM be investigated as an alternative to a highway and not be eliminated in the screening because it is not a highway.

16 Our reviewers noted high accident statistics for the present two-lane, undivided Mokulele Highway and for Dairy Road (page 3-30), and they expressed concern over the similarity in design of the proposed highway with these roads. To avoid the dangers associated with an undivided highway, we suggest that the Final EIS evaluate a divided highway with one lane on each side of the divide with the provision for future additional lanes. Failure to consider a divided highway should lead to the inclusion of a comparison of the probable accident statistics

16 of an undivided highway with a divided highway in the "no build", enhanced widening alternative, and accident costs included in a cost-benefit analysis.

Our reviewers expressed concern over increased traffic hazards for areas near the alignment termini due to additional vehicles taking shortcuts to and from Haleakala Crater using Pulehuiki Road, Kimo Drive, Lower Kula Road, Holopuni, Pulehu, and Omaopio roads. These streets are of concern as they are narrow, winding, and steep, and will be traversed after vehicles
17 have already descended 22 miles down Crater Road when returning from Haleakala Crater. Of particular concern is Pulehuiki Road and/or Kimo Drive because of steep, sharp turns which provide little warning for oncoming traffic. The use of signs (page 4-32) is not likely to be an adequate mitigation measure of the U-3 terminus.

Bicycle and Pedestrian Facilities The DEIS suggests the possibility of bicycle tour companies modifying their routes to utilize the proposed highway (page 4-28). If this were to occur, the effect on road traffic to and from the highway may be affected, especially considering
18 that the bicycle tours operate during school traffic. It is also the procedure of bicycle tours to use a wide van to trail the cyclists and thus protect them by blocking traffic, rather than use a bike lane as suggested by the DEIS. These issues should be addressed in the Final EIS.

Noise

Noise levels at the U-2B alternative were not discussed (page 4-38). It was suggested that the U-2B alternative will increase noise levels near Kamehameha schools, a proposed park, a proposed shopping center, and a proposed elderly housing project. These noise levels are
19 expected to be disruptive, since it is likely that tour buses will be making these trips between 3:30 AM and 5:00 AM to view the Haleakala sunrise. Application of air brakes on the return trip is also expected to increase noise levels.

Ecosystems

Flora The use of signs to warn against fires is not seen as a sufficient mitigation measure to the increased fire potential brought on by the project (page 4-47). Inaccessibility and lack of
20 water resources could pose great risk to the area. This problem should be further addressed in the Final EIS.

Cost-Benefit Analysis

21 This section should have contained a cost-benefit analysis which included information on the methodology, assumptions, and data used, as well as a comparison of the alternatives to the "enhanced widening" (EWR) alternative. A trip analysis including the number, origin, and
22 direction of trips being generated for all alternatives should also be included. Also, a discussion of the "short term losses and approaches for minimizing adverse impacts" would be useful in
23 evaluating costs.

The DEIS references traffic only at the at the various highway termini without discussing the design of these intersections. The Final EIS should include an assessment of the total costs
24 of the various alignments, including intersections, street lights, and traffic mitigation measures to validate the selection of the preferred alignment.

Several questions were raised as to the funding of the project:

25 (1) Will the State build or improve highways with its contribution should the "no build" scenario be adopted, and if so, which projects would be considered?

26 (2) Will the State or the Federal Government be responsible for any cost-overruns?

27 (3) Who will be responsible for the highway's maintenance?

Cumulative Impacts

28 A more comprehensive discussion of the cumulative impacts of the project should be included. The acreage, quality and effects of removing prime agricultural lands from productive use as well as for other potential projects should be included.

Summary and Recommendations

29 This DEIS provides valuable information towards making an informed selection of the most favorable alternative. However, the inadequacies that are outlined above indicate that a draft final EIS should be prepared once the preferred route is selected and the exact locations and right-of-ways are determined to correct the deficiencies noted.

Thank you for the opportunity to comment on this Draft EIS

Sincerely,

John T. Harrison
Environmental Coordinator

cc: OEQC
Linda Cox
Richard Mayer
Sherri Hiraoka

Mr. John T. Harrison
Environmental Coordinator
University of Hawaii at Manoa
Environmental Center
2550 Campus Road, Crawford 317
Honolulu, HI 96822

1. The State Plan includes objectives and policies that seek to enhance the public welfare and economic development by providing needed infrastructure, such as good transportation systems, while still protecting the natural and social environment. It is possible for the No Build alternative to not support these objectives, while not specifically violating them. The EIS does not state that the No Build alternative would violate the State Plan.

2. The three transportation objectives of the County of Maui General Plan are now described in Section 3.1.4.2a of the Final EIS. In general, the Department of Transportation supports the General Plan's transportation objective to use land use planning to reduce dependence on the automobile although this specific project may not be consistent with this objective. However, the Department believes this objective is not intended to be a moratorium on new roadway construction. In addition, the proposed project is consistent with the other two objectives (see Section 4.1.4.2a of the Final EIS). Kihei-Upcountry Maui Highway could be used as a transit link between Kihei and Upcountry if one is established.

3. The amount and pace of residential development in Upcountry will continue to be controlled by water availability, not transportation infrastructure. The EIS acknowledges (see Section 4.1.1) that highway projects can catalyze urban development because they often remove an impediment to growth, access or insufficient transportation capacity. In this specific case, however, the urban growth potential of Upcountry is not limited by transportation factors, with or without the project. Despite the recent development of a well in Haiku, which is being partially used for the Kulamalu development, Upcountry will continue to rely on surface water resources that are highly vulnerable to drought conditions. Therefore, as stated in current planning documents, the County is unlikely to allow substantial urban development in Upcountry despite the existence of Kihei-Upcountry Maui Highway.

4. Section 2.1.2 contains information on the real estate requirements of each alternative. Section 4.2.1 of the Final EIS now includes information on the estimated acreage taken from active agricultural fields.

5. If the comment is referring to the Land Evaluation and Site Assessment scores, which are required under the Farmland Protection Policy Act, such scores are not disaggregated by type of crop. However, the Natural Resources Conservation Service considers the agricultural value of the land when they provide "total site assessment points", Part V of Form AD-1006. The completed Form AD-1006 for all alternative alignments is in Appendix C of the EIS.

6. Section 4.2.1 of the EIS includes discussion of potential interference with farming activities, and Section 4.2.4 contains measures to mitigate such impacts.

7. The U2-A terminus is not included in the preferred alternative. However, if a U2-A alternative had been identified as the preferred alternative, the Five Trees intersection would be modified to include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

8. As described in Section 4.3.3 of the EIS, the Upcountry police officers could not speculate on whether the proposed highway would cause an increase in crime rates. Absent an opinion from the police, it is difficult to provide an objective analysis of this concern.

9. There are no plans to realign Hansen Road. The planned airport road would be a new road running parallel to Dairy Road with an interchange on Hana Highway.

10. The present traffic volumes between the Maui R&T Park and Science City are relatively small, but these volumes could increase as both facilities are developed. Nonetheless, there are other purposes and needs for the project beyond the legislative directive to provide improved mobility between defense-related activities at the Maui R&T Park and Science, as described in detail in Chapter 2.

11. Section 4.4.1.2 of the EIS provides a "level of service" analysis disclosing expected traffic conditions for each alternative.

12. The termini intersections will likely warrant traffic signals, and will include turning, acceleration and deceleration lanes. Several concepts for grade-separated intersections (i.e., interchanges) were considered for the U1 terminus, as described in Section 2.1.2 of the Final EIS. However, based on presently projected traffic volumes, the costs of these options are not justified considering their marginal benefits in relation to a signalized intersection, which costs substantially less.

13. The planned urban 70 km/h (45 mph) speed limit is normal for a limited access facility in urban areas. Most of the highway will have a speed limit of 90 km/h (55 mph). Therefore, the estimated time savings provided in the EIS is not an exaggeration. Adjustments to the speed limits may be made during the design phase if more detailed study shows that changes are warranted.

14. The Enhanced Widening of Existing Roadways (EWR) alternative was eliminated from further study because it would require construction over a 32 km (20 miles) distance, and was estimated to cost $78 million. This could not be justified when a highway directly linking Upcountry and Kihei would only be 15 to 18 km (9 to 11 miles) long, and would cost roughly the same, but would perform substantially better in addressing the system linkage and other purposes and needs.

15. The main purpose of the project is to establish a roadway link between Kihei and Upcountry Maui. Considering an alternative that would not address this purpose at an EIS-level of detail would not be an appropriate use of time and resources. The EIS process allows for the early screening of alternatives that do not satisfy the purposes of the project.

16. Kihei-Upcountry Maui Highway, in its initial two-lane undivided configuration, would be more similar to Haleakala or Hana Highway rather than Dairy Road or the present Mokulele Highway. (Mokulele Highway will be changed to a four-lane divided configuration, which will substantially reduce the number of incidents on this roadway.) The number of incidents on Haleakala and Hana Highways is not high considering their relatively high traffic volumes (see Section 3.4.1.2). Kihei-Upcountry Maui Highway will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards.

17. A U3 terminus is not included in the preferred alternative. Therefore, the inappropriate use (i.e., shortcuts to and from Haleakala Crater) of Pulehuiki Road, Kimo Drive, and Lower Kula Road will not occur. However, since the U1,K1 Alternative was identified as the preferred alternative, the EIS acknowledges that some motorists will use Holopuni, Pulehu and Omaopio Roads inappropriately as shortcuts because of the distance between Kula and the U1 terminus (see Section 4.4.1). Closing access between these roads and Kihei-Upcountry Maui Highway is not an option because of the burden this would place on farmers.

18. Kihei-Upcountry Maui Highway will have adequate shoulders for bicyclists. Bicycle tour operators will not be allowed to conduct their tours on Kihei-Upcountry Maui Highway in the manner described in the comment because it is unlikely that the van protecting the cyclists would be able to maintain the minimum speed required to use the highway.

19. A U2-B terminus is not included in the preferred alternative. Noise impacts, as defined by the Department of Transportation Noise Analysis and Abatement Policy (June 1997), were not predicted at the Kamehameha High School site under the U2-B alternative. Therefore, even if this alternative were to have been identified as the preferred alternative, noise mitigation would not have to be considered because of the absence of a noise impact.

20. In addition to signage warning motorists of fire hazards, the Department of Transportation will conduct regular maintenance to control weed growth along highway shoulders. While the Kihei-Upcountry Maui Highway will increase access to the area, such that the risk of man-made hazards may increase, the highway would simultaneously decrease the damage from fires because it would improve the accessibility of water and fire-fighting resources to the dry forest areas. The preferred alternative, the U1,K1 alignment, traverses agricultural fields, and therefore, has access to water.

21. Information about the methodology, assumptions and data used for the benefit-cost (BC) analysis is now provided in the appendix of the "Alternatives Analysis Report" (see Appendix E). As described in Section 2.2.1, all build alternatives that underwent the BC analysis were compared against the No Build alternative. For this analysis, it is not appropriate to compare the build alternatives with the "Enhanced Widening" (EWR) alternative, another build alternative. A build alternative is not an appropriate basis of

comparison for another build alternative in a BC analysis. The EWR alternative is estimated to cost $78 million.

22. The information requested was not used in BC analysis for the screening of early alternatives because the intention of the screening was to eliminate alternatives that would be extremely unlikely to be identified as the preferred alternative, and therefore, should not be evaluated in detail in the Draft EIS. For this BC analysis, only a very low BC ratio would fail to pass this criterion.

23. Chapter four of the EIS contains information on the "short term losses and approaches for minimizing adverse impacts."

24. Section 2.1.2 states that the highway's termini intersections will be designed with adequate channelization (e.g., turning, deceleration, acceleration lanes) to handle projected traffic volumes. Detailed intersection designs will be prepared for each intersection during the design phase. The cost estimates of the alternatives include the elements listed above.

25. The State Department of Transportation will move ahead with other planned roadway projects on Maui, even if the No Build scenario were selected. For example, improvements to Haleakala and Mokulele Highways are already moving forward.

26. Financial responsibility for an overrun depends on the reason for the overrun. For some categories of overrun, the Department of Transportation and the Federal Highway Administration would share the burden.

27. The State Department of Transportation will be responsible for highway maintenance.

28. The level of detail in Section 4.15 of the EIS, Cumulative Impacts, is appropriate for this stage of decision-making. Additional detail would not change the conclusions of this section.

29. The commenter may be referring to a Supplemental Draft EIS, which would be appropriate if the alternatives or preferred alternative change substantially from those considered in the Draft EIS. A Supplemental Draft EIS may be warranted when a completely new alignment is considered. Since the preferred alternative (U1,K1) was considered in the Draft EIS, a Supplemental Draft EIS is not warranted. The additional information included in the Final

EIS addresses the comments sufficiently for decision-making purposes and this stage of project planning.

John Min's ✓

AMES "KIMO" APANA
MAYOR

OFFICE OF THE MAYOR
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'99 SEP 23 A9:55

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

September 22, 1999

VIA FACSIMILE: 541-2704

Mr. Abraham Wong
Division Administrator
Federal Highway Administration
P. O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Dear Mr. Wong:

RE: Kihei-Upcountry Maui Highway, County of Maui, Hawaii; Draft Environmental Impact Statement, July 1999; Department of Transportation, State of Hawaii and Federal Highway Administration, U.S. Department of Transportation

I am taking this means to comment on the subject Draft Environmental Impact Statement and to clarify any discrepancies as to the position of the Maui County Administration on the planned Kihei-Upcountry Highway Project. Please consider the technical comments provided independently by other County agencies. However, insofar as a preferred alignment, the Maui County Administration recommends that the alignment for the proposed highway be the Haliimaile Road/Haleakala Highway Junction to Ka Ono Ulu Street alternative (also referred to as Alignment U1 - K1).

1 This recommendation is supported by policies in the adopted community plans for the regions of Makawao-Pukalani-Kula and Kihei-Makena. These community plans prescribe planning goals, objectives, policies and implementation considerations to guide decision-making in the regions through the year 2010. The community plans were adopted into law and are the official County policy guidelines for long-range planning actions.

- The Makawao-Pukalani-Kula Community Plan (Ordinance No. 2510 effective on July 23, 1996) supports the Kihei-Upcountry Highway as follows:

  "The proposed highway between Kihei and the Upcountry region is significant in terms of its land use and transportation impacts. The 'no-build' alternative is the preferred option, but it is recognized that the selection of an alignment must consider the growth inducing impacts to the region's agriculture, rural character and open spaces. The need to maintain the unique Upcountry ambiance is an essential parameter in analyzing alternative routing schemes. Recognizing that the evaluation of alternatives should weigh transportation costs and benefits as well as community and land use impacts it is recommended that, if built, the highway's Upcountry terminus intersect Haleakala Highway in the vicinity of Hali'imaile Road."

- The Kihei-Makena Community Plan (Ordinance No. 2641 effective on March 6, 1998) supports the Upcountry transportation connection as follows:

  "The need to provide a transportation link to the Upcountry area has been identified for some time. This would result in saving valuable commuter time between the primarily residential area of Upcountry and job centers within the Kihei region. Choosing the optimal route for this link will involve consideration of positive and negative impacts to both regions. The focus should be on improving transportation services for island residents; thus the route should minimize travel times for the maximum number of island residents."

In addition to consistency with policies in the County's adopted community plans, the recommended Alignment U1 - K1 reduces impacts on private and public school facilities, meets preferred engineering criteria for slope, is less intrusive with respect to archaeological sites, and is at the lower end of the cost estimates in comparison with other alternative alignments.

In conclusion, this highway is needed to improve traffic conditions and will benefit the residents of the Upcountry and South Maui regions of Maui and the community at large. The proposed highway would also provide an improved connection between defense-related activities at the Maui Research and Technology Park in Kihei and Science City at the summit of Mt. Haleakala.

We appreciate the opportunity to comment on this important project and respectfully request your consideration of our recommended alignment. Please be assured that we are strongly committed to advancing this project forward.

Should you have any questions, please contact either myself or Mr. Calvin Nemoto, Senior Executive Assistant. Again, thank you for your support and assistance.

Sincerely yours,

JAMES "KIMO" APANA
Mayor, County of Maui

JA:JEM:jso
c: Grant Chun, Managing Director
Calvin Nemoto, Senior Executive Assistant
John E. Min, Planning Director
Charles Jencks, Director, Department of Public Works and Waste Management
Floyd Miyazono, Director, Department of Parks and Recreation
Rosalyn Baker, Economic Development Coordinator
Alice Lee, Director, Department of Housing and Human Concerns
Patrick Nitta, Director, Department of Finance
James Takayesu, Corporation Counsel
Thomas Phillips, Chief of Police
Clayton Ishikawa, Fire Chief
David Craddick, Director, Department of Water Supply
p:\letter\75

The Honorable James "Kimo" Apana
Mayor, County of Maui
200 South High Street
Wailuku, HI 96793-2155

1. Thank you for your comment. The U1,K1 alignment has been identified as the preferred alternative, in conformance with your input.

HWY 3952

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

ELIZABETH D. MENOR
Deputy Director

(808) 270-7230
FAX (808) 270-7934

September 30, 1999

Mr. Abraham Wong, Division Administrator
Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

RE: Kihei Upcountry Maui Highway
Draft Environmental Impact Statement Comments

Dear Mr. Wong:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the Kihei Upcountry Maui Highway. At this time we have no comment to offer regarding the overall intent of the Impact Statement.

1 However, contained in the DEIS are several minor inaccuracies or typographical errors. Chapter Three, Page 56, Paragraph 3.11 makes a statement about the Kihei Aquatic and Recreation Center. The County of Maui recently completed a Community Center and Aquatic Center at this location. A Recreation Center was not included in this development. Page 54, Chapter Four, Paragraph 4.11, also makes a statement about the new Kihei Aquatic and Recreation Center. On Page Three of
2 Chapter Seven, the Mayor of Maui County is listed as James Akana. It should read James Apana.

Thank you for your attention to these matters. Should you have any questions or need of further comment, please call me, or Patrick Matsui, Chief of Parks Planning and Development at 808-270-7387.

Sincerely,

Floyd S. Miyazono
Director

FSM:PTM:rh

c: Patrick Matsui, Chief of Parks Planning & Development
Warren S. Unemori Engineering
Office of Environmental Quality Control

Mr. Floyd S. Miyazono, Director
Department of Parks and Recreation
County of Maui
1580-C Kaahumanu Ave.
Wailuku, HI 96793

1. Thank you for this information. Sections 3.11 and 4.11 have been corrected.

2. The error has been corrected in the Final EIS.

JAMES "KIMO" APANA
MAYOR

OUR REFERENCE

YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

THOMAS M. PHILLIPS
CHIEF OF POLICE

CHARLES H.P. HALL
DEPUTY CHIEF OF POLICE

September 17, 1999

COPY

Mr. Abraham Wong
Division Administrator
Federal Highway Administration
300 Ala Moana Boulevard
P. O. Box 50206
Honolulu, Hawaii 96850

RECEIVED
SEP 22 1999
WARREN S. UNEMORI ENGINEERING, INC.

Dear Mr. Wong:

SUBJECT: Kihei-Upcountry Maui Highway

We have received your Draft Environmental Impact Statement (DEIS) for the above referenced subject.

Thank you for giving us the opportunity to review the Draft EIS. Enclosed is our comments.

Very truly yours,

Assistant Chief Robert Tam Ho
for: THOMAS M. PHILLIPS
Chief of Police

Enclosure

xc: John Min, Planning Department
Office of Environmental Quality Control
Mr. Warren S. Unemori

TO : THOMAS PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI

VIA : CHANNELS

FROM : BRADNEY HICKLE, POLICE OFFICER III, KIHEI CPO'S

SUBJECT : KIHEI/UPCOUNTRY HIGHWAY DRAFT

Sirs, the following is my recommendations and comments regarding the proposed Kihei/ Upcountry Highways.

One point of interest on the draft that I would like to address is item S.2.6 Coastal Evacuation Capacity, page S-6.

1 The Draft for the Environmental Impact Statement points out the Kihei-Makena urban areas are vulnerable to coastal hazards such as tsunami and tropical storms. It further states, the only routes out of these areas are North Kihei Road and Mokulele Highway. This statement is not entirely true. First of all it doesn't even mention the Wailea area which includes the Maui Meadows community. In the event of a tsunami or tropical storm we have observed in the past North Kihei Road being closed due to debris and the ocean washing out the roadway. In reality this leaves us with only one evacuation route, Mokulele Highway for the entire Kihei/Makena/Wailea areas.

2 We have also observed in the past unnatural disasters such as fire and fatal motor vehicle accidents which have closed Piilani Highway at various locations for hours causing the South Kihei/Makena and Wailea traffic to be rerouted to South Kihei Road. These areas will already be congested in the event of a natural or unnatural disaster. We have observed that traffic during these incidents have slowed to a crawl thus endangering many lives in the Southern most areas of Kihei as well as Wailea and Makena.

3 With this in mind, I would suggest that Wailea Iki Drive be extended to meet the Up-Country highway rather than Ke Alii Alanui road which already has it's share of traffic problems due to Kamalii Elementary School and Kanakanui road. In the event of a disaster, parents will undoubtedly be rushing to the school to pick up their children which will add chaos to traffic flowing to this area. On the other hand, if Wailea Iki Drive (which is an existing four lane roadway) were to be extended up and around the east side of Maui Meadows. The Wailea, Makena and Maui Meadows residents as well as the hotel workers and island guests would have a clear route of evacuation to the Upcountry area without adding to existing or future problems involving traffic flow on South Kihei Road and Piilani Highway.

Respectfully Submitted,
Brad Hickle E-9966
09/13/99 1230 hours

Mr. Thomas M. Phillips
Chief of Police
Police Department
County of Maui
55 Mahalani Street
Wailuku, HI 96793

1. Thank you for this information on the inadequacy of North Kihei Road as an evacuation route. There was no intention to ignore the evacuation needs of Wailea. When the EIS states "Kihei-Makena", it includes Wailea. The comment reinforces the need for South Maui to have increased evacuation capacity.

2. Thank you for this information. Depending on the location of the traffic incident or fire, Kihei-Upcountry Maui Highway would help mitigate the resulting traffic delays.

3. A Kihei terminus at Wailea Iki Drive was not considered. The suggested alternative is similar to Alternative 7 (see Section 2.2), which was eliminated because it had a poor benefit-cost ratio. Like Alternative 7, the suggested alternative's Kihei terminus would be located too far south to serve enough motorists to justify the cost of the highway under normal situations.

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
JEAN L. OSHITA
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PA
2.4850

December 17, 2001

Aloha,

Subject: Kihei-Upcountry Maui Highway

Thank you for your comments on the Draft Environmental Impact Statement (EIS) for the proposed Kihei-Upcountry Maui Highway project. We appreciate your time and effort in providing these comments. We entered the planning process for this project in an open fashion and the amount of civic involvement has been truly overwhelming.

We have identified the U1, K1 alignment as the preferred alternative. The Upcountry terminus of this alignment would be at the intersection of Haleakala Highway/Haliimaile Road, and the Kihei terminus would be at the intersection of Piilani Highway/Kaonoulu Street. This decision was reached after full consideration of the project's transportation benefits (e.g., travel time savings, travel markets served), prior community planning processes, environmental and social impacts, construction cost, and the hundreds of comments generated through an extensive public review process.

The next step in the project development process is to begin the design phase. Several aspects of the U1, K1 alternative will receive more attention in the next phase of project planning, including mitigation to lessen the impact on agricultural areas, and other particulars, such as details on future intersections.

This letter transmits our responses to your comments on the Draft EIS whether they were provided in letters, pre-printed comment forms and/or oral comments at one or more of the project's three public hearings. Copies of your written statements are attached, and specific comments numbered. Responses to these comments are numbered to match the comment. If oral comments were provided, your comments were paraphrased for brevity. These comments are immediately followed by responses.

We will distribute the Final EIS for the project upon approval be the Federal Highway Administration. Copies of all Draft EIS comments will be part of the Final EIS, including transcripts of the oral comments provided at the public hearings. We will send you a CD-ROM copy of the Final EIS. If you prefer a hard copy of the Final EIS, please fill out the enclosed card and mail to:

Highways Planning Branch
Advance Planning Section
869 Punchbowl Street, Room 301
Honolulu, Hawaii 96813

Attention: Wayne Kawahara

Again, thank you for participating in our environmental review process. If you have any questions, please contact Wayne Kawahara of our Highways Planning Branch, Advance Planning Section at (808) 587-6357 or, you can contact him using Maui's toll-free voice access number 984-2400, extension 76357.

Very truly yours,

BRIAN K. MINAAI
Director of Transportation

Enclosure

Maui Pineapple Company, Ltd.
Haliimaile Division

September 20, 1999

Testimony for
Kihei-Upcountry Maui Highway Project No. HDPS-9203(1) Hearing
Kihei Community Complex and Aquatics Center - September 29
Mayor Hannibal Tavares Community Center - September 30
by L. Douglas MacCluer

Mr. Kazu Hayashida
Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hayashida:

1 This is my written testimony regarding the Kihei-Upcountry Maui Highway Project. Since the original environmental impact statement was presented to the public, the new Kamehameha School has opened in the Upcountry area across the street from King Kekaulike High School. The King Kekaulike High School now has the twelfth grade added, which means that we have two schools that are growing and creating traffic problems in the Five-Tree area. When school starts in the morning, particularly on rainy days, traffic is terrible in the area proposed for U2-A and U2-B. These two proposed highway alignments will destroy much prime ag land, will create additional traffic problems, and provide few additional improvements over the U1 alignment. They should be discarded.

2 The alternative U1 terminates at Haliimaile Road. This gives us the opportunity to add a stop signal at this very dangerous intersection, and take traffic from Haliimaile Road and Upcountry to Kihei. Currently, it is almost impossible to make a left turn from Haliimaile Road in the morning. A&B is planning a subdivision in Haliimaile that will add to the traffic considerably. It is my opinion that the Kihei-Upcountry Highway should terminate at Haliimaile Road rather than at Five-Tree junction.

We appreciate your consideration.

Sincerely,

Doug MacCluer

L. Douglas MacCluer
Plantation Manager

/jlt

870 Haliimaile Road • Haliimaile, Maui, Hawaii 96768-9768 • Telephone (808) 572-7211 • Fax (808) 572-8229

Mr. L. Douglas MacCluer
Plantation Manager
Maui Pineapple Company, Ltd.
Haliimaile Division
870 Haliimaile Road
Haliimaile, HI 96768-9768

1. A U2-A or U2-B termini is not included in the preferred alternative. Nevertheless, the traffic volumes projected in the vicinity of the U2-A or U2-B termini were not anticipated to cause problems at the high school (see Section 4.4.1). Although these alternatives would have bisected two pineapple fields, in terms of total acreage take of active agricultural fields, they would have had less impact than the U1 alternatives.

2. The U1,K1 alignment was identified as the preferred alternative. Its Upcountry terminus at the Haleakala Highway / Haliimaile Road intersection will be signalized and include turning, acceleration, and deceleration lanes, which will enhance the safety of this intersection. The preferred alternative will enhance mobility for future residents of the A&B subdivision in Haliimaile.

Hwy 3447

Sept. 22, 1999

To: Kazu Hayoshida
Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

From: Mrs. Margaret King Iremen
RR2 Box 83-A
Kula, HI 96790

Re: Kihei-Upcountry Road

NO Do not build a new inadequate road anywhere on Maui

SAY "NO" To Federal Government for promises of funding

1 DO enlarge the major roads already in existence between Kihei, Kahului Up-Country. Presently, all are unsafe!

DO Train highway construction workers into positions which are really needed To keep them employed in lieu of new un-needed construction.

Sincerely
Margaret King

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DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

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STATE DEPARTMENT OF TRANSPORTATION
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HIGHWAYS DIVISION

Mrs. Margaret King Lemen
RR2 Box 83-A
Kula, HI 96790

1. The Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway regardless of whether Kihei-Upcountry Maui Highway is constructed. However, none of these widening projects addresses the purposes and needs of Kihei-Upcountry Maui Highway.

HWY 3450

TESTIMONEY

KAHU(REVERAND)CHARLES KAULUWEHI MAXWELL SR.
157 ALEA PLACE PUKALANI, MAUI, Hawaii
(808) 572-8038 Fax (808)572 0602 e-mail kale@maui.net

Aloha members of this committee,

My name is Kahu Charles Kauluwehi Maxwell Sr., a 37-year resident of Pukalani. I was born in Lahaina and raised in Kula. Was a past member of the Upcountry Community Advisory Committee and had addressed this issue of the placement for the upcountry road terminus.

My first preference was a highway that came up from Kihei that would enhance the drive to Upcountry and not "interrupt" the natural "vista" of the view plain that is enjoyed by motorist today. The road route should meander close by the Hawaiian Homes Project and terminate somewhere in close proximity to the Rice Park. The logic in using this route would be the fact that one would only have a hundred yards to excess the Kekaulike Highway. In doing so, the most direct route to Haleakala Crater would be achieved which is the actual intent of building the highway in the first place.

In our deliberations, the residents of Kekaulike Highway registered strong opposition to this recommendation because of the increase of traffic in their community.

The C.A.C. then came up with other suggestions on other routes for the upcountry terminus. Our first choice was "no build" and suggested that instead of building a new highway, Mokulele and Henson Road should be upgraded to improve traffic flow to Haleakala. After much deliberation, the Hali'imaile terminus was chosen.

After meeting several times with your committee, it is my understanding that"other upcountry terminus" has been selected.

First of all I would like to take issue with the archeological study that was submitted by the Cultural Survey Hawaii, on these additional

routes. It really lacked spiritual and cultural information on very important burial caves, (sealed) and other archeological features that are contained in this area, which is rich in Pre-contact history and had they contacted the right people, the information would have been made available to them. I and others with intimate knowledge of information of this area were not contacted on the drafting of this report by anyone from Cultural Surveys Hawaii.

ARCHEOLOGICAL INFORMATION ON THE UPCOUNTY ROAD TURMINUS

Before commenting on this very important aspect, I would like the committee to note the fact that the information that I am providing here will not be "exact site specific " but will have to be treated in somewhat a "general" description. There are people out there that are looking for burial sites to actually "steal its contents". Our records in the Maui/Lanai Burial Council have many incidents dealing with this type of desecration. These "grave robbers" are selling the artifacts and using our Iwi (bones) in their "crystal & Satanic New wave" rituals.

According to the late Dr, Kenneth Emory, this area of A'apueo, was most likely a place where the annual Makahiki were held. The time period would be the pre-contact (prior to 1778, Cook's arrival).

Having being raised in Pulehu (Kula area), the gulches in the, Oma'opio and A'apueo and its surrounding areas were our playground. The gulches in these areas were well known to contain many burial caves and numerous petroglyphs. We were always taught to respect what we saw and not to touch anything.

I would like to focus on the gulches in question that is the target of the proposed routes to be used as Upcountry terminus.

1 Both Kaluapulani and Kalialinui Gulches contain sealed burial caves, which are not even mentioned in the archaeological reports. I personally have information of 6 sealed burial caves in these gulches that are actually hidden by brush and rubble that have "gathered", affectivity hiding the entrances. The least problem I have is where the proposed highway crosses over the first gulch into Kula Malu as it relates to the location of the Burial caves on the bottom of the gulch.

1 The highway route can be "placed" in an area that would not impact the burial caves.

2 The biggest problem I have is where the proposed route "splits" from U-2-B and turns into U2-A which ends at the "5 "trees terminus. First of all when U2-A splits and enters Kalialinui Gulch, there are burial caves that are sealed and hidden. The proposed route then "passes" above the Heiau and that is a cultural and spiritual insult to have a highway impacting a sight such as this.

About 20 years ago, I was informed by Mrs. Lamadora (Kalani), who's family owned most of the property in the area, told me about the Heiau and burials within the area. She stated that her father informed her of the Heiau, which is in the back of her home. The people who lived in the area and passed by it respected the Heiau? When the Malama Group bought the property from the Phillips family, they were told that the "Heiau' was built by his grand father who "cleared" the area for farming. This fact was proved to be untrue when Mr. Joe Kennedy did an archeological survey and found that it was a bonefide Hawaiian Heiau and gave it a historical sight number, (State 50-50-10-2701).

In 1996 I was hired by Natalie Kiem, Vice-President of Malama Group to do further research work on the Heiau in question and see if a name could be ascertained for the Heiau. The name of was found and according to documentation in the early 20's and 30's, it belonged to this site.

In 1997, I took Kahu David Kaalakea to the Heiau and after walking around the structure, his first comments were "Luakini". Meaning that it was a sacrificial Heiau. He noted that the 3 "pits" were used for offerings. It should be noted here that from all the types of Heiau that were constructed by our ancestors, the Luakini had the highest significance and stature among our ancestors.

Another incident that occurred in this area was the discovery of the only two wooden Ki'i (images) that were found in one of the gulches. The Ki'i are presently in special hermetically sealed display cases in the Bishop Museum.

The person who found the images had "donated" the images to the Bishop Museum on a "perpetual Loan" and when he passes away, they will know the cave that he obtain the images from. In relating his story on how he describes the finding of the images, it is very possible that it came from the area or corridors that we are talking about here.

The images that were found had its "private parts" intact, indicating that it had been carved before the missionaries arrived in Hawaii. It is very possible that it was hidden in the caves in the early 1800's when the ancient gods were defied and images were burnt. It appeared that the one of the images represented the pig god "Kamapua'a".

On page 3-54 of the CSH report, it mentions the fact that the site was surveyed and it is "no longer considered significant as a historic property". This is a perfect example of researchers who lack cultural sensitivity and spiritual awareness, and degrade the importance of a site which contain vast knowledge of the people that lived here a thousand years ago.

Having the full knowledge of the cultural importance this area contains; it would be a cultural insult to place a road or any structure close to this Heiau. It would be highly prized for preservation and restoration giving its history. Hui Ai Pohaku Inc., the Cultural Center located at Kula Malu has asked The Malama Group to acquire this Heiau for future restoration.

The burials, petroglyphs and other archaeological features in the surrounding area makes this Heiau a highly valuable pre-history site to our people, as an important link to our past. Should this committee chose this route that will encroach on the sanctity of the Heiau, be prepared for "MAUI'S H-3 HIGHWAY" protest. The route of U3 is also "studded" with numerous archaeological sites that are unregistered and have not been identified thus far. Based on known information and the fact that the "choice route" would be either U-2 A, U-2 B or U3. I would strongly recommend that U2 B be chosen because it would be the least encroachment on the existing sites in this entire area. The intersecting of the bridge or "crossing over the gulch" could be monitored by myself and personal that I work with who could consult with the engineers at the time the finale route is chosen. It is most important that special care be taken in an area such as this, which

contain special features that cannot be found on any other district on Maui. This area is called A'apueo, which is the name of a female goddess, an Aumakua (personal god), who still leaves and resides in this area. When we first went onto Hui Ai Pohaku (Hawaiian Cultural Center) located on Kula Malu, this owl appeared on the property in the early morning hours. For us as Kanaka Maoli, this is called Hoailono (the sign) and substantiates the fact our Kupuna (ancestors) exist on this land. No scientific method has been invented to document spiritual relevance of an area and that is what is lacking in the Cultural Survey Hawaii report.

Kahu Charles Kauluwehi Maxwell, Sr.
157 Alea Place
Pukalani, HI 96768

1. Thank you for informing us about the burial caves in Kaluapulani and Kalialinui Gulches in the vicinity of the U2-A and U2-B alignments. Neither a U2-A nor U2-B alternative was identified as the preferred alternative. Therefore, the burial caves you mention will not be affected by the project.

2. Thank you for sharing your knowledge about the heiau and burials in the vicinity of the Five Trees Intersection, and communicating your concern about how the U2-A alignment would adversely affect this very important archaeological and cultural resource. The U2-A alternative was not identified as the preferred alternative. Therefore, the heiau and burials in the vicinity of Five Trees will not be affected by the project.

HWY-3462

Mr. Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punch Bowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

Re: Kihei to UpCountry Maui Highway - Pukalani Community Association

I would like to begin by thanking you and your staff, including the Maui office, for making available to the public, all the information concerning this Highway. At the last Pukalani Community Association meeting held at Pukalani Elementary School, Mr. Sariot was our guest speaker and gave us many insights as to what we might expect at each of the terminuses including topography, cost, anticipated problems,availability of traffic controls, some state and federal criteria concerning the steepness of grade for each of the terminuses, also commenting on the history and impacts of construction some of the terminuses and other projects past and upcoming (ie., the demise Ulupalakua Road to Makena, the demise of the first attempted 4th lane of Haleakala Highway, the resurrection of the 4th lane of Haleakala Highway and it's traffic control lights at Haliimaile, the intersections of this highway on Pulehu Road and Omapio Road, etc....). I think he did well, but there were many stumbling blocks or questions unanswered and that all seemed to be related to the absense of the Planning and Design people of this project, he said many times at this meeting, "I can't comment on that because planning takes care of that...".

1 Many comments by PCA members and guests that night seemed to center around the Planning an Design facets of this project. A guest at our meeting asked, "why aren't any of these terminuses designed to have overpasses or underpasses ?" A member in the audience responded with, " look at what happened to to the Pukalani Bypass and Makawao Ave. Intersection" - that not until after 50 somewhat accidents including a fatality and amputation did the state finally put in traffic lights the public requested at the planning stages of that project. There are many concerns Mr. Hayashida we need your help.

2 There is another concern Mr. Hayashida, the planned DOT Hearing at the Mayor Hannibal Tavares Community Center in Pukalani is scheduled to be held on September 30th, this also the same date as the Maui County Fair and Grand Openning Parade. This was also the matter of much talk and comment at our meeting. Mr. Sariot did announce that this would be on the agenda at a meeting held in Honolulu, that the Department would probably not be able to cancel this September 30th meeting, but would schedule another Hearing and move up the October 14th deadline for final testimonies to the Final EIS, by at least a few weeks. Many of our families and children who belong to organizations will either be marching in the parade our manning the fundraising boothes. For example, Boy Scouts, 4-H groups, Kekaulike High School Band and Boosters, Sports Leagues, Womens Groups and many more. This would greatly improve the quality of information afforded to the residents of Pukalani, members of the Pukalani Community Association, and members of the Kula 200 Association(also part of Pukalani).

We predict a low attendence at this September 30th meeting. If the goals of these hearings are to inform the public, and to take testimonies from those who attend, then it is the best interests for all those concerned that the Pukalani Community Association requests another hearing to take additional testimonies and move the October 14th deadline for final testimonies for the final EIS.

The Pukalani Community Association requests a additional DOT Hearing and a rescheduling of the Final EIS October 14th deadline for testimony.

Your immediate attention is greatly appreciated.

Sincerely,

9/27/99

Aric Nakashima, President
Pukalani Community Associaton
151 Aulii Drive
Pukalani, Maui Hi. 96768

ph. (808)572-1674

Mr. Aric Nakashima, President
Pukalani Community Association
151 Aulii Drive
Pukalani, HI 96768

1. Several concepts for grade-separated intersections (i.e., interchanges) were considered for the U1 terminus, as described in Section 2.1.2 of the Final EIS. However, based on presently projected traffic volumes, the costs of these options are not justified considering their marginal benefits in relation to a signalized intersection, which costs substantially less. The U1 intersection will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards.

2. A third public hearing was held on October 13, 1999 because of community concern regarding the second public hearing's conflict with the County fair.

Mr. Aric Nakashima
Pukalani Community Association, President
151 Aulii Dr.
Pukalani, HI 96768

Comment: Asks that the Department of Transportation address safety concerns regarding the intersection of Haleakala Highway and Pukalani Bypass in lower Pukalani.

Response: When Haleakala Highway is widened to four lanes, the Department will determine whether this intersection warrants a traffic signal.

Comment: Concerned about traffic impacts in Pukalani due to motorists accessing a U2-A or U2-B alignment through this neighborhood. Concerned that traffic accessing the highway would interfere with community cohesion.

Response: The U2-A or U2-B alternatives would not provide a direct connection between Kihei-Upcountry Maui Highway and Pukalani. Access to the highway would be from Haleakala or Kula Highways.

Comment: Concerned about the statement in Table S-1 of the EIS, "Implementation of community plans would affect existing communities by increasing population and traffic and have environmental impacts, such as agricultural encroachment," which the commentor believes to be an impact under the build alternatives.

Response: This potential impact is listed under the No Build alternative.

Comment: Requests grade-separated intersection to relieve traffic in Maui generally.

Response: Please see response to Comment #1 of your letter.

Comment: Will the intersection of Haleakala Highway and Haliimaile Road be signalized?

Response: The decision to place traffic signals at the terminus intersections will be made during the design phase, and would be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1,K1 Alternative, which was selected as the preferred alternative, both termini intersections will likely warrant traffic signals.

Comment: Concerned about safety at the lower intersection of the existing old Haleakala Highway and Pukalani Bypass, between U1 and U2-A.

Response: When Haleakala Highway is widened to four lanes, DOT will determine whether this intersection warrants a traffic signal.

Comment: Concerned about neighborhood safety if an access road is connected between Pukalani Terrace and the U2-A or U2-B alternative.

Response: If a U2-A or U2-B alternative were identified as the preferred alternative, there would have been no direct connection between Pukalani and the new highway on Liholani or any other street. Access onto the highway from Pukalani would be via Haleakala Highway, and Kula Highway under the U2-B alternatives. Private developers cannot connect to a State highway without permission, and Kihei-Upcountry Maui Highway is envisioned as a limited access roadway.

HWY 3463

PAUL J. MEYER

240 Hoopalua Drive • Makawao, HI 96768
Tel: (808) 572-6677
e-mail: meyerp@maui.net

September 29, 1999

Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Re: Kihei-Upcountry Connector Highway

My family and I have lived in Makawao and Kula for 15 years. We feel very strongly that in considering the proposed highway the Department should honor and conform to the Kula, Makawao & Pukalani Community Plan ("Plan"), which was carefully wrought by the community, public boards and the County of Maui over many months of careful deliberation. The Plan is the law of Maui County and best reflects the wishes of its citizens. In other words, please improve existing roads, and if the connector must be built, terminate it at the Hali'imaile Road intersection (U-1). 1

A few vital considerations are:

A.) Safety of Maui People.

1. Choice of the Five Trees (U2-A) and Kulamalu (U2-B) termini would unnecessarily funnel much additional traffic from Olinda, Makawao, Haiku and Hali'imaile through the already overburdened Makawao Avenue and Five Trees intersections, and past King Kekaulike High School where 1400 kids walk and drive to school. Children will eventually get killed by an impatient driver. Hali'imaile will not create a safety problem. 2

2. We already have too many steep roads which promote excessive speed and accidents; take notice of the number of speed control humps which are installed upcountry. The Five Trees and Kulamalu termini will require slopes much greater than federal or state safety limits of 7% to 8% grade. Serious accidents will result if this hazardous condition is created. The Hali'imaile terminus, by contrast, will have a safe 4.5% slope. 3

Convenience.

4

1. The best point-to-point commuting link for the community will be Hali'imaile intersection because Pauwela, Haiku, Hali'imaile and Makawao residents can use three major streets -- Makawao Avenue, Makani Road and Hali'imaile Road -- to access Haleakala Highway and the new connector highway. With the Hali'imaile intersection improvements, all will be safe, convenient and direct routes. By contrast, the Five Trees and Kulamalu termini will force Pauwela, Haiku, Hali'imaile and Makawao residents to drive mauka to ultimately arrive makai. It will also force these people to drive needlessly through three to four crowded intersections at Hali'imaile, Makawao Avenue, Five Trees and Kulamalu to access the connector road.

5

2. Many Upcountry residents drop and pickup children, shop and get their daily household services from upcountry schools, merchants, doctors and commercial businesses. Much of the resulting traffic uses Lower Kula Highway and the Five Trees intersection. The Kulamalu and Five Trees termini will focus and funnel traffic through these already crowded intersections and 20-mph zones. This will needlessly create additional traffic jams and delays and will negatively impact the quality of life for upcountry residents.

B.) Cost.

6

1. Please consider the cost in human suffering, and personal and property damage to people of creating the unsafe conditions (see A1 and A2 above) of the Five Trees and Kulamalu alternatives. Remember when, as a cost saving measure, traffic lights were not installed on the bypass highway at Makawao Avenue. Nine major accidents happened in four months. The lights were only then installed. The analysis of costs of the alternative must include estimating the costs of accidents.

7

2. Also, should the Department choose the Five Trees or Kulamalu termini, legal challenges will likely be forthcoming because of the violation of the Community Plan and because of payoffs and commissions paid to state officials by Sports Shinko and/or Everett Dowling, and because of the State of Hawaii's liability for creating unsafe conditions (See A-1 and A-2 above). These costs should be taken into account.

In summary, the Plan which represents the carefully considered wishes of the community should be honored, and if the connector is built, it should terminate at Hali'imaile Road.

Thank you for your consideration.

Sincerely,

Paul J. Meyer

PJM:lt

c:Kihei-upcountry road.ltr

Mr. Paul J. Meyer
240 Hoopalua Drive
Makawao, HI 96768

1. The recommendations contained in the Makawao-Pukalani-Kula Community Plan were heavily weighted in identifying the preferred alternative, U1,K1. However, other factors beyond conformance with the Community Plan were also considered, such as cost, environmental impacts, and transportation benefits.

2. The Upcountry terminus of the preferred alternative will be at the Haleakala Highway / Haliimaile Road intersection. Had a U2-A or U2-B terminus been identified as part of the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would have included crosswalks and sidewalks to the high school (see Section 4.4.4 of the Final EIS). Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

3. Only the U2-B alternatives would have exceeded the grade standards for a limited access highway. All of the other alternatives would have met accepted design standards.

4. As described in Section 4.4.1 of the EIS, and as you note in your letter, the U2-A and U2-B alternatives would cause the contra-flow of peak directional traffic in Upcountry. For example, Pauwela, Haiku, Haliimaile and Makawao residents would drive mauka to access either the U2-A or U2-B terminus. This traffic pattern change is in fact viewed as beneficial, not detrimental. Since commuter traffic tends to peak during certain times of the day (i.e., early morning and late afternoon), arterial roadways tend to be over-utilized in one direction and under-utilized in the other direction, with the pattern reversed during the other peak period. A benefit of the U2-A and U2-B alternatives, and to a lesser extent the U3 alternatives, is that they would cause the "directional split" of the traffic in Upcountry to be more even during peak conditions.

5. As described in Section 4.4.1 of the EIS, traffic at the U2-A or U2-B terminus, the Five Trees intersection, is projected to operate at a level of service B (delays in the range of 5 to 15 seconds per vehicle) during the morning and afternoon peak hours. This includes various trip purposes mentioned in the comment. Therefore, traffic jams and delays in this area are

not anticipated, even after accounting for the various types of trips mentioned in the comment.

6. A firm commitment to place traffic signals at the termini will be made during the design phase, based in part on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. Additionally, the experience of Pukalani Bypass will be considered.

7. The Department of Transportation is not under a legal obligation to select a U1 alternative simply because it is the preferred option in the Makawao-Pukalani-Kula Community Plan. The Department of Transportation treats community plans as advisory only, but in this case, the community plan was given substantial weight.

   The Department of Transportation is unaware of payoffs and commissions paid to State officials by Sports Shinko and/or Everett Dowling. If the commenter has evidence that improprieties have occurred, these should be reported to the appropriate authorities. If these allegations are rumor only, they should not be spread within the context of the environmental review process.

   Finally, the Kihei-Upcountry Maui Highway will not be an unsafe facility regardless of the alternative implemented. Multiple layers of review and oversight exist to ensure that the highway fully complies with applicable standards.

HWY-3464

G. Stephen Holaday
Plantation General Manager, HC&S
Sr. Vice President, A&B Hawaii, Inc.

September 28, 1999

Mr. Kazu Hayashida, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: Draft Environmental Impact Statement (DEIS) for the Kihei-Upcountry Maui Highway Project No. HDPS-9203(1)

Dear Mr. Hayashida:

Thank you for this opportunity to provide comments on the Draft Environmental Impact Statement for the Kihei-Upcountry Maui Highway Project No. HDPS-9203(1). My name is Stephen Holaday, General Manager of Hawaiian Commercial & Sugar Co., speaking on behalf of A&B. As you are aware, HC&S cultivates 38,000 acres of sugarcane and has been a major employer here on Maui for over 125 years, currently employing approximately 1,000 Maui residents, including our sister company Kahului Trucking & Storage which hauls HC&S sugar.

I would like to first summarize our position on the proposed roadway and then follow up on details of our analysis on the DEIS. A&B supports the idea of a Kihei-Upcountry road. 1 However, if the Haliimaile route is chosen, there will need to be substantial initial, as well as ongoing mitigation to compensate HC&S for the impacts on its operations.

As you are aware, A&B has participated in the various informational processes provided by DOT since the inception of this project. Our comments and testimony relating to this proposed highway project since 1995 have consistently pointed out which alternatives will impact HC&S' operations and have highlighted the lack of information and recognition regarding mitigative measures for these impacts. We are pleased to see that the DEIS now recognizes the need for mitigative measures such as underpasses, modifications and reconstruction of existing irrigation 2 and drainage systems, and the need to prepare a "Maintenance of Cropland and Ranching Activities Plan". However, we believe that it is necessary to prepare that plan prior to the design phase as we anticipate that many of the mitigative measures necessary to keep the agricultural entities "whole", will be significant, both in terms of logistics, cost, and compensation, thus having a far greater impact on alternatives and therefore, on the decision-making process.

2 We request that, at a minimum, a draft "Maintenance of Cropland and Ranching Activities Plan" be prepared and be included as part of the DEIS. We would also request that HC&S again be consulted, as a resource on the type of mitigation that will be necessary to make HC&S whole for the various routing alternatives being considered. We offer Attachment 1 to this testimony as a summary of the kinds of impacts that should be addressed in the DEIS or the "Maintenance of Cropland and Ranching Activities Plan".

Again, if the community determines that it wants a road, then A&B will support the community. If the community determines that the Haliimaile route is the most desirable, then substantial initial and ongoing mitigation for the impacts on HC&S' operations must be built into the project. We would further hope for continued community understanding of the farming impacts, i.e. dust, ash, etc., should this road be sited amidst our canefields.

We look forward to continued discussions with DOT and its consultants on the proposed highway project. It is our belief that a roadway can be built which will benefit the people of Maui County, the State of Hawaii and serve the national interest.

Thank you for this opportunity to express our concerns on this issue.

Sincerely yours,

G. Stephen Holaday
Plantation General Manager

Attachment

cc: M. J. Ching
S. M. Kuriyama

Mr. G. Stephen Holaday
Plantation General Manager
Hawaiian Commercial & Sugar Company
P.O. Box 266
Puunene, HI 96784

1. Since U1,K1 Alternative was identified as the preferred alternative, HC&S will be compensated for right-of-way acquisition. Additionally, adverse impacts to agricultural operations are acknowledged, as described in Sections 4.2.1 of the EIS, and will be mitigated in coordination with HC&S as described in Section 4.2.4.

2. The Maintenance of Cropland and Ranching Activities Plan will be prepared during the design phase because the level of engineering needed to develop this plan has not yet occurred. The magnitude of the mitigation measures would be substantial, and the Department of Transportation is committed to working closely with HC&S during the development of the plan. However, funding for the design phase will not be available until the completion of the environmental process.

HWY 3511

Kazu Hayashida
Director of Transportation
DOT,Highway Division
869 Punchbowl St.
Honolulu, HI , 96813

Dear Mr. Hayashida;

We are expressing our concern about the Kihei/Upcountry route. We feel that any new highway on Maui must make provision for parking for car-poolers. We also feel that the Upcountry terminus, if made at Hailemaile, would actually encourage MORE car-pooling. It would be much more convenient for residents of Haiku, Makawao, and Pukalani than the other proposed routes.

1 Population is increasing at a rapid rate in the Upcountry Community. The primary benefit of sharing rides will be the lessening of traffic and provision of rides for those without transportation. The second benefit is a cleaner environment.

Currently there is no legal parking available upcountry for people who are involved with Sharing rides. A park and ride area in Hailemaile would really help the working people from the Upcountry area.

The decisions made at this time are really important and we request your consideration of these suggestions.

Sincerely,

Betty J. Syfers
340 Liliuokalani St.
Pukalani, Hi 96768

Susan C. Anderson
30 A Kealaloa St.
Makawao, Hi 96768

Ms. Betty J. Syfers
340 Liliuokalani Street
Pukalani, HI 96768

Ms. Susan C. Anderson
30 A Kealaloa Street
Makawao, HI 96768

1. As a matter of policy, the Department of Transportation supports ride sharing because it leads to more efficient use of roadway facilities. Therefore, the Department appreciates your suggestion for a park-and-ride facility. Most of the programs to encourage ride-sharing are on Oahu. These programs include park-and-ride lots operated by the City and County of Honolulu for TheBus system, high occupancy vehicle lanes, the "zipper" lane on the H-1 Freeway and a vanpool program. Although the project definition does not at present include a park-and-ride facility, if the County of Maui or another entity is interested in developing such a facility, the Department would be glad to participate in the planning. In the meantime, the Department encourages you to contact County officials to express your views, as the County is the more likely implementing agency.

HWY 3514

Cindy H. Schenk
372 Hoopalua Drive
Pukalani, HI 96768
808-572-4596

October 1, 1999

Director of Transportation
State of Hawaii
869 Punchbowl
Honolulu, HI 96768

RE: Proposed new Kihei-Upcountry highway

Dear Sir:

1 Why do we need a new highway that will cut through the heart of Maui? I am opposed to this highway because I think the money could be better spent improving Haleakala Highway to four lanes, as well as Mokulele Road and Hansen Road. These three roads are all extremely dangerous and need to be improved as soon as possible. Can't we use this Federal money to improve these roads instead of building a new one? Getting to Kihei from upcountry is not really all that time-consuming. It's just dangerous.

Improving Haleakala Hwy, Mokulele, and Hansen Roads would solve most of the problems. Piilani Highway in Kihei also needs to be four lanes. Traffic would then run smoothly and we wouldn't need this new road.

I live in lower Kula and the traffic is already a nightmare due to the King Kekaulike High School and the new Dowling mess. Please do not compound all of this congestion and frustration by adding new danger to an already dangerous situation.

People live in Kula because it is quiet and rural. A new highway from Kihei right into the heart of our community will change all of that forever. Please listen the the people who live in this area and DO NOT even consider putting that road anywhere near lower Kula. If you have to build a new road, then Haliimaile is the only choice that makes sense.

LISTEN TO THE COMMUNITY, PLEASE!!!!!

Sincerely,

Cindy H Schenk

Cindy H. Schenk

Ms. Cindy H. Schenk
372 Hoopalua Drive
Pukalani, HI 96768

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala and Mokulele Highways. However, as discussed in Chapter 1 of the EIS, these planned improvements would not address all of the project's purposes and needs.

HWY 3515

Douglas R. Schenk
372 Hoopalua Drive
Pukalani, HI 96768
808-572-4596

October 1, 1999

Director of Transportation
State of Hawaii
869 Punchbowl St
Honolulu, HI 96813

RE: Alignment of new Kihei-Upcountry Highway

Dear Sir:

I am a resident of Pukalani and am gravely concerned about the location of the upcountry terminus of the proposed new highway. Traffic is already crowded and dangerous on Lower Kula Highway around King Kekaulike high school. Please do not add to this problem by bringing a major highway up to this area.

1 I STRONGLY URGE you to put the terminus at the Haliimaile intersection and install a traffic light. This will prevent further danger to the children of King Kekaulike High School and all of those who travel the lower Kula road every day.

Ending the highway at Haliimaile will also allow residents of East Maui to use the new road to get to Kihei. It makes no sense to route all of this traffic through lower Kula. It is a huge mistake to even consider it.

The majority of residents, through the Pukalani and Kula Community Associations have asked that the terminus be located at Haliimaile. It would be a major mistake and a huge underestimation of the upcountry residents' resolve for the State to ingore the voice of the people. This would bring disappointment, contempt, and traffic accidents.

I STRONGLY URGE YOU to LISTEN and put the upcountry terminus at HALIIMAILE.

Thank you .

Sincerely,

Douglas R. Schenk

Mr. Douglas R. Schenk
372 Hoopalua Drive
Pukalani, HI 96768

1. The intersection of Haleakala Highway and Haliimaile Road is part of the project's preferred alternative as the Upcountry terminus. Most likely this intersection will warrant traffic signals.

HWY 3517.

Christine & Dan Bowers
67 Ponana Street
Kihei, Maui, HI 96753
(808) 879-2909

October 6, 1999

Kazu Hayashida
Director of Transportation
DOT Highways Division
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr. Hayashida:

We would like to stress the importance of putting in a highway to connect Kihei and Upcountry Maui. 1) For safety as an alternate evacuation route in case of fire or natural disaster; 2) to relieve traffic congestion; 3) to save natural resources; 4) to connect the Maui High Tech Park with Science City on Haleakala.

Kihei needs an alternate route in and out of this heavy traffic area. There are frequent accidents, and a bad accident can close the road in and out of Kihei. Traffic is often deadlocked from even a minor accident.

1 If there was a more efficient route upcountry it would use gasoline resources more effectively. I would prefer a four lane road. If you put in a two lane road you will have commuters en route to work competing with, and passing, large slow trucks. This would create a hazardous situation. At minimum there will need to be slow traffic turn outs for large trucks and equipment headed up to Haleakala.

I do not support a route to Ha'ilemaile, or the route which would place traffic at the King Kekauleke High School intersection.

Maui is in desperate need of logical, planned roads designed by professional traffic planning engineers. Please support the road construction in any way you can. I hope we don't miss the opportunity to obtain federal funds to improve the traffic flow on Maui. Thank you for your consideration of our viewpoint.

Warmest Regards and Aloha,

Christine Bowers Dan Bowers

Dan & Christine Bowers

Mr. and Mrs. Dan and Christine Bowers
67 Ponana Street
Kihei, HI 96753

1. Although right-of-way will be acquired for a four-lane highway, the initial construction of a two-lane highway is proposed because traffic projections indicate that two lanes will be sufficient to accommodate travel demand in the design year, 2020. During the design phase, measures to facilitate automobiles passing trucks, such as turn-outs or passing lanes, will be evaluated.

HWY 3556

Richard A. Borrison, M.D., Inc.
1457 Newfoundland Drive
Sunnyvale, California 94087
~~415~~ 940-7280
650

10-9-99

Kazu Hayashida
Director of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Re: Kihei to upcountry Highway

Dear Mr Hayashida:

Do NOT build the connecting road.

1 There is not adequate water to support the inevitable development that will occur in the upcountry if the road is built.

Dryspells and manditory water rationing are already part of life in upcountry. A new road would quickly double the population and make a bad situation intolerable. Supporting evidence is included from the Honolulu Advertiser Newspaper.

Yours truly,
Richard A Borrison MD
OWNER 1302 EKOLU
WAILEA, MAUI

The Honolulu Advertiser
HAWAII

Today's ReaderLine

"What do you think at
Police Department requi
wear body a

Call 525-5450 with your name, age, occupation, r
Selected responses will be publishe

HAWAII'S ENVIRONMENT

JAN TENBRUGGENCATE

Isle birds show ingenuity to adapt

Nearly all of Hawaii's native birds are endangered. But while some have trouble surviving alien diseases or fighting off rats that raid their nests, there's increasing evidence that they are an adaptable bunch in other ways.

The most adaptable seems to be the nene or the Hawaiian goose, our state bird.

"We've seen them devour (plastic foam) boxes up at the field station. They're curious and they'll eat everything," said University of Hawaii zoology professor Leonard Freed.

Geese worldwide are notable for their readiness to adapt to domestication and new circumstances. With wild Hawaiian forest birds, you'd expect something quite different, and for the most part they are shy and difficult to study, Freed said. He has students trying to get 'i'iwi, a long-billed red forest bird, to feed on sugar solutions in artificial

Maui tired of praying for rain

Upcountry seeks new water source

By Edwin Tanji
ADVERTISER MAUI COUNTY BUREAU

MAKAWAO, Maui — Upcountry Maui continues to be one of the fastest-growing regions in Hawaii, even though periodic droughts force homeowners to cut back on use of water.

From 1970 to 1990, the population of the region nearly tripled, from 8,314 to 24,618. Dry spells are just one of the things you learn to live with.

Last week the Maui Board of Water Supply lifted a mandatory 25 percent cutback for Upcountry residents and businesses that had been in place since July.

"We kind of get used to it," said Kula teacher Judith Fukuda, of this summer's mandatory cutback.

The Upcountry surface water system depends on rainfall. When rains stop, so does the water flowing in

Winds ease

Hokule'a sailing ahead of sched

By Julius Tigno
ADVERTISER STAFF WRITER

The Hokule'a is ahead of schedule, sailing east after completing one-third of the distance from Mangareva to Rapa Nui with the help of unusual northerly winds.

Dennis Kawaharada of the Polynesian Voyaging Society yesterday said the area between the two islands is dominated by a high pressure ridge that creates easterly trade winds. That normally would make for slow going, because it would push the canoe away from Rapa Nui and force crew members to tack, or sail back and forth.

But a cold front south-

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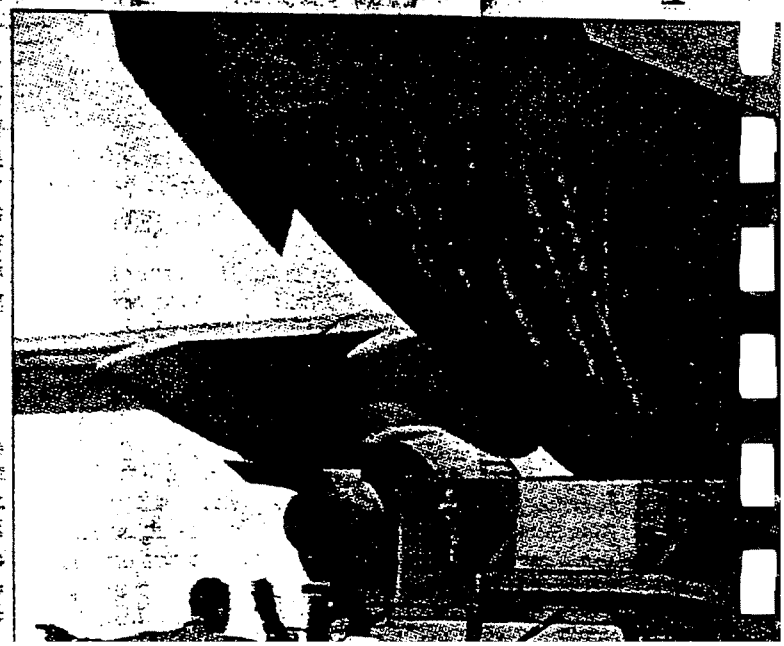

HAWAII'S ENVIRONMENT

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There are some interesting examples of adaptability, though. Bird expert and author Douglas Pratt writes in the August-September issue of 'Elepaio, the journal of the Hawaii Audubon Society, that Maui's Hosmer Grove sports a few 'amakihi that drink out of soft-drink containers and will eat crumbs from a person's hand.

At least one species of honeycreeper is [illegible] and can

Maui tired of praying for rain

Upcountry seeks new water source

By Edwin Tanji
ADVERTISER MAUI COUNTY BUREAU

MAKAWAO, Maui — Upcountry Maui continues to be one of the fastest-growing regions in Hawaii, even though periodic droughts force homeowners to cut back on use of water.

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"We kind of get used to it," said Kula teacher Judith Fukuda, of this summer's mandatory cutback.

The Upcountry surface water system depends on rainfall. When rains stop, so does the water flowing in streams across Haleakala's slopes from Waikamoi to the Hanawi natural area reserve.

With normal trade-wind conditions, Hanawi gets an average of 365 inches of rain a year. Some years, there is less. Garrett Hew, manager for the East Maui Irrigation Co., said rainfall appears to occur in cycles.

Reports since 1970 support this idea. In the years 1973-74, 1984-85, 1991-92, 1995-96 and 1998-99, consumers were ordered to cut water use. In 1984 and 1992,

See WATER, B2

Winds eas

Hokule'a sailing ead of sc

By Julius Tigno
ADVERTISER STAFF WRITER

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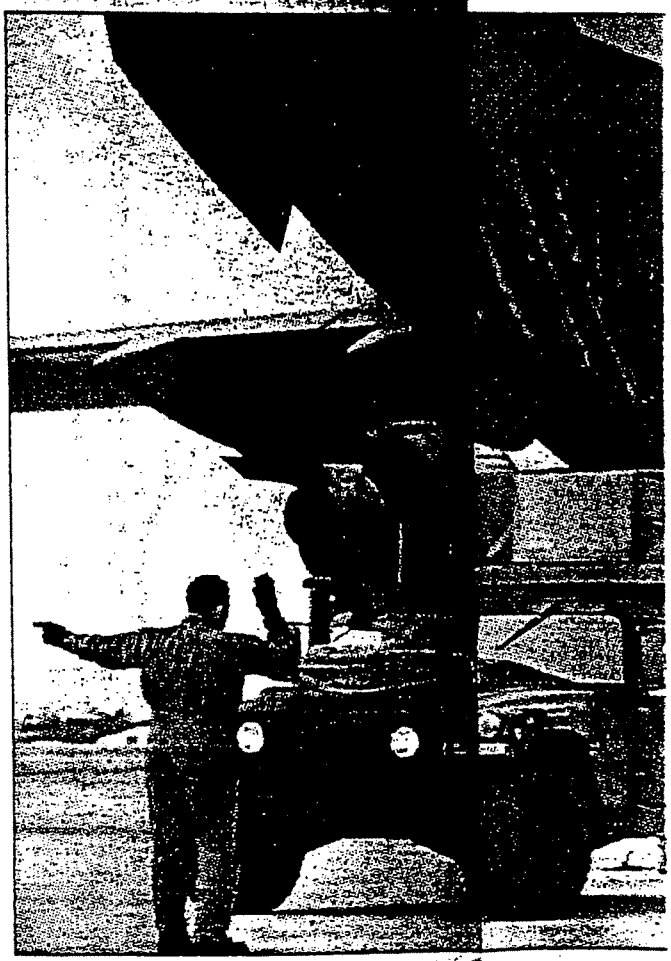

A vehicle was loaded onto a C-17 transport plane for departure for Darwin, Australia. Aboard were Lt. will help in the East Timor peace mission. The Hawaii mission, are assigned to the 322nd Civil Affairs Briga already in the area. The Australian-led U.N. peacekee from about 20 nations.

scape, fire safety event
lulu Fire Department, at
ty Shopping Center.
538-1172.

— First of two-part free
how women can invest
, conducted by Sarah
ancial advisor at Morgan
n Witter, at Pearl City
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stration: 453-6566.

) p.m. — Environmental
kshop sponsored by
ousand Friends, at Camp-
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esentatives from Limu
project, Coastal Zone
t, Waikiki Aquarium and
Information: 681-0929.

. — Celebration of the
rsary of the founding
e's Republic of China,
y the Chinese Students
Association at the Univer-
ii campus Art Building
Dinner, military review
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-7565.

OCT. 5

- "Symmetry, Sex, and
ariables in Human Life,"
vers, biologist with the
ersity Department of
/, at the Architecture
UH-Manoa. Information:

OCT. 6

- Patient Rights and Re-
s Task Force meeting, at
uilding, Kapuaiwa Room,
formation: 586-2790.

oon — Joint Legislative
n child protection reform
convened by state Sen.
in Oakland and Rep. Den-
State Capitol Room 329.
586-6130 or 586-6050.

meeting, send notices
y Calendar, City Desk,
ertiser, P.O. Box 3110,
96802. Fax: 525-8037

The moi were raised in an underwater cage off Ewa Beach as a research project designed to

...tion will distribute more than 7 million pounds of food to nearly 300 member agencies.

Jodo: Fish freed in gratitude

FROM PAGE B1

cloth, chanted sutras with three priests from the Kyoto grand temple of Chion-in while incense was passed among the participants. An attendant in a black robe fought the strong ocean breeze as he held a beach umbrella over Maki.

Some in attendance sat with eyes closed and palms pressed in prayer. Others used a plastic fan to shield their eyes from the sun.

Afterwards, the tank was carried to the beach and the fish freed before a crowd of curious onlookers.

Gensho Hara, a minister at the Jodo Mission of Hawaii, said the act offering thanks to the sea symbolized "the importance of life."

Teruto Soma, 72, of Manoa, who attended the ceremony, called it unique. "The celebration makes people aware of the environment and nature," he said.

The Jodo sect also has missions in Los Angeles and Brazil.

guide them. But Kawaharada sa using the sea birds as a guide cou pose a problem, as Rapa Nui's bir population has decreased after a hawk was introduced on the islan to control rats.

Another challenge that Kawaharada mentioned is finding th 11-mile-by-10-mile Rapa Nu where the highest elevation about 1,700 feet. He said the canoe needs to be within about 20 to 4 miles to spot the island, even on clear day.

About 2,000 people live on Rapa Nui. When Hokule'a spots it, 3 Kamehameha Schools studen hope to be there. The students wil be traveling to Rapa Nui and Tahiti from Oct. 9 to 31 to conduct scie tific research and greet the crew.

While at Rapa Nui, the students' activities will include performing at community venues, participa ing in a reforestation program an telecommunication with Hokule'a

Water: Wells seen as one solution

FROM PAGE B1

the Hawaiian Commercial & Sugar Co. laid off field workers because there was no water for replanting sugar cane.

Maui Water Director David Craddick said the board needs to develop new sources to alleviate the inevitable dry spells. Putting in new wells in East Maui could solve the problem for about $60 million, he said.

The board built a 100-million-gallon reservoir at Kahakapao in 1994 that more than doubled storage capacity. But it's not enough for dry spells that stretch over four or five months, much less for droughts that stretch over years.

The three reservoir systems currently can store 180 million gallons, only a 30-day supply even when users cut down to 6 million gallons a day.

Craddick is reviewing plans for another 100-million-gallon reservoir, probably costing more than the $10 million spent for Kahakapao.

But he really would like to develop more wells tapping ground water in the East Maui watershed. Studies indicate the entire watershed could provide more than 200 million gallons a day. The two nearest aquifers, in Haiku and Honopou, have an estimated capacity of 60 million gallons a day, and aquifers would supply water whether or not it's raining.

The Water Board this year received approval to use four wells in the Haiku area, including three where the water was found to contaminated with the pesticid DBCP.

This month the board agreed to a settlement with the chemic companies that manufacture DBCP. The companies will cover the costs of cleaning the chemical out of the drinking water.

With the wells, Craddick said Upcountry system has about 3.5 million gallons a day available.

"Even if we didn't do anythir else, we have half of the water need for existing customers," he said.

He has plans for developir additional wells in the East Ma watershed, although they are likely to face legal challenges becaus water would be taken from or region to another.

OBITUARIES

ices 10 a.m. Burial at Valley
ples Memorial Park.

HUANG, 73, of Honolulu, 17, 1999. Born in China. y husband, Tian Ye Zhang; g Wing Cheung and Fung ng; daughters, Fung Yee g Shee Chang, Fung Chan Fung Lan Yee; brothers, uang, Sing Kum Huang and Huang; 14 grandchildren;

Janet; two grandchildren; brothers, Masao, Tommy and Kenneth; and sister, Katherine. Private service held. Arrangements by Hosoi Garden Mortuary.

GEORGE MATA SR., 73, of Honolulu, died Sept. 20, 1999. Born in South Hilo, Hawaii. Retired Honolulu Rapid Transit Mass Transit Lines bus operator. Survived by wife, Lucy; sons, George Jr. and Gary; daughters, Pa-

Honolulu. Retired from the U.S. Air Force and from Pearl Harbor Naval Shipyard. Survived by wife, Marcia; sons, John and Alan; daughter, Janet Mikasa; stepsons, Robert and Gregg Hamel; 14 grandchildren. Visitation 5 to 6 p.m. Wednesday at Borthwick Mortuary; memorial service 6 p.m. Inurnment later. No flowers. Aloha attire.

LARRY TERUO NAKATA, 81, of Hono-

Stephanie; mother, Eleanor; brothers William and Peter Opulauoho; sisters, Roberta Okimoto, Kaye Wood, Napua Knight, Karen Kanoho and Arde Yarha shita; two grandchildren. Visitation 9 to 10 a.m. Thursday at Star of the Sea Church; Mass 10 a.m.; cremation to follow. Inumment 10 a.m. Friday a Valley of the Temples Memorial Park. Aloha attire. Arrangements by Dia mond Head Memorial Park Mortuary.

Dr. Richard A. Borrison, M.D., Inc.
1457 Newfoundland Drive
Sunnyvale, CA 94087

1. The amount and pace of residential development in Upcountry is controlled by water availability. Maui County will not allow substantial new urban development in Upcountry as long as water supply constraints persist, even though Upcountry is a popular residential area. Therefore, it is not expected that the project would induce urban growth in Upcountry in addition to growth that would occur without the project.

HWY 3557

HOOPALUA OHANA

KULA 200 COMMUNITY ASSOCIATION
P.O. Box 880668 • Pukalani, Hawaii 96788

October 11, 1999

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

RE: Kihei-Upcountry Maui Highway project

Aloha:

The Kula 200 Community Association (by an almost unanimous vote) would like to go on record supporting the Haliimaile Road terminus (U1) as the connecting point for the proposed Kihei-Upcountry Maui Highway. We will not be making any comment on the Kihei terminus as we believe that should be decided by the Kihei community. We believe that it is the responsibility of each community to address the issues which affect them directly. So for us to address the Kihei end of the road would be most presumptuous.

We believe that if this road is to be built, then it should be where the most open space allows for the proper construction of this new highway. It should not be squeezed into an already crowded corridor, such as Five Trees or Kulamalu. Many of us travel the Kula Highway between our community and Five Trees during the school traffic and know just how congested this area is already. Bringing the additional traffic from Pukalani, Makawao, and Haiku up to this area would only serve to add to the hazards already in the area with the students, parents and tourists already mixing it up in this traffic. On a daily basis, we watch students darting between cars as they cross the highway on foot because their parents will not sit and wait for their chance to turn left into the King Kekaulike High School driveway. And, adding additional lanes is not the answer, as it would only increase the number of problems by creating a tremendous amount of lane crossing and left and right turns within this short stretch of road. This would create additional safety concerns for the drivers heading to/from work, students going to/from school, parents dropping off/picking up their keiki, and tourists driving up/down Haleakala and Kula Highways.

The other consideration would seem to be the infrastructure which already exists for traffic heading up and down Haleakala Highway from Kula, Pukalani, Makawao, and Haiku. There are feeder lanes from Pukalani, Makawao and Haiku which line up the traffic in a somewhat systematic fashion for the terminus at Haliimaile. We simply can't imagine all of this traffic merging into the half-mile corridor from Makawao Avenue to Five Trees or Kulamalu. This traffic would be joined by traffic from Kula which will be trying to make left hand turns as all of the other traffic is trying to turn right.

If all of the above is confusing, it may because it is. And, this is just trying to describe the situation! You really have to live in our area and be a part of the congestion which has already been created here to see just what has happened to the peace and quiet of Upcountry we all sought when we moved here.

To recap:

1 1. We are concerned for the safety of our children, all drivers, and tourists as they must travel through the Five Trees intersection if the Upcountry terminus is anywhere other than Haliimaile.

2 2. We believe the open space of the Haliimaile terminus offers much more opportunity for the construction of a proper intersection given the amount of traffic which will be using this new highway from the various Upcountry communities.

3 3. A terminus at Haliimaile will allow for tourist traffic to go on to easily visit the tourist-related businesses in all Upcountry communities without making every vehicle go through the already congested Five Trees intersection to get to their connecting roads.

4 4. The traffic flow is already heading from all Upcountry communities to/from Haliimaile from the various feeder roads.

Attached please find the signatures of our members who wish to be counted as agreeing with the opinion of those who attended our recent meeting and discussed this matter in much detail.

Thank you for your consideration of our position regarding the proposed Upcountry terminus and its impact on our community and quality of life.

Diane T. Logsdon,
President

cc: Senator Daniel Inouye
attachments: signature pages from our members

Ms. Diane T. Logsdon
President
Kula 200 Community Association
P.O. Box 880668
Pukalani, HI 96788

1. The safety of an Upcountry terminus at the Five Trees intersection is less relevant now because of the identification of U1,K1 as the preferred alternative. However, even if the Five Trees intersection had been the proposed Upcountry terminus, the safety of students, drivers and tourists would not have been compromised because mitigation measures, such as crosswalks, sidewalks, traffic signals, and intersection channelization would be provided. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

2. All proposed termini assessed in detail in the Draft EIS (U1, U2-A, U2-B and U-3) would have enough open space to construct proper intersections.

3. Traffic conditions at the U2-A terminus, the Five Trees intersection, are projected to operate at a level of service B (delays in the range of 5 to 15 seconds per vehicle) during the morning and afternoon peak hours. Therefore, congestion at this intersection is not anticipated if a U2- A alternative were selected as the preferred alternative.

4. One of the benefits of the U2-A and U2-B alternatives and to a lesser extent the U3 alternatives would be that they would cause the contra-flow of peak directional traffic in Upcountry. For example, Haliimaile and Makawao residents would drive mauka to access either the U2-A or U2-B terminus if one of these alignments had been identified as the preferred alternative. Since commuter traffic tends to peak during certain times of the day (i.e., early morning and late afternoon), arterial roadways tend to be over-utilized in one direction and under-utilized in the other direction during the peak periods. The U2-A, U2-B or U3 alternatives would have caused the directional splits of the highways in Upcountry to be more even, thereby enhancing the efficiency of the roadway system.

HWY3583

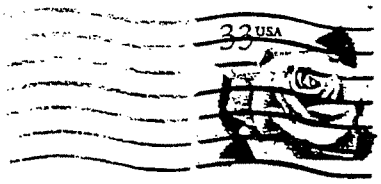
Dear Mr Hayashida,

I am a South Maui resident. My vote for the Kihei Upcountry Highway is for the outlet in Haliimaile, and the northernmost Kihei outlet. It would be a shame to situate the highway further into Ula and destroy the beauty visitors go there to see.

Aloha,

Laurel Mayer
996-4 Kupuhau, Kihei 96753

Laurel Murphy
886-A Kupuka'a
Kihei, Maui 96753



Attn: Upcountry HWY
vote for Haliimaile outlet

Kazu Hayashida
DOT Highways
869 Punchbowl
Honolulu 96813

3881345036

Ms. Laurel Murphy
996A Kupulau St.
Kihei, HI 96753

Comment: Kihei-Upcountry Maui Highway would cause urban development in Upcountry, causing the loss of the Upcountry character.

Response: The amount and pace of residential development in Upcountry is controlled by water availability. Maui County will not allow substantial new urban development in Upcountry as long as water supply constraints persist, even though Upcountry is a popular residential area. Therefore, it is not expected that the project would induce urban growth in Upcountry in addition to growth that would occur without the project.

AWY 3641

NAPILI SHORES

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 13 11 02 AM '99

October 15, 1999

Mr. Kazu Hayashida, Director
State Department of Transportation, Highways
869 Punchbowl Street
Honolulu, HI 96813

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 19 10 55 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

RE : Maui : Kihei/Upcountry Roadway

Dear Mr. Hayashida,

Thank you for consideration of building another road on the island of Maui. The Maui Hotel Association had asked each of its members to address this question with our employees. We pooled our employees and their concerns are not with a roadway from Kihei to Upcountry but another roadway out of Lahaina. They wonder why the Lahaina bypass road is not completed. They wonder why Honoapiilani Highway has not been improved to add lanes. A by pass road was built in Kihei 10 years or more ago but Lahaina does not have one and Lahaina is a community that has been around paying taxes much longer than Kihei.

1 The chief complaint I hear from our employees and guest is the drive to and from Napili. The first topic of conversation in the barbershops is the traffic. Drugs, Crime, wars, and politics do not dominate the conversations. Everyone keeps track of how long it takes to get anywhere and why hasn't anything been done to make improvements.

Mr. Hayashida, please consider moving the priority of road improvements on the West Side of Maui. Last night it took my employees between four to six hours to get home. Guests were stranded on both sides of the island. We need attention and help.

Sincerely,

Steve Wendel, CHA
General Manager

C, Terrly Vencl, MHA

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Mr. Steve Wendel
General Manager
Napili Shores
5315 Lower HonoaPi`ilani Road
Lahaina, HI 96761

1. The Department of Transportation is aware of the transportation problems in West Maui. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department is planning to widen certain sections of Honoapiilani Highway and construct a Lahaina bypass road, as indicated in the latest Maui Long-Range Land Transportation Plan (February 1997). The West Maui projects remain a top priority for the Department.

HWY 3642

ALAN & MALIA SONG
535 LOWER KIMO DRIVE
KULA, HAWAII 96790
PHONE/FAX: (808)876-0700

October 15, 1999

Kazu Hayashida
Director Of Transportation
DOT, Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

We are writing to express our distress over the possibility of a Kihei-Upcountry bypass road. We are Kula residents and like the majority of the residents up here we have moved here because we like the rural setting. We like the quiet and relatively safe environment that we live in here and feel that the bypass road will drastically affect our quality of life. We are strongly **against** the development of this bypass road.

Unfortunately, we think that the people who are for the bypass road either don't care or are unaware of the long term effects that this road will cause. Those who live upcountry but want to shave off a few minutes of commute time to work on the south side aren't considering that the road will greatly increase the traffic and congestion in their home area. As it is, we don't have adequate water to supply our existing upcountry population. We were on mandatory water restriction for 4 months this summer (that's 1/3rd of the entire year). Kihei is a tourist area which is urbanized. It has many restaurants and bars and a higher incidence of drugs and crime. By putting in a bypass road you will be making a direct pathway for these things to invade our community. Kula's crime rate is very low and we would like to keep it that way. 1

Even if someone was to offer to put in the road for free we would still be against it. If our state/fed government considers any kind of highway building/improvements, it should be on the existing roads which are inadequate and unsafe.

We beseech you to stop pursuing the upcountry bypass road and focus on the more immediate concern of making the existing roads safer.

Sincerely,

Alan Song Malia Song

Alan and Malia Song

Mr. and Mrs. Alan and Malia Song
535 Lower Kimo Drive
Kula, HI 96790

1. As described in Section 4.3.3 of the EIS, the Upcountry police officers could not speculate whether the proposed highway would cause an increase in crime rates. Absent an opinion from the police, it is difficult to provide an objective analysis of this concern.

HWY 3708

Brian R. Jenkins
221 Ululani Road
Kula, Hawaii 96790

October 19, 1999

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Kihei-Upcountry Highway, Maui, Hawaii

Dear Mr. Hayshida:

I am in agreement with the Kula Community Association Board of Directors which opposes the Pulehu, Kulamalu and "5 Trees" termini of the proposed Kihei to Upcountry Maui highway. I support the upgrading and improving of the existing roads connecting Kihei to Upcountry, Maui being Piilani Highway, Mokulele Highway, Hansen Road and Haleakala Highway to alleviate growing traffic concerns. If a Kihei to Upcountry, Maui must be built then the Haliimaile terminus is the best possible option as it will facilitate transportation between the Haiku region as well as the Kula region and Kihei.

1 The less than half mile stretch between the Kulamalu and "5-Trees" termini are patently bad engineering choices as that location is already congested and will become more so in the future. There is one public high school, King Kekaulike, that has its access at that location which has not even been fully built out at this time. There are the new Kamehameha Elementary and High Schools that are under construction that will use that location for their access. There is the unbuilt Kulamalu Subdivision that will use that location for its access with in excess of 400 new homes and that location is already the intersection for the upper and lower Kula roads as well as the Old Haleakala Highway. To even consider having yet another major road terminating at that location is almost unbelievable.

2 It also seems to be the height of governmental arrogance to consider these termini in the face of the opposition of the Kula Community Association which developed its position based on surveys of the

3 Upcountry Maui residents. Please register my active opposition the Pulehu, Kulamalu and "5 Trees" termini of the proposed Kihei to Upcountry Maui highway. Thank you.

Sincerely,

Brian R. Jenkins

cc. Daniel Inouye
Daniel Akaka
Patsy Mink
Neil Abercrombie
Chris Halford
Avery Chumbley
David Morihara
Kula Community Association

Mr. Brian Jenkins
221 Ululani Road
Kula, HI 96790

1. As indicated in Section 4.4.1 of the EIS, congestion would not be anticipated at the U2-A or U2-B terminus despite the development indicated in the letter, which was included in the analysis of travel demand. A U2 (A or B) alternative was not identified as the preferred alternative.

2. Consideration of different alternatives is required under the National Environmental Policy Act and Chapter 343 of the Hawaii Revised Statutes (the State EIS law). These laws require the assessment of all reasonable alternatives. While community sentiment is an important consideration, community opposition alone is not a sufficient reason to exclude an alternative from consideration. The eight alternatives studied in the Draft EIS were all viable alternatives because they would address the project's purposes and needs without substantial environmental impacts. The alternatives are different, however, in terms of their cost, transportation performance, environmental impacts, and public acceptance. These four factors were among those considered in identifying the preferred alternative, the U1,K1 alignment.

HWY 3709

Dick Mayer
RR 1 Box 518 Lower Kimo Drive
Kula, Maui, HI 96790
October 18, 1999

Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hayashida:

Subject: Kihei-Upcountry Highway Draft Environmental Impact Statement (EIS)

I would like my comments on the Draft EIS to be of two kinds:
a) three general comments; and
b) specific comments on the document itself.
I expect that the Final EIS will address both my concerns and questions.

GENERAL COMMENTS ABOUT THE EIS

1. For a major highway project, the Final EIS should reflect and respect the legally adopted County of Maui General Plan 1990 (as amended by Ordinance No. 2234 on April 23, 1993). Specifically, I urge the Federal and State DOT to note the following provisions:

With regard to transportation, the County of Maui's General Plan clearly states as Transportation objective #3:

1 "To develop a Maui County transportation system linked to land use planning that **is less dependent on the automobile** as its primary mode of moving people." Note: **Bold** is mine.

To achieve this objective the Plan offers the following policies:

"c. Direct economic development toward existing communities in order **to minimize employee commuting** and foster a healthy job/housing balance."

"f. Support and expand programs **to reduce automobile dependent employee commuting** for hotel, commercial and industrial projects." Note: **Bold** is mine.

The Draft EIS improperly ignored this portion of the County of Maui General Plan 1990.

2 2. In the Final EIS the Federal and State Departments of Transportation should also reflect and respect the legally adopted (July, 1996) Makawao-Pukalani-Kula Community Plan. Specifically, I urge the DOT to note the following Community Plan provisions:

Page 31 **"Transportation Objectives and Policies**

2 *"**Give priority consideration to the "no-build" alternative** of the proposed Upcountry-Kihei connector highway, and give secondary consideration to the alternative routes with the least negative impact to the Upcountry lifestyle and character by locating the Upcountry terminus in the vicinity of the intersection of Hali'imaile Road and Haleakala Highway."* Note: **Bold** is mine.

Page 13 **"Interregional Issues**

*"Kihei-Upcountry Highway: The proposed highway between Kihei and the Upcountry region is significant in terms of its land use and transportation impacts. **The "no-build" alternative is the preferred option**, but it is recognized that the selection of an alignment*

3 *must consider the growth inducing impacts to the region's agriculture, rural character and open spaces. **The need to maintain the unique Upcountry ambience is an essential parameter in analyzing alternative routing schemes**. Recognizing that the evaluation of alternatives should weigh transportation costs and benefits as well as community and land use impacts, it is recommended that, if built the Highway's Upcountry terminus intersect Haleakala Highway in the vicinity of Hali'imaile Road."* Note: **Bold** is mine.

Page 18 In the **Land Use** section, the Plan states in Objectives and Policies #4

4 *"Encourage land use patterns which will maintain a separation of character between the Upcountry and the Kihei-Makena regions."*

3. At the upcountry end of the proposed highway lies Kula. The long-standing position of the Kula Community Association (of which I am a member) clearly **prefers the upgrading of the present highway/road network** connecting upcountry Maui to Kihei. They and **I support improvements to the existing highways as a means of solving present and future transportation problems**. The exact wording of their position is as follows:

5 *The Kula Community Association Board of Directors opposes the Pulehu,_Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board **supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway** - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.*

MY SPECIFIC COMMENTS ABOUT THE Draft EIS

6 4. I am concerned with the manner in which the "enhanced widening" alternative (EWR) was dismissed during the Tier 1 screening. The Draft EIS indicated that "Non-satisfaction of project goals eliminated the enhanced widening of existing roadways" (on Page 2-28). The Draft EIS said "enhanced widening" had a "fatal flaw" because it "would not establish a

roadway linkage between Kihei and the Upcountry area." Please note that "establish a roadway linkage" is NOT a purpose of the project (See Page 1-5). Rather, "improve roadway system linkage" is a listed purpose. This purpose clearly means that the six proposed alternatives do NOT meet the project purpose because they would "establish" a new roadway linkage!! The "enhanced widening" is an improvement and meets the purpose.

Elimination at the Tier 1 stage is not merely an error. However, I believe it is a deceptive means of avoiding a closer look at the preferred option stated in Maui County's ordinance (See #2 above). I feel that as the many, proposed highway widening projects (Piilani, Mokulele, Haleakala highways) are completed, there will be a series of newly designed, signalized intersections and a four lane highway from/to Upcountry to/from Kihei. The "enhanced widening" alternative needs to be given consideration in the Tier 2 analysis because it will cost effectively solve the traffic problems that the Upcountry-Kihei Highway is supposed to solve. 6

After being rejected as a viable option, the "enhanced widening" (EWR) alternative subsequently seems to have been superficially evaluated as the base-case, "no build" position.

5. In a similar manner, I am concerned with the manner in which the "TSM" alternative was dismissed during the Tier 1 screening. (Please see Page 2-22 top for a clarification of TSM and the need to investigate it.)

The Draft EIS indicated that "Non-satisfaction of project goals eliminated the TSM (on Page 2-28). The Draft EIS said TSM had a "fatal flaw" because it would not meet this goal (would not establish a roadway linkage between Kihei and the Upcountry area). That logic is convoluted and incorrect. Of course, a TSM would not provide a highway link; the Federal government requires that it be investigated as an alternative to a highway and should not be eliminated in the screening because it is not a highway. 7

As in #4 above, TSM elimination at the Tier 1 stage is not merely an error. I believe it is again a deceptive means of avoiding a closer look at the preferred option stated in Maui County's ordinance (See #2 above). The TSM alternative needs to be given consideration in the Tier 2 analysis because it may cost effectively solve the traffic problems that the Upcountry-Kihei Highway is supposed to solve.

6. The Final EIS should **present a complete benefit-cost analysis**. The analysis should include adequate information on the methodology, assumptions, and data used, so that others can determine the accuracy of the calculated benefit-cost ratios. The alternatives should be compared to the completed "enhanced widening" (EWR) alternative. 8 9

7. There is no **trip analysis**. The Draft EIS is totally inadequate in indicating the number, origin, and direction of trips being generated. This information must be included for each of 10

10 the alternatives as well as for the completed "enhanced widening " alternative. I suspect that a trip analysis was avoided because it would show that the proposed highway would have greater costs than benefits.

11 8. Since the proposed highway is being supported by the Federal government with the justification that it is part of our"national security", there should be an accounting from the official Air Force Log at the summit of the number of actual daily trips between KRTP and the summit observatories. Does the **volume of trips justify the expenditure of $50,000,000+** of our tax dollars?

12 9. The Draft EIS references traffic only at the various highway termini. Because the design of these intersections has not been specified, the EIS seemingly lacks the ability to present the actual total cost of each alternative. I ask that the Final EIS address **the total cost of each alternative, including the intersections, street lights and various mitigation measures.** The relative costs are needed to make a decision among the alternatives and for the benefit-cost calculations.

13 10. The Final EIS should correct an error in the main traffic route between Upcountry and Kihei. The Draft EIS mistakenly selected the busy Dairy Road as part of the route. Few traveling between the two areas would utilize that road. Instead, **traffic goes via Hansen Road, a shorter and faster route**. According to the Kahului Airport Improvement Final EIS, Hansen Road will be realigned in the near future.

11. I note (on Page 3-30) the very **high accident statistics** in the Draft EIS for the present two-lane, undivided Mokulele Highway and for Dairy Road. The Draft EIS proposes that the new Kihei-Upcountry Highway be built in a similar fashion to the present Mokulele Highway.

14 I suggest that the Final EIS **evaluate a divided highway with one lane on each side** of the divide. The dangers of Mokulele & Dairy Road need not be repeated by even considering or eventually building two lanes with the provision for two additional future lanes on the other side of a divide.

15 If the Final EIS doesn't consider a divided highway from the beginning, then it must include the probable accidents on a two lane, undivided highway as compared to the safer, four lane, divided highway in the "no build", enhanced widening alternative. Those accident costs should be a part of the benefit-cost analysis.

16 12. The Final EIS needs to address in detail the **impact on traffic of each of the numerous intersections and turn-offs along the different routes: cane haul roads, Maui Ag Park, Omaopio Road, Pulehu Road, the Kamehameha School, the Kulamalu shopping center, proposed gas station, recreational park, elderly housing, etc. The costs of traffic lights,**

17 **potential grade separations, acceleration lanes and deceleration lanes, and other traffic control elements** need to be added to the cost of the highway alternatives.

13. The Draft EIS describes the probability of the **Haleakala bike tours** utilizing a more direct route to Kihei. Unfortunately, the EIS makes no mention of **the effect on local Kula road traffic** if the bicyclists are diverted onto such totally inadequate residential streets such as Kimo Drive and Pulehuiki Road. The problem is particularly relevant because these bike tours pass through Kula during the hours when **school busses** are negotiating these narrow streets. 18

Compounding the problem and also not addressed in the Draft EIS is the fact that **bike tours do NOT use a single lane of traffic**. Rather, they have a wide van that trails the cyclists and intentionally protects the cyclists by blocking traffic for long periods. This problem needs to be addressed in the Final EIS; both for bike tours using the various highway alternatives; and for the bike tours passing through the residential streets of Kula. 19

Even if the bike tours do not use the streets mentioned above, they certainly will be passing King Kekaulike High School and interacting with hundreds of young drivers beginning the school day. 20

14. In a similar manner, many additional **cars will be taking shortcuts** up and down to/from the Haleakala Crater using Pulehuiki RD., Kimo DR., Lower Kula RD., Holupuni, Pulehu and Omaopio roads. They will be **descending on those narrow, winding and steep Kula residential streets** after their brakes will have been overheated, having descended twenty-two miles down Crater Rd.

In particular, as drivers traverse Pulehuiki Rd. and/or Kimo Drive there is a likelihood of additional fatal accidents to drivers and or pedestrians because of the steep sharp turns that both of these roads provide; there is little warning for the uninitiated. Is the DOT willing to accept the responsibility for the lawsuits that will result from these accidents? 21

The discussed mitigation measure (i.e. utilizing signage) (See Page 4-32.) will not adequately deter local drivers, scientists, or even tourists. The Draft EIS fails to properly address this issue or to suggest meaningful mitigation measures. In fact, I believe that the dangerous situations that will occur on Kula's residential streets are a **"fatal flaw"** in the EIS consideration and eventual use of the U-3 terminus.

15. Very specific concerns that indicate "fatal flaws" with several alternatives, and thus should mean that **the Final EIS will not consider these highway segments or termini**:

U-3 cuts through: the Maui County Ag Park (See Page 4-12); Maui Land and Pine pineapple fields (See Page 4-13); and close enough to minority-owned, Kula vegetable farms (that have been farmed by local families for generations) to disrupt their travel patterns (See Page 4-21). See also #13. & #14. above which should eliminate U-3. 22

U-2B has a severe 10% grade in the neighborhood of the recently opened Kamehameha School and the proposed elderly housing project. There will be loud and disruptive noise from trucks and tour buses going up the mountain and from the application of (air) brakes as those same vehicles descend. Many of the tour buses will pass the elderly housing project between 3:30AM and 5AM on their way to the Haleakala summit 23

sunrise. Furthermore, this 10% segment lies between Kamehameha School, the proposed park and the proposed large shopping center; I fear for the children who will be walking along the highway.

24 **U-2A** is in the immediate proximity to Kekaulike HS, resulting in a number of potential problems: a) many students now walk (without sidewalks) along the highway, since bus service is provided only for students living over one mile from the campus; b) many tourists as they descend from the sunrise will be meeting the high school's arriving students about 7:30AM; and c) there already have been a number of accidents at the "five trees" intersection.

25 As a matter of public safety, this **highway should not be in the proximity of any of the upcountry schools**.

16 According to the Draft EIS the **danger of fires** started along the highway and being spread uphill by ascending daytime winds is to be mitigated only by signs. There is no water
26 in the area for fire-fighting or even for a landscaped green-belt on the mauka (residential) side of the highway. Because of the area's inaccessibility, a fire could develop a broad front as it moves uphill into the Kula residential community. This danger applies to all the alternatives and needs to be better addressed in the Final EIS..

17. With regard to **funding,** I understand that the highway will be financed 80% - 20% by the Federal and State governments respectively. I suspect that the highway, the **intersections, the mitigation measures, etc. will be much more expensive** than the figures in the Draft
27 EIS.

Already the projected costs have risen from an earlier figure of about $35 million (during a time when the inflation rate was low and housing costs actually decreased on Maui).
28 Consequently, if the "no build" scenario is adopted, I wish to know which of the several, much needed highways could be built or improved with the State portion of the funds?. Also, the
29 Final EIS should be explicit on who will be responsible for **probable cost-overruns**? State?
30 Federal government? or 80%/20%? Finally, who will be responsible for the **highway's maintenance**?

18. The Maui County **Board of Water Supply** is required by law to follow the community
31 plans (See #2 above.). Since this proposed highway will violate the Upcountry Community Plan and will potentially result in unplanned developments, the Final EIS must address the changes needed in the Plan and suggest the mechanism to change the Plan.

32 19. The 45 MPH in an urban area is unrealistic and unsafe. Using this figure exaggerates the time saved by the highway. (Summary Page S-8, Line 8)

20. The Highway will connect two areas with vastly different **crime rates** (Page 3-26 and
33 Appendix H). Numerous residents are very concerned that the high crime rates of Kihei will spread to the bedroom communities upcountry.

34 21. The Draft EIS states (Page 4-6) that the "No-Build alternative would not support the goals and objectives of the Hawaii State Plan". There is no reference for or example of this assertion

35 22. The Final EIS needs to give the **total acreage** of each alignment, and specifically the **amount of agricultural land** that will be removed from production within the 162' minimum right of way (Page 2-9) and at the intersections. Also, since sugar/pineapple/vegetable crops
36 will be affected, the Final EIS should describe the **Land Quality rating** of the lands being used for each alignment.

37 There will be a significant **impact on the daily operations of all of these farming activities**. The Final EIS must address these disruptions and suggest the exact mitigative measures.

38 23. **Cumulative impacts** (Page 4-59) have only been superficially explored. Lacking is a full discussion (acreage, quality and effects) resulting from **the sizeable removal of prime agricultural lands from productive use**. The Highway's land removal will be **in addition to the removal of prime agricultural lands** for other projects: Haliimaile housing, Sprecklesville housing and golf course, Kahului Airport, Kahului Airport Access Road, the new Maui Electric Power Plant, widening of Haleakala Highway, widening of Mokulele Highway, Kulamalu development, King Kekaulike High School, massive housing developments below Wailuku Heights and immediately south of Wailuku town, Kahului expansion into Maui Lani, etc.

Thank you for considering my comments in preparing the Upcountry-Kihei Highway Final EIS.

Sincerely,

Dick Mayer

CC: Mr. Abraham Wong, Division Administrator, Federal Highway Administration

Mr. Dick Mayer
RR 1 Box 518 Lower Kimo Drive
Kula, HI 96790

1. More detail on the transportation objectives of the County of Maui General Plan that you cite is now provided in Section 3.1.2.2a of the Final EIS. In general, the Department of Transportation supports the General Plan's transportation objective to use land use planning to reduce dependence on the automobile although this specific project may not be consistent with this objective. However, the Department believes this objective is not intended to be a moratorium on new roadway construction. In addition, the proposed project is consistent with the other two objectives (see Section 4.1.4.2a of the Final EIS). Kihei-Upcountry Maui Highway could be used as a transit link between Kihei and Upcountry if one is established.

2. The Department of Transportation respects the views of the public, such as those expressed in the Community Plans including the Makawao-Pukalani-Kula Community Plan (July 1996). However, the Department considers Community Plans as advisory, and this input is balanced with other factors, such as cost, transportation performance, and environmental impacts.

3. The potential for urban growth inducement in Upcountry was analyzed in the Draft EIS. It was determined that the amount and pace of residential development in Upcountry will continue to be controlled by water availability, not transportation infrastructure. The Department of Transportation recognizes that an important characteristic of the Upcountry "ambience" is its relatively low population density. However, it is not Kihei-Upcountry Maui Highway that would affect this aspect of Upcountry ambiance, but the availability of water, which is needed for development.

4. Thank you for this information. Kihei-Upcountry Maui Highway is not inconsistent with this land use objective. Land use controls will continue to maintain this separation of character.

5. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway.

6. The stated purpose in Section 1.2.1 (Roadway System Linkage) is to provide a linkage between Kihei-Makena and Upcountry and between the Maui R&T Park and Science City on the summit of Haleakala. The Enhanced Widening of Existing Roadways (EWR) alternative was eliminated from further study because it would require construction over a 32 km (20 miles) distance, and was estimated to cost $78 million. This could not be justified when a highway directly linking Upcountry and Kihei would only be 15 to 18 km (9 to 11 miles) long, and would cost roughly the same, but would perform substantially better in addressing the system linkage and other purposes and needs.

   The EWR alternative is not the same as the No Build alternative. As stated in Section 2.2.1, the EWR alternative would provide an additional lane in each direction beyond the widening improvements already proposed in the Maui Long-Range Land Transportation Plan (February 1996). The No Build alternative includes only the widening improvements in the Long-Range Plan.

7. The description of transportation system management (TSM) alternative that is applicable to this project has been enhanced in the Final EIS. However, even with its description improved, the result remains (see Section 2.2.1) that the TSM alternative does not address the project's purposes and needs. Therefore, it was eliminated from consideration. FHWA does not require that a TSM alternative be considered as a viable alternative in the EIS if it would not address the purposes and needs of the project.

8. The requested information is provided in Appendix E, "Alternatives Analysis Report".

9. As described in Section 2.2.1, all build alternatives that underwent the BC analysis were compared against the No Build alternative. For this analysis, it is not appropriate to compare the build alternatives with the "Enhanced Widening" (EWR) alternative, another build alternative. A build alternative is not an appropriate basis of comparison for another build alternative in a BC analysis. The EWR alternative is estimated to cost $78 million.

10. An origin-destination (O-D) study (i.e., "trip analysis") was performed during the preparation of the most recent Maui Long Range Land Transportation Plan. It was used to estimate the traffic volumes on the Kihei-Upcountry Maui Highway (see Section 4.4.1.2). Separate volume projections were developed for each alternative. Depending on the alternative, these volumes would vary. In general, the U3 and K2 alternatives would convey

lower volumes, while the U1, U2-A, U2-B, and K1 alternatives would convey higher volumes.

11. The present traffic volumes between the Maui R&T Park and Science City are relatively small, but these volumes could increase as both facilities are developed. Nonetheless, there are other purposes and needs for the project beyond the legislative directive to provide improved mobility between defense-related activities at the Maui R&T Park and Science, as described in detail in Chapter 2.

12. Section 2.1.2 states that the highway's termini intersections will be designed with adequate channelization (e.g., turning, deceleration, acceleration lanes) to handle projected traffic volumes. Detailed intersection designs will be prepared for each intersection during the design phase. The cost estimates of the alternatives include the elements listed above.

13. The traffic route between Kihei and Upcountry Maui has been amended in the Final EIS to include Hansen Road. There are no plans to realign Hansen Road. What is being planned is the realignment of Mokulele Highway and Puunene Avenue, which would allow a short extension of Hansen Road, and the installation of traffic signals at its intersection with Puunene Avenue. The planned airport road would be a new road running parallel to Dairy Road with an interchange on Hana Highway.

14. Kihei-Upcountry Maui Highway, in its initial two-lane undivided configuration, would be more similar to Haleakala or Hana Highway rather than Dairy Road or the present Mokulele Highway. (Mokulele Highway will be changed to a four-lane divided configuration, which will substantially reduce the number of incidents on this roadway.) The number of incidents on Haleakala and Hana Highways is not high considering their relatively high traffic volumes (see Section 3.4.1.2). Kihei-Upcountry Maui Highway will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards.

15. The benefit-cost analysis was used as early screening tool to compare the alternatives based on travel time savings between Kihei and in Upcountry.

16. Section 4.4.1.2 contains the analysis of traffic conditions at the terminus options for each alternative. The U1,K1 alignment, which was identified as the preferred alternative, would

cross cane haul roads and Omaopio and Pulehu Roads. Two underpasses will be constructed for cane haul routes. The impact of the U1,K1 alignment crossing Omaopio and Pulehu Road is described in Section 4.4.1.1.

17. The elements described are included in the estimated costs of the alternatives.

18. As requested, Section 4.4.1.3 will be modified in the Final EIS to describe the potential that bike tour operators would use local Kula roads should a U3 alternative be selected.

19. Kihei-Upcountry Maui Highway will have adequate shoulders for bicyclists. Bicycle tour operators will not be allowed to conduct their tours on Kihei-Upcountry Maui Highway in the manner described in the comment because it is unlikely that the van protecting the cyclists would be able to maintain the minimum speed required to use the highway.

20. As requested, Section 4.4.1.3 of the Final EIS has been modified to identify the potential impact of bicyclists interacting with the high school traffic.

21. A U3 terminus is not included in the preferred alternative. Therefore, the inappropriate use (i.e., shortcuts to and from Haleakala Crater) of Pulehuiki Road, Kimo Drive, and Lower Kula Road will not occur. However, since the U1,K1 Alternative was identified as the preferred alternative, the EIS acknowledges that some motorists will use Holopuni, Pulehu and Omaopio Roads inappropriately as shortcuts because of the distance between Kula and the U1 terminus (see Section 4.4.1). Closing access between these roads and Kihei-Upcountry Maui Highway is not an option because of the burden this would place on farmers.

22. If a U3 alternative had been identified as the preferred alternative, parcels of the Kula Agricultural Park and pineapple fields cultivated by Maui Pineapple Company would be converted to roadway infrastructure. The landowners would be compensated, and agricultural infrastructure would be modified and reconstructed. No other farmers would have been affected by the U3 alternative. A U3 alternative was not identified as the preferred alternative because it would not address the range of travel markets as well as the other alternatives.

23. If a U2-B alternative were identified as the preferred alternative, any noise impacts (see Section 4.6 for a definition of a noise impact) would be mitigated in accordance with the

Department of Transportation Noise Analysis and Abatement Policy. In the vicinity of Kamehameha School and the future shopping center, an urban design would have been used, which includes sidewalks. In addition, the speed limit would be lower in this area than areas with little or no human activities. A U2-B alternative was not identified as the preferred alternative.

24. If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection would have included crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

25. Please see Response #24. The highway would not affect public safety at schools even if the Upcountry terminus were located at U2-A.

26. In addition to signage warning motorists of fire hazards, the Department of Transportation will conduct regular maintenance to control weed growth along highway shoulders. While the Kihei-Upcountry Maui Highway will increase access to the area, such that the risk of man-made hazards may increase, the highway would simultaneously decrease the damage from fires because it would improve the accessibility of water and fire-fighting resources to the dry forest areas. The preferred alternative, the U1,K1 alignment, traverses agricultural fields, and therefore, has access to water.

27. See response #12.

28. The State's share of the cost to construct Kihei-Upcountry Maui Highway, which may be about $13 million (in 1997 dollars) for the U1,K1 alternative, has not been secured. If, for example, the U1,K1 alternative is selected in the project's Record of Decision, the State Legislature would be asked to fund the State share.

29. Financial responsibility for an overrun depends on the reason for the overrun. For some categories of overrun, the Department of Transportation and the Federal Highway Administration would share the burden.

30. The State Department of Transportation will be responsible for maintenance of the highway.

31. The amount and pace of residential development in Upcountry will continue to be controlled by water availability, not transportation infrastructure. The EIS acknowledges (see Section 4.1.1) that highway projects can catalyze urban development because they often remove an impediment to growth, access or insufficient transportation capacity. In this specific case, however, the urban growth potential of Upcountry is not limited by transportation factors, with or without the project. Despite the recent development of a well in Haiku, which is being partially used for the Kulamalu development, Upcountry will continue to rely on surface water resources that are highly vulnerable to drought conditions. Therefore, as stated in current planning documents, the County is unlikely to allow substantial urban development in Upcountry despite the existence of Kihei-Upcountry Maui Highway.

32. The planned urban 70 km/h (45 mph) speed limit is normal for a limited access facility in urban areas. Most of the highway will have a speed limit of 90 km/h (55 mph). Therefore, the estimated time savings provided in the EIS is not an exaggeration. Adjustments to the speed limits may be made during the design phase if more detailed study shows that changes are warranted.

33. As described in Section 4.3.3 of the EIS, the Upcountry police officers could not speculate on whether the proposed highway would cause an increase in crime rates. Absent an opinion from the police, it is difficult to provide an objective analysis of this concern.

34. Section 4.1.2.1a of the Final EIS will be amended to state how the No Build alternatives does not support some of the relevant objectives and policies of the State Plan.

35. Section 2.1.2 contained information on the estimated total right-of-way requirements of each alternative. As requested, Section 4.2.1 of the Final EIS now includes information on the right-of-way taken from active agricultural fields.

36. If the comment is referring to the Land Evaluation and Site Assessment scores, which are required under the Farmland Protection Policy Act, such scores are not disaggregated by type of crop. However, the Natural Resources Conservation Service considers the agricultural value of the land when they provide "total site assessment points", Part V of Form AD-1006. The completed Form AD-1006 for all alternative alignments is in Appendix C.

37. Section 4.2.1 of the EIS includes discussion on potential disruptions to farming activities, and Section 4.2.4 contains measures to mitigate such impacts.

38. The level of detail in Section 4.15 of the EIS, Cumulative Impacts, is appropriate for this stage of decision-making. Additional detail would not change the conclusions of this section.

Mr. Richard D. Mayer
RR1, Box 518
Kula, HI 96790

Comment: Criticized the public hearing because the No Build alternative was not specifically identified as a viable alternative in the displays.

Response: The Draft EIS identifies the No-Build alternative as a viable alternative. There was no intention to mislead the public at the hearings into believing that the No Build alternative is not an option. The video that was played at the entrance to the display area stated that the No-Build Alternative was being carried forward, as required by the EIS process.

Comment: The project is proceeding, even though it is contrary to the wishes of the community as communicated in the Makawao-Pukalani-Kula Community Plan.

Response: The Department of Transportation respects the views of the public as stated in the Makawao-Pukalani-Kula Community Plan. However, this consideration must be balanced with others, as well as considerations of cost, transportation performance, and environmental impacts.

Comment: The use of Hansen Road as a route between Upcountry to Kihei is ignored.

Response: The traffic route between Kihei and Upcountry Maui has been amended in the Final EIS to include Hansen Road.

Comment: The project ignores the use of Hansen Road as a viable alternative.

Response: The current Maui Long Range Land Transportation Plan, which guides investments in roadways, did not include improvements on Hansen Road.

Comment: Objects to the open house format of the public hearing because participants cannot hear what others have to say about the project. Therefore, there is no way to ascertain whether individual comments are being accurately transcribed.

Response: Members of the public are free to interact as they see fit at the public hearing, as long as they do not disrupt information gathering and comments by other participants. The commenter is free to ask others what they think of the project. They can also e-mail, write

letters, or arrange meetings to communicate amongst themselves. Oral comments are transcribed by professional court reporters who certify the accuracy of the transcripts to the best of their abilities.

Comment: The open house public hearings are probably illegal under the Sunshine Law. Those who want to speak publicly should be given the opportunity to do so.

Response: The format of the public hearing is not in violation of the State Sunshine Law. In addition, the Department of Transportation is not required to provide the opportunity for people to speak publicly (i.e., in front of an audience) at its hearings. Nevertheless, an additional meeting was conducted in Kahului where an open microphone was made available for those individuals desiring to speak in front of an audience.

Comment: Constructing Kihei-Upcountry Maui Highway is inconsistent with the Maui County General Plan transportation objective of using land use planning to reduce dependence on the automobile.

Response: Please see response to Comment #1 of your letter.

Comment: The selection of the preferred alternative should be fully consistent with the Makawao-Pukalani-Kula Community Plan.

Response: Please see response to Comment #2 of your letter.

Comment: Believes that the No-Build alternative was eliminated.

Response: The No Build alternative has not been eliminated from consideration. The No Build Alternative cannot be eliminated until the FHWA issues a Record of Decision. Even after that point, construction funding would still need to be obtained.

Comment: Believes that the Enhanced Widening of Existing Roadway (EWR) alternative should not have been eliminated in the alternatives screening.

Response: Please see response to Comment #6 of your letter.

Comment: The No Build alternative should have been given greater consideration.

Response: The No Build alternative is evaluated equally with other alternatives. The No Build alternative serves as the basis of comparison in determining the transportation and environmental impacts of the build alternatives. The No-Build alternative is not necessarily a "do-nothing" alternative.

Comment: Requests a benefit-cost (BC) analysis of the eight build alternatives and the No Build alternative that includes more factors, such as the cost of highway incidents, than those used in the BC analysis for the alternatives screening.

Response: A benefit-cost analysis is typically not used in the environmental evaluation of alternatives (*i.e.*, Chapter 4, Environmental Consequences, of the EIS) because of the difficulty of assigning monetary values to all of the benefits and costs of the project. Construction cost, however, is provided in the EIS.

Comment: Are planning and design costs included in the total project cost?

Response: The cost estimates provided in Section 2.1 of the EIS do not include the cost to conduct planning and design.

Comment: Military traffic between the Maui R&T Park and Science City is low and unlikely to grow.

Response: Please see response to Comment #11 of your letter.

Comment: Kihei-Upcountry Maui Highway, as a two-lane undivided highway, would be unsafe.

Response: Please see response to Comment #14 of your letter.

Comment: Have the added costs of the intersections and mitigation measures, such as the cane haul crossings, been included in the cost estimate for each alternative?

Response: Please see response to Comment #17 of your letter.

Comment: The EIS does not have a trip analysis. How many people will be commuting between the Maui R&T Park and Science City?

Response: Please see response to Comment #11 of your letter.

Comment: The trip analysis should not include Haiku and Paia residents.

Response: The question of how many Haiku and Paia residents who would use Kihei-Upcountry Maui Highway would depend on the alignment selected.

Comment: Why does the No Build alternative cost $78 million?

Response: Please see response to Comment #6 of your letter.

Comment: The EIS does not state whether crime rates in Upcountry would increase because of the project.

Response: Please see response to Comment #33 of your letter.

Comment: The EIS does not adequately evaluate agricultural impacts because the total acreage of displaced agricultural land is not indicated, nor does it adequately disclose cumulative agricultural impacts. Also, the quality of the agricultural land affected needs to be indicated in the Final EIS.

Response: Please see response to Comment #35 of your letter.

Comment: The highway will jeopardize the safety of King Kekaulike High School and Kamehameha School students.

Response: Please see responses to Comments #23 and 24 of your letter.

Comment: What features will the terminus intersections provide? Are the costs of these features included in the overall cost estimates?

Response: Please see response to Comment #12 of your letter.

Comment: Will there be passing lanes on Kihei-Upcountry Maui Highway?

Response: Passing lanes will be studied in more detail in the design phase of the project.

Comment: Kihei-Upcountry Maui Highway would increase the risk of brush fires.

Response: Please see response to Comment #26 of your letter.

Comment: The U3 alternatives would disrupt minority-owned farms.

Response: Please see response to Comment #22 of your letter.

Comment: The U2-B alternatives would cause noise impacts to the school and a proposed elderly housing, due to trucks and tour buses traveling on a steeply graded road.

Response: Please see response to Comment #23 of your letter.

Comment: Suggests construction of an evacuation road utilizing cane roads, to be used only in the event of emergencies, instead of Kihei-Upcountry Maui Highway.

Response: The suggested alternative does not satisfy other purposes and needs that have been identified for this project.

HWY 5723

MAUI LAND & PINEAPPLE COMPANY, INC.

October 19, 1999

Mr. Kazu Hayashida, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: Kihei-Upcountry Maui Highway
Draft Environmental Impact Statement
Maui, Hawaii

Thank you for providing our company with a complete copy of the Draft EIS for the subject project for our review and comments. Pursuant to our review of the Draft EIS, we have the following comments to offer:

1 Maui Land & Pineapple Company, Inc. (ML&P) lands and pineapple farming operations will be adversely affected by the proposed highway in varying degrees, depending on the various alignment alternatives. ML&P must be adequately compensated for land area lost, crop damages, severance damages, etc. and appropriate mitigation measures must be implemented.

2 Table S-1, Summary of Environmental Impacts And Mitigation, summarizes the impacts of the proposed highway. The table also summarizes the mitigation measures for each adverse impact. Under "Land Use" impacts, it is our understanding that ML&P will be properly compensated for land area lost due to right-of-way requirements. Under "Farmland" impacts, all of the impacts listed, together with those listed in our November 6, 1995 letter and as discussed during our meeting of April 4, 1997 with the consultants for the proposed highway (copies of the letter and meeting minutes are enclosed for your review), must be adequately addressed in the "Maintenance of Agricultural and Ranching Activities Plan," which we understand will clearly define the mitigation measures required. The above plan must also address losses due to crop damages, severance damages, etc. ML&P's involvement in the development of the plan is critical. Under "Transportation" impacts, the "Maintenance of Traffic Plan" must

3 adequately address the impacts on farm vehicle movement, not only along Omaopio and Pulehu Roads, but also along the proposed highway.

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Section 4.2.4-Mitigation Measures of Chapter 4-Environmental Consequences, states that "If U-3 is selected, SDOT would purchase any unworkable remnant ML&P land based on....Kula Agricultural Park." Purchase of unworkable remnants of ML&P land
4 should be a consideration; however, it should not be the only consideration when unworkable remnants of ML&P land are created. Proper evaluation should be conducted as part of the mitigation plan to determine appropriate action to be taken. As previously noted, ML&P must be involved in the development of the plan.

Section 5.2-Public Information Meetings of Chapter 5-Comments and Coordination, notes that a comment expressed at the second Upcountry meeting stated that "agricultural impacts (to sugar cane fields) are not critical because this industry is not
5 important to the future of the island." It is not clear if the comment also refers to pineapple fields; however, even if it does not, ML&P disagrees with the comment expressed. ML&P strongly feels that agricultural impacts are very critical because this industry is very important to the future of this island.

We greatly appreciate the opportunity to provide our comments on the Draft EIS. If you have any questions or wish to discuss any of our comments, please do not hesitate to contact me.

Mahalo,

Warren A. Suzuki
Vice President/Land Management & Development

/dc
Enclosures
c: Gary Gifford w/encl.
Doug MacCluer w/encl.
Paul Meyer w/encl.
Doug Schenk w/encl.
Don Young w/encl.

Mr. Warren A. Suzuki
Vice President/Land Management & Development
Maui Land & Pineapple Company, Inc.
P.O. Box 187
Kahului, HI 96733-6687

1. Maui Land & Pineapple Company, Inc. (ML&P) will be compensated for right-of-way acquisition, crop damage, and other impacts as described in Sections 4.1.4 and 4.2.4 of the EIS.

2. The Maintenance of Agricultural and Ranching Activities Plan, which will be prepared during the design phase, will include measures to mitigate or minimize impacts to agricultural activities during construction. It will also identify measures to ensure the long-term operation of affected agricultural areas. However, it will not attempt to estimate monetary losses due to crop and severance damages. ML&P would be entitled to compensation for these damages based on fair market valuations.

3. Section 4.4.1 will be revised to disclose that farm vehicles would be using Kihei-Upcountry Maui Highway. The Maintenance of Traffic Plan is only for construction-period impacts.

4. Since a U3 alternative was not identified as the preferred alternative, coordination with ML&P may not be necessary with regards to the creation of unworkable remnant parcels. The U1,K1 alternative, which was identified as the preferred alternative, will cross one ML&P field. Remnant parcels are not expected. If there were remnant parcels, ML&P would be entitled to fair market compensation.

5. The Department of Transportation has an obligation to report relevant comments made during public involvement activities, such as the public information meetings. Reporting such statements does not indicate Department concurrence.

HWY 8725

LIFE OF THE LAND

Ua Mau Ke Ea O Ka `Aina I Ka Pono

Hawai`i's own local Community Action Group
Protecting our Fragile Natural & Cultural Resources
through Research, Education, Advocacy & Litigation

Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, HI 96813

Kenneth Au
Department of Transportation, Highways Division
869 Punchbowl Street
Honolulu, HI 96813

Abraham Wong
US Department of Transportation
Federal Highways Administration
300 Ala Moana Boulevard
Honolulu, HI 96850

re: proposed Kihei-Upcountry Maui Highway

Aloha,

Life of the Land is Hawai`i's own environmental and community action group serving Hawai`i since 1970. Our mission is to preserve and protect the life of the land, to promote sustainable land use and energy policies and open government through research, education, advocacy and litigation.

1 I) The Hale`iwa Bypass Road (O`ahu) was designed to decrease traffic in Hale`iwa town. It did. But a secondary effect was that many businesses struggled as a direct result of this decrease in traffic. Bypass roads help some commuters who work in urban centers and live in rural centers. These bypass roads directly and very negatively impact local rural businesses that are cut-out of the business of catering to customers who drive by their stores. If the Upcountry Maui Highway is built, which rural business communities will see a drop in the number of cars passing their shops? How sharp will the drop be? Will the state and/or county offer tax breaks for the affected businesses?

2 II) How does the statement: "1.2 Purpose and Need for the Project. The project ('the proposed project') is being designed to satisfy the following six purposes and needs: ... support economic development." (DEIS page 1-5) relate to Chapter 343, HRS and 11-200 HAR references to secondary and cumulative impacts? If, as you say, the road will lead to economic growth, aren't you saying that the road will created secondary and cumulative impacts which must, under law, be evaluated in the EIS process?

3 III) How does the statement "the number of Maui visitors is expected to be close to four million by the year 2010, a daily average of over 66,000. In 1990, visitor arrivals numbered approximately 2.3 million, a daily average of 38,000. In other words, almost three out of ten persons, on a daily average, is a visitor." (DEIS page 1-7) relate to the fact that Maui residents feel that the tourism sector of the economy is either about right, or too high?

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*** email: <lifeoftheland@hotmail.com> ***

3 That is, most residents don't want the economy to be a one-sector entity, correct? Shouldn't economic growth through diversity be pushed (such as diversified agriculture, high technology, education, health), rather that placing all of ones eggs in one basket (visitor industry workers working in Kihei, living upcountry)?

4 IV) The following statement seems unsupported: "A Kihei-Upcountry Maui Highway would support economic development issues by ... providing improved transportation mobility between R&T Park and Science, which would support business and federal government personnel at the R&T Park and Science who provide technical assistance to Science City." (DEIS page 1-8) In answers to questions raised during the EISPN phase of this process, you stated you have no idea how many people commute between R&T Park and Science City. Nor did you dispute that the number is exceedingly low.

5 V) The statements: (1) "In 1990, daily average trip generation on the island exceeded 233,000 trips. According to the Maui Long-Range Transportation Plan (February 1996), daily trip generation is expected to increase to over 386,000 trips in the year 2020. ... Since Maui's population is expected to grow by over 60 percent from 1990 to 2020, home based work trips are projected to exceed 69,000 in 2020; 26,000 more than in 1990." (DEIS page 1-11) and 92) and (2) "Trip generation by visitors is projected to increase from over 35,000 in 1990 to close to 60,000 (approximately a 70% percent increase) in 2020 based on projections of visitor arrivals." seems incomplete.

home based trips	43	69
visitor trips	35	60
total	233	386

6 VI) The statement: "A Park official indicated that the number of visitors to the summit correlates with the number of visitors to the island, including seasonal variations (telephone conversation, December 8, 1997)" seems to imply

(a) that there is a park official who correlates visitors on island with visitors to the park. What awesome information. The State calculates visitor days spend on Neighbor Islands by the forms turned in by passengers arriving on airplanes from foreign and mainland destinations. The forms indicate visitors intention of visiting neighbor islands; not on there actual visit Neighbor Islands after arriving in the State. This park official could held DBEDT update their estimates!

(b) Residents are probably more likely to visit the summit when fewer tourists are visiting the summit. Therefore, hopefully, the park official has accounted for this.

(c) Since it is difficult to determine what percentage of summit visitors are tourists (even if one examined license plates) we would like to know how the park official determines who is a visitor and who is a resident.

7 (d) We would also like to know if there is a direct relationship between island visitors and summit visitors. (example: 1 out of 15). Thus, by knowing the added number of visitors expected due to the proposed increase in the size of Kahului Airport, we could know they corresponding rise in the impacts to the summit. This assumes that the proposed road will shorten the travel distance between the summit and the makai areas, but not increase the number of visitors who will drive to the summit. Is this a reasonable assumption?

VII) LOL examined the statement "Through a broad-based community participation program called Decisions Maui, the following five major themes were incorporated into the General Plan: protect Maui Country's agricultural land and rural diversity; prepare a directed and managed growth plan; protect Maui County's shoreline and limit visitor industry growth; maintain a viable economy that offers diverse employment opportunities for residents; and provide for needed resident housing." (DEIS page 3-9) with this proposal.

General Plan	Proposed Highway
protect Maui Country's agricultural land	build a road through prime ALISH ag lands
protect Maui Country's rural diversity	increase tourism/economy ratio
prepare a directed and managed growth plan	violate Makawao-Pukalani-Kula Community Plan
protect Maui County's shoreline	build a makai-mauka road
limit visitor industry growth	increase tourism/economy ratio
maintain a viable economy that offers diverse employment opportunities for residents	increase tourism/economy ratio decrease diversity/economic ratio
provide for needed resident housing	build a makai-mauka road

8 How is the proposed road consistent with each part of the amended General Plan?

9 VIII) "What would the impact be if the road were limited to bicyclists and the sidewalks to joggers?"

10 IX) Please include in the Final EIS the transcribed comments and questions of all people who spoke at public hearings during the official comment period.

11 X) The Upcountry Maui document refers to a desire to reduce air pollution, smog, etc., etc., caused by driving the current roundabout route and replacing it with a more direct route. Should we be moving toward greater use of mass transit OR greater use of cars OR be designing a system that has something for everything and has a huge price tag for our recession-based economy? "Road building and automobile use have a synergistic relationship that is ultimately unsustainable. since it leads to ever more road building, cars, congestion, and reduction in the quality of the environment. [O'ahu] Islandwide Mobility Concept Plan, Parsons Brinkerhoff (1999) page 10.

12 XI) Which Travel Forecast models are used? Why? How dependent is the transportation model to the assumptions and data used? When the data is chosen, the assumptions are assumed and the model is used, a result will follow. But how will the result change under minimal alterations of the given? How sensitive are the models to changes in input? Which variables have the highest elasticity (smallest change in output, largest change in output, greatest chance the "desired plan" is the wrong plan)?

13 XII) The Draft EIS needs a thorough Community Impact Assessment which includes supporting sustainable livable communities; promoting community values and thriving neighborhoods; contributing to general well-being; embracing the concerns of neighborhoods and communities.

14 XIII) Will transmission lines ever be placed overhead along the proposed highway? If so, why?

15 XIV) Does the amount of federal matching funds vary depending on the option chosen? Please elaborate.

16 XV) What is the relationship between the military and the proposed road?

17 XVI) Will sufficient land be acquired during the initial construction of the proposed highway to allow easy expansion of the road in the future?

Mahalo for this opportunity to testify.

Me ke aloha pumehana.

Henry Curtis
Executive Director

Mr. Henry Curtis
Executive Director
Life of the Land
76 North King Street, Suite 203
Honolulu, HI 96817

1. As described in Section 4.3.2 of the EIS, Kihei-Upcountry Maui Highway will not function as a commercial district bypass, except for businesses in Kahului. Kahului is the main shopping district on the island.

2. Secondary and cumulative impacts are evaluated in the EIS. Although Section 4.16 is specifically about secondary impacts, discussions of secondary impacts are also found elsewhere. For example, depending on the alternative, the highway would cause an increase in the inappropriate use of Omaopio and Pulehu Roads as through routes (see Section 4.4.1.1). Section 4.15 includes disclosure of potential cumulative impacts of the proposed project, as well as other major projects and land use trends as reported in the community plans.

3. The EIS did not attempt to seek the opinions of residents on the appropriate level of tourism on the island. Section 1.2.2 uses projections prepared by Maui County and reported in the Maui Long-Range Land Transportation Plan (February 1997). These projections are furnished to support the statement that the level of tourism activity is expected to increase. The appropriateness of the size of the island's economic base is beyond the scope of this highway EIS.

4. Kihei-Upcountry Maui Highway will support development of the Maui R&T Park by improving transportation between the Park and Science City. However, the EIS acknowledges that the number of persons traveling between the Maui R&T Park and Science City using Kihei-Upcountry Maui Highway will be relatively small compared to other travel markets. It is acknowledged that the highway would provide more economic support to the visitor industry simply because it is much larger.

5. Other types of trips, such as shopping trips, etc., were not reported in Section 1.2.4.

6. The Haleakala Park official based the assessment on direct observation, i.e., noticing that the park is busier during peak visitor periods on the island, and did not develop statistical

data on the correlation between island and Park visitors. The park official was not asked about the percentage of park visitors who are residents. The information was provided simply to indicate the size of the travel market destined for the National Park, whether resident or visitor.

7. A statistical analysis could attempt to correlate the number of visitors to the island to the number of visitors to Haleakala National Park. However, the only question relevant to the proposed project is whether Kihei-Upcountry Maui Highway would have an effect on the number of park visitors. Since Haleakala National Park is a world-famous attraction, the highway would not have much influence in attracting visitors to the park, although it would make trips to the park more convenient.

8. Section 4.1.2.2a, which describes project consistency with the Maui County General Plan, as amended, does not include discussion of each of the General Plan themes listed. Instead, Section 4.1.2.2a focused on General Plan objectives relevant to the project.

9. If the project were to be used only by bicyclists and pedestrians, substantially less right-of-way would be needed and many other details would be different, with potentially less environmental and social impact. However, a Kihei-Upcountry Maui pedestrian/bike path would not achieve any of the project's key purposes, such as addressing existing intersection capacity deficiencies and satisfying increased transportation demand.

10. The transcripts of the public hearings, as well as all written comments received on the Draft EIS, are included in the Final EIS (see Volume 2: Draft EIS Comments and Responses).

11. The comment addresses overarching principles concerning the land transportation system on Maui. The most recent edition of the Maui Long-Range Land Transportation Plan (February 1997) addresses these concerns. Therefore, a response to this issue is beyond the scope of the EIS for this one highway project.

12. The forecast model used for the project was developed for the Maui Long-Range Land Transportation Plan (February 1997), and therefore, was calibrated to Maui transportation conditions. The model uses TRANPLAN, a travel demand forecasting software. Like any model, TRANPLAN is totally dependent on assumptions and input data. A major assumption used in travel demand forecast models is the distribution of person trips from

point A to point B to different modes (e.g., autos (single occupant or multi-occupant), transit, bicycling, walking, etc.). A major input data is the number of persons projected to travel between different areas of the island, which are called traffic analysis zones (TAZs). It should be noted that the forecasted person trips between TAZs and mode distributions remained constant (i.e., were not changed) to maintain consistency with other elements of the Long-Range Plan. Certainly changing an assumption or input data, such as those mentioned herein, would have substantial impact on results. The major factors that affected the forecasted use (number of vehicles using the roadway) of the different alternatives of Kihei-Upcountry Maui Highway were speed, capacity and distance. The model is most sensitive to speed and capacity. However, these two factors were held constant among the alternatives. The major factor that discriminated between alternatives was distance, which was the reason why the U3 alternatives (Upcountry terminus in less populated Kula) were forecasted to carry substantially fewer vehicles per day than the other alternatives, which are located closer to the more populated areas of Upcountry.

13. A community impact assessment was prepared for the project (see Appendix H).

14. There are no current plans for the Kihei-Upcountry Maui Highway to be used for overhead utility (electric and telephone) lines. However, if such a request is made, it will be considered, since roadway rights-of-way are often used as utility corridors. The proposal would need to undergo at least the State environmental review process. The Maui Board of Water Supply has indicated that the highway could be used for future water transmission lines.

15. The amount of federal matching funds is not affected by which alternative is identified as the preferred. Normally, the State and federal ratio is 20:80.

16. Military personnel and contractors would use the highway for travel between the Maui R&T Park and Science City.

17. Sufficient right-of-way will be acquired for a four-lane divided highway, even though only a two-lane roadway will be constructed initially.

HWY 3745

RUSSELL H. TAFT

P.O.BOX 240
PUUNENE, HAWAII 96784

Oct 20, 1999

Mr. Kazu Hayshida
Director of Transportation
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Mr. Hayshida,

1 I wish to express my opposition to the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway on Maui. I support as a higher priority the upgrading and improvements to the existing roads connecting upcountry Maui and Kihei. These existing roads include the Mokulele Highway, which should be divided 4-lane highway otherwise it will remain hazardous. It includes Hansen road, which needs a traffic light or an overpass/underpass connection to the Mokulele Highway. Finally I suggest that the Haleakala Highway should also be a divided 4-lane highway. By divided in these cases I suggest and mean each side separated by a green strip divider, not some aesthetically unappealing concrete dividers which will serve to duplicate the ugliness of a Los Angeles Freeway.

2 I suggest that such improvements will alleviate growing traffic concerns for Maui commuters. I further suggest that the idea of connecting military installations in the Research and Technology Park in Kihei to facilities on Haleakala with such an Upcountry/Kihei highway is ridiculous and purely a politically motivated concept. These military facilities are already linked by wideband information highways in the form of fiber optic and microwave radio links that provide video teleconferencing, computer network connection, and voice links between these facilities. To suggest that personnel need a short cut between Upcountry and Kihei first of all would not save significant time with respect to the overall travel time and further more is not really required.

If an Upcountry/Kihei road is to be built I strongly recommend the Haliimaile terminus as the best option available. This location can most directly handle the bulk of traffic from Upcountry that originates in Pukalani/Makawao communities.

I appreciate your consideration of these thoughts in your decision making process.

Sincerely,

Russell H. Taft

Copy to: Kula Community Association

Mr. Russell H. Taft
P.O. Box 240
Puunene, HI 96784

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway, and Piilani Highway.

2. The EIS acknowledges that the number of persons traveling between the Maui R&T Park and Science City using Kihei-Upcountry Maui Highway will be relatively small compared to other travel markets. However, there are other important purposes and needs of the project, as described in Chapter 1 of the EIS.

HWY 3752

The Nature Conservancy of Hawai'i
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The Nature Conservancy of Hawai'i

Anders Frank Lyons
Natural Resource Manager
The Nature Conservancy
P.O. Box 1716
Makawao, HI. 96768
(808) 572-7849 x26
(808) 572-1375 fax

Mr. Kazu Hayashida
Director of Transportation
869 Punchbowl Street
Honolulu, HI. 96813

RE: Kihei Upcountry Maui Highway

Aloha Mr. Hayashida,

Thank you for the opportunity to comment on this project. The Nature Conservancy does not take a position on the Kihei Upcountry Maui Highway at this time. This project, however, will effect one of the world's last remaining Hawaiian dry land forests and I would like to point out a few issues that need to be addressed. 1

First, thank you for undertaking a botanical search of the proposed routes. My concern is that the nature of the native plants in the area is for them to be somewhat seasonal and therefore hard to detect at times. I do not think that two days of searching is enough to ensure that federally listed endangered species will not be affected by this project (not to mention the many rare plants found in the area). I would encourage you to conduct another more thorough search sometime after good rains have fallen. 2

Second, the potential for inadvertent introduction of unwanted pest species is high in this project. It is well documented that major construction companies in the state transport their heavy machinery and other tools between the islands. Without proper cleaning these machines and tools can transport unwanted plants and insects between islands. Of particular concern, but not the only concern, is fountain grass (*Pennisectum setaceum*) a fire prone grass which would easily establish itself in the proposed road areas. This species has been found to thrive in dry disturbed soil and has become a major concern on the Big Island. All tools and Machinery must be meticulously cleaned prior to beginning any work on this project. 3

Third, any proposed highway landscaping (now or in the future) should use native plant species that already exist in the area. This is not only a sound public relations 4

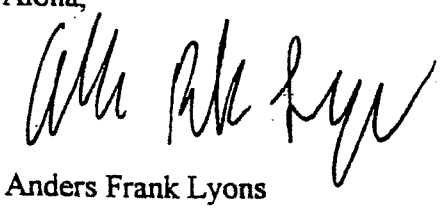
move, but it also ensures the longevity of the native plants in the area. Planting non-native plants will only contribute to the demise of one of the last remaining
4 Hawaiian dry land forests in the world. Native plants are available from several sources, and with enough advanced notice can be produced at competitive prices. I encourage you to sign a contract for native plant landscaping as soon as possible.

Lastly, Axis deer are a direct and real threat to the motorists who will use this road. This non-native animal was introduced to the Pu'u 'O Kali area in late 1958 and early 1959 and numbers have dramatically increased since then. Current estimates put the population at somewhere between 2000 and 5000 animals island wide, with the vast majority of animals found within two miles of Pu'u 'O Kali. A growth rate of 20 to 30 percent has been determined to be quite realistic for these animals which would put the population at 25,000 in only ten years. Currently there are as many as five vehicular accidents involving deer every week. The
5 potential for loss of human life due to a car/deer accident will only be increased by this project.

I propose two mitigating actions should the road be built. First, build fencing designed to deter deer on both sides of the road. This will keep large herds from using the road as a crossing point and reduce the possibility of cars hitting deer on that stretch. Second, contact and develop a control agreement with the local hunting community. Illegal poaching is already a problem in this area, and will only be controlled by having a legal deer removal program installed in the project area.

Thank you again for the opportunity to respond. I would like to offer myself as a resource to you. Please feel free to contact me should you have any questions or concerns.

Aloha,



Anders Frank Lyons
Natural Resource Manager

cc: A. Wong

Mr. Anders Frank Lyons
Natural Resource Manager
The Nature Conservancy
P.O. Box 1716
Makawao, HI 96768

1. Of all of the build alternatives, U1,K1, the preferred alternative, is located the farthest from Puu o Kali. Also, none of the other alternatives are near this valuable dry land forest. The several-mile buffer between U1,K1 and the dryland forest will help insure that the forest is not be affected by the project.

2. The botanist who conducted the survey spent several days in the field inspecting the alternative alignments, and the U.S. Fish and Wildlife Service was satisfied with this effort. While there can never be a complete guarantee that a threatened, endangered or candidate plant species is not within any of the alternative alignments, the location of the alternatives through active agricultural areas lessens the possibility of encountering such species along any of the alignments. Even after the completion of the EIS, the provisions of the Endangered Species Act remain in force.

3. Construction vehicles and equipment needed for construction are already on Maui. If vehicles and equipment are brought in from another island, they will be cleaned prior to shipment to prevent the importation of alien species. Mitigation measures to prevent alien species invasion is described in Section 4.8 of the Final EIS.

4. As described in Section 4.13.2 of the EIS, details of the landscaping plan will be developed in the project's design phase. The Department of Transportation intends to use native plants to the maximum degree practicable.

5. Section 4.8.4 of the Final EIS includes measures to minimize the chance of vehicle-deer collisions. As recommended, fencing will be provided along the highway. The fencing will help prevent cattle from getting onto the highway. However, the fencing may not be completely effective regarding deer. The Department of Transportation is responsible for disposing of road kill, and will support a deer control program coordinated or operated by another agency, as long as roadway safety is maintained.

HWY 3753

Steve Sutrov
124 Ainakula Road
Kula, Maui, HI. 96790

Mr. Abraham Wong, Division Administrator October 23, 1999
Federal Highway Administration
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, HI 96850

Dear Mr. Wong:

Subject: The Kihei-Upcountry Highway Draft Environmental Impact Statement (Draft EIS)

MY GENERAL COMMENTS ABOUT THE DRAFT EIS

I personally believe that the Upcountry/ Kihei Road project process has been skewed from the early stages of the Upcountry/ Kihei Task Force. The actual need for this new connection was in doubt and a major question at every meeting: Task Force, DOT public, and many informational community association meetings and surveys. The DOT and the Draft EIS has tried to paint a need for this new connection through weak, outdated, and unprofessional assumptions of our
1 existing roadways, proposed improvements, and the proposed new alignments. Ignoring purposely the Community Plan of the majority of the proposed project region proves that this document is self-serving to the politicians and developers that are working hand in pocket with each other to push it forward. After we add up **all** the costs of a new highway, money and environmental, look honestly at the impacts of it compared to the benefits of improving the existing roadway system, the answer to this road plan should be a no-brainer.

THE COMMUNITY PLANS

1. Discuss in depth the scope and importance of the Community Plan process for the proper implication of planning in its given region. The **many** public meetings, its acceptance by the
2 Maui County Planning Dept., Planning Commission, Maui County Council, and the Mayor show that the (July, 96) Makawao-Pukalani-Kula Community Plan was widely indorsed and should reflect as such in the final EIS.

2. An overlay figure should be supplied showing the proposed new highway project area with
3 the two Community Plan regions affected, Kihei and Makawao-Pukalani-Kula. A percentage should be estimated to show if one region is vastly larger thus influencing the outcome of proper planning for the new highway project area.

3. Complete direct quotes from the **Makawao-Pukalani-Kula Community Plan** should be
4 supplied in reference to the Kihei-Upcountry Highway listed in: "Transportation" and "Interregional Issues."

4. Supply current position statements from Upcountry Associations supporting the same or similar Makawao-Pukalani-Kula Community Plan directives on the Kihei-Upcountry Highway. Kula, Pukalani, Haiku Community Associations, and the Makawao Main Street Association have voiced support for or similar views to the Upcountry Community Plan
5 position on this roadway. More than once in the past the Kihei Community Association has supported a new roadway but has voiced the fact that the road will be more of an impact and a benefit to Upcountry and Upcountry should decide its own fate on the highway.(State/County Joint Task Force Upcountry-Kihei Highway Final Report (Oct. 1993)

ORIGIN / DESTINATION STUDIES

1. The June, 1994, roadside vehicle survey as described in **Maui Long Range Land Transportation Plan (Nov. 1995)** is the only attempt at supplying very important data on driving forecasting that could be relevant to prove a need or location for a new Kihei-
6 Upcountry Highway. This survey is scarcely mentioned in the DEIS. I believe the surveys results must be a weak sampling, substantiating very little, or supplying support data for a politically less attractive alignment for the DOT engineers. **I believe the final EIS should include this past survey data.**

2. In the Upcountry, where from, how many and how often would trips be generated with each highway alignment? With the Draft EIS we don't know. **A complete and current origin-**
7 **destination study needs to be completed to address this.** Cost-Benefit comparisons could not be done without this information. Also I believe the "**enhanced widening of existing roadways" should be included in this trip analysis being it would satisfy the listed project purpose "To <u>improve</u> roadway system linkage"**

3. Hansen Road has been left out of the Draft EIS as a primary roadway for the Upcountry to Kihei commute. This deletion seemed to be by design. Hansen Road knocks off a good 10
8 minutes, and when it is realigned with a new intersection at Puunene Av. maybe even more. **Hansen Road should be part of the OD studies and comparisons.**

4. **In the EIS future traffic 'LOS' and travel projections for the existing roadways should include not only the improvements stated in the Maui Long Range Land Transportation Plan but also detailed, safe and efficient intersections (grade**
9 **separations etc.)**
Future traffic 'LOS' projections for <u>ALL</u> new proposed alignments must include the total number and location of intersections, type of intersections (stop signs, signal lights, etc.), the percent of grade at different elevations, and maximum speed limits as they change for schools, Urban districts etc.
The above information is essential to decipher costs, safety, and efficiency.

5. **The Draft EIS states a possible 50% savings in time and fuel with a new highway**
10 **alignment. Present evidence to prove this. Table 4-12 (page 4-58) shows distance comparisons; this means nothing without the <u>full</u> design of the roadway factored in.**

6. **A professional comparison on estimated travel times on each proposed alignment along with the same for the ' year 2020 No Build improvements,' Enhanced Widening alternative, Public Transit, and 'TSM', should be in the final EIS.**

11

THE PULIC TRANSIT AND (TSM) TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE

1. **The Public Transit and TSM Alternatives were incorrectly dropped during the 'Tier 1' screening; both should be considered and investigated throughout the alternative selection process**. To eliminate it because it's not a road is wrong. TSM, Public Transit along with the 'enhanced widening' (EWR) could satisfy all project goals that a new highway alignment could. Please complete cost-benefit analysis on these alternatives also.

12

13

2. To assume that Maui County will not have a Public Transportation system within the next 20 years is wrong. To assume only more cars, private and rental, on more roads is a 'third world' answer and poor conservation planning. The public and visitor industry needs a public transportation system, the Maui County General Plan supports one, the EIS should assume we would have one operating by 2020, not otherwise.

14

3. **The 'LOS" Level of Service rating given at all studied intersections for the year 2020 should take a Public Transportation System and TSM impact into its methodology. Taking many cars off the existing roadways would satisfy the project goals as listed in the Draft EIS.**

15

CONCERNS OF THE PROPOSED ALLIGNMENTS

U3

1. U3 does not conform to the Community Plan of the majority of the project district
2. U3 should have never passed the 'fatal flaw' criteria. This alignment technically dead-ends on Kula Highway. A directional sign to aid the visitor's 2 miles out of their way to Haleakala Highway is absurd. Most will find their way through the steep, winding, neighborhood streets of Kimo Drive and Pulehuiki Rd. Others will get lost even deeper into rural Kula in the early morning. Buses, Bike tours, and others will cause safety and noise problems.

16

3. On the lower end it bisects the Maui County Ag Park, and impacts other truck farming operations close by.
4. **What realistic mitigation measures would be used to lessen these impacts on the U3 connection?**

U2A

Substantial evidence to drop this connection option

1. Non conformance to the Community Plan of the majority of the project district
2. The loss of prime agriculture resources and open space resources is a major concern

17

3. Counter productive traffic flows:
    - The main population base Upcountry must travel up the Pukalani By-Pass, intersect in front of the King Kekaulike High School, then down the mountain through proposed urban development lands with possible multiple intersections.

- Some Pukalani residential traffic would short cut through neighborhood streets impacting an Elementary School and quiet neighborhoods with safety and traffic concerns.

17 • Another new intersection would be created connecting Old Haleakala Highway with the Pukalani By-Pass, this would need to be signalized for traffic heading down the mountain to access Pukalani Town. This is another expense and safety concern. **Please show a complete design of this intersection.**

4. The archaeological importance of many sites along this route would make this alignment like a land mine in a soccer field for the DOT. The Draft EIS admits some sites will be sacrificed.

17 5. Bike Tours (many vans and bikes) will be using this new connector, changing their current tour routes. This new route will add thousands of defenseless visitors on bikes clashing with the many young drivers of the High Schools.

U2B

1. This alignment does not conform to the Community Plan of the majority of the project district.

18 2. A severe 10% grade near the (K-12) Kamehameha School, elderly housing project, public park, shopping center, and a Hawaiian cultural center.

- There will be loud and disruptive noise from trucks, tour buses, and commercial supply vehicles going up the mountain and from the application of (air) brakes as those same vehicles head back down. **How will this be mitigated?**

18

- Safety will be jeopardized with speeding, fully loaded trucks and buses, and adverse weather conditions on this very steep highway. The absence of a truck climbing lane or center divider will also entice accident situations. **How will this be mitigated?**

With many new intersections, pedestrian and bike traffic, and more urban lands below to be developed, U2B can laughingly be called a limited access highway.

3. The Draft EIS contains many references to the Kulamalu Master Plan. **Please include in the final EIS a complete current site map of the Kulamalu project area. Also supply any current information or offers that Dowling Company or Kulamalu Limited Partnership has relayed to the DOT on the U2A or U2B alignments. Please also supply in the EIS communications from any State Representatives that has expressed support for this alignment.**

18

4. As with the U2A and U3 connection, most Southside and some Westside Upcountry commuter traffic will travel up the By-Pass to reach this intersection. With U2B and U3 this traffic will pass the King Kekaulike High School and Kamehameha School front entrance while the kids are just arriving by bus, car, bike, and foot. At this same location throughout the day visitor; bus, car, and bike/van traffic will be going both up and down. **How will the obvious safety issues here be mitigated?**

18 5. Archaeological importance along this route would make this alignment more likely to cause damage. Some say its already been done. It might be wiser to steer clear of these highly sensitive areas and not risk the unknown.

U1

1. U1 does not conform to the first choice of the Community Plan of the majority of the project district, but if a highway is built, Hali'imaile is the only allowable route connection Upcountry.
2. The loss of prime agriculture resources and open space resources is a major concern
3. I would disagree that the Upcountry Community Plan supports **this** U1 alignment at all.

19
- The original connections from Hali'imaile to Kihei seemed more acceptable. (Alt. 1) These lower alignments were at a much lower grade, were more direct, and only crossed Omaopio Road, not Pulehu Road as well. Although more creativity would be necessary to accommodate the cane operations, this lower road would be safer, quicker, and a better cost-benefit ratio.
- I believe the upper alignment was selected to accommodate future urban land speculation below Pukalani and up to Kulamalu (a mile away). **Please elaborate the reasoning behind the new U1 alignment.**
- Many times the Draft EIS says U1 will cause additional traffic on Pulehu and Omaopio Roads. **Do a complete Origin-destination study and prove this wrong. The main population base will use the improved 4 lane and the closer Haleakala Highway.**
- The poor level of service rating given for the Haliimaile intersection for 2020 must be from a poor intersection design. **Try it again with a modest grade separation, overpass, or tunnel, and detail it in the EIS.**

OTHER CONCERNS AND QUESTIONS

1. **Noise studies were incomplete and should be redone**

- Many noise studies were preformed during the summer when schools were out and visitor counts are traditionally down.
- Studies were preformed for the (K-12) Kamehameha School in a field before the school was built and the 10% inclined road was done. Morning Crater, Upcountry commuter, multiple school, and commercial retail traffic noise should all be combined to estimate the impacts on this U2B alignment in the future.
- Studies were not done near the proposed Kulamalu park, elderly housing project, or amphitheater.
- King Kekaulike High School was not in session.

20

21 2. The Department of Education was not asked to respond to this project because of the safety, noise, and other possible impacts on the King Kekaulike High School and Pukalani Elementary School. **The DOE should be asked to respond.**

22 3. The Maui County Water board should be asked for their input on future water improvements in the Upcountry area. Contrary to the Draft EIS, developments in Kula will boom with a

22 new roadway and greater water storage. **Supply the latest information on planned water improvements.**

4. The old government right-of-way (Alt.8) should still be studied as a trade for any alignment
23 that crosses the same-owned cane land. **Please explain the "design" problem that dropped it out of consideration as a final alternative.**

5. **Please explain which alignment would serve Kihei best in the event of a coastal emergency, and why?**
24 It seems in the best interest of the Kihei Community that they have efficient access to and from the emergency services in town (Hospital, Fire response, Airport). To evacuate to Upcountry and away from these services would be a mistake. **An emergency access road from the Kihei Regional Park area to Mokulele Highway should be designed.**

6. **To design the new highways without a center divide is avoiding doing it correctly the**
25 **first time. Someone putting traffic traveling at high speeds in opposite directions with only a few feet of air between them should be working for the local undertaker.**

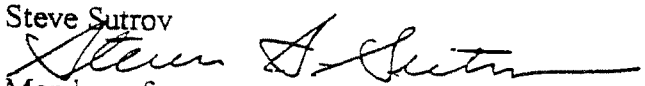
7. **In the final EIS, list the negative socioeconomic impacts that the loss of farm land, open**
26 **space, rural country atmosphere, and cultural and historical resources could have on the visitor industry in Maui Country. There must be some studies on similar Island communities that have lost open space, became overbuilt, and lost the return visitor.**

8. **It also bothers me that a developer involved with this project has created very**
27 **profitable opportunities for a couple of State Legislators. Should I have any reason to think there might be undue influence on any decision in this process?**

I am very concerned about the truthful need of this project. Being an employee of the Wailea area and commuting from Upcountry for the past 23 years, I know the drive never takes very long. To say this highway is for the hotel employees living upcountry is misrepresenting us. Improving the existing roadways to 4 lanes would improve the driving time and be much safer with a center divided roadway. The difference in time is not worth the many losses to Maui County and our visitors.
Most Upcountry workers I know don't mind the drive and don't want to be any closer to work than they are. They love their Upcountry home. They don't want a developer's plan or a State/Fed plan; they want their own community's plan.

In the final EIS please respond to all of my concerns and questions in the above comments.

Sincerely,
Steve Sutrov



Member of:
State/County Joint Task Force Upcountry Highway
Kula Community Association Board of Directors

Mr. Steve Sutrov
124 Ainakula Road
Kula, HI 96790

1. The purpose of an environmental review document, such as an EIS or an environmental assessment, is to identify and assess the environmental and social impacts that could result from the development of a project so that better decisions are made. The analyses presented in the Draft EIS for Kihei-Upcountry Maui Highway were based on the best available information at the time the document was prepared, which could be obtained within reason. The EIS reported the positions of the community plans as they relate to the proposed project. As it turned out, these plans were influential in the decision to identify the preferred alternative.

2. The community plan process is one avenue through which the public expresses its sentiments. The Department of Transportation views these plans as advisory, since the planning of transportation facilities is complex and involves the balancing of many factors, including environmental impact, cost and transportation performance, in addition to community preference. The Department is quite aware of the extensive effort invested in the community plans. For your information, the preference stated in the Makawao-Pukalani-Kula Community Plan was given a lot of weight.

3. The Department of Transportation does not see its role as adjudicating the relative strength of two adjacent community plans on Maui. Cases in which community plans conflict should be resolved at the county level. In any case, the apportionment of project area between two community plans is not a suitable basis upon which to evaluate the relative influence of the plans on project planning. Therefore, the requested figure is not needed or relevant to decision-making.

4. You do not indicate that the paraphrase supplied inaccurately states the Makawao-Pukalani-Kula Community Plan's position. Absent an error, paraphrasing is within the editorial discretion allowed. It is the understanding of the Department of Transportation that the Makawao-Pukalani-Kula Community Plan states a preference for the No-Build alternative, but, if the road is to be built, the favored Upcountry terminus is at the Haleakala Highway / Haliimaile Road intersection.

5. If statements were provided by the mentioned organizations in response to the Draft EIS, their statements have been included in the Final EIS. All of these organizations have been afforded full opportunity to participate in the environmental review process.

6. An origin-destination (O-D) study was conducted for the Maui Long Range Land Transportation Plan (Long Range Plan). The roadside vehicle survey mentioned was used as input to study. The final O-D results were used in the latest Long Range Plan, which is the planning document that programs roadway improvements on Maui. The plan recommends Kihei-Upcountry Maui Highway, but does not identify a specific alignment. Data used to prepare the Long Range Plan can be obtained from the Statewide Transportation Planning office of the Department of Transportation.

7. The origin-destination study completed for the Maui Long Range Land Transportation Plan was used to estimate the traffic volumes that would use Kihei-Upcountry Maui Highway (see Section 4.4.1.2 of the EIS). Depending on the alternative, these volumes would vary. In general, the U3 and K2 alternatives would convey lower volumes, and the U1, U2-A, U2-B, and K1 alternatives would convey higher volumes. The Enhanced Widening of Existing Roadways (EWR) alternative was eliminated from further study because it would require construction over a 32 kilometer (20 miles) distance, and was estimated to cost $78 million. This could not be justified when a highway directly linking Upcountry and Kihei would only be 15 to 18 kilometers (9 to 11 miles) long, and would cost roughly the same but be substantially better in addressing the system linkage and other purposes and needs.

8. Hansen Road was included in the origin-destination study used for Long Range Plan. As stated in Response #6, the results of the study were used to estimate the volumes that would use Kihei-Upcountry Maui Highway, including traffic on Hansen Road.

9. The level-of-service (LOS) analyses presented in Section 4.4.1.2 assumes the Kihei-Upcountry Maui Highway terminus intersections are signalized with acceleration, deceleration, and left-turn lanes. The purpose of an LOS analysis is to estimate traffic conditions (i.e., vehicle delay), not cost, safety, or overall efficiency. These parameters are evaluated elsewhere in the EIS.

10. The travel time savings presented in Section 4.14 are possible because Kihei-Upcountry Maui will be a limited access facility, unlike the present route, which includes traffic signals

and local traffic. It is not necessary to fully design a project to estimate its potential transportation benefits.

11. The comparisons of travel time savings presented in Section 4.14 were made against the No Build alternative. Comparisons were not made against the EWR and TSM alternatives because they were eliminated from consideration in the screening analysis (see Section 2.2). However, if comparisons were made, the results would be similar because these alternatives would not decrease travel distance. The travel time analysis did not assume peak period conditions (i.e., congested conditions) for the No Build alternative, which would have lengthened travel times, and thus, would not have compared well against the build alternatives.

12. The TSM Alternative was dropped from consideration because it would not address the project's purposes and needs. However, the Department of Transportation would support any effort to provide public transit on Maui because it would provide residents with other transportation options. The EWR alternative was also eliminated from further study (see response to comment 6).

13. Benefit-cost (B-C) analyses of the TSM and EWR alternatives were not conducted because both failed to address the project's purposes and needs. The method of calculating the B-C ratios for the alternatives screening analysis (see Section 2.2.1) was based on travel time savings between Kihei and Upcountry that would be provided by the build alternatives, in comparison to the future No Build alternative. With no travel distance savings, and an estimated cost of $78 million, the B-C ratio of the EWR alternative would be very small.

14. Based on generally accepted standard methods and guidance, as well as applicable federal procedures, the No Build Alternative is defined as the transportation system described in the appropriate transportation planning document (The Maui Long-Range Plan), without the proposed project (Kihei-Upcountry Maui Highway). The future No-Build Alternative cannot assume a public transit system that is not described in the Maui Long-Range Plan. The Department of Transportation would support efforts by others to enhance public transit on Maui. Transit vehicles would be able to use Kihei-Upcountry Maui Highway.

15. LOS analysis was not conducted on the TSM alternative because it was eliminated in the alternatives screening evaluation (see Response #12). While reducing vehicular traffic would address some of the project goals, such as transportation demand, public transit cannot be assumed in the year 2020 condition because no governmental or non-governmental entity has proposed such a system, and it is not included in the Maui Long-Range Plan.

16. The U3 alternatives were evaluated in the Draft EIS because they are the least cost alternatives that address the project's purposes and needs (Alternative U3,K1 has the lowest cost, and Alternative U3,K2 has the third lowest cost). The U3 alternatives would have environmental impacts as noted in the comments. However, if a U3 alternative were selected as the preferred alternative, these impacts would be mitigated as described throughout Chapter 4. A U3 alternative was not identified as the preferred alternative, in part because it would not address travel markets as well as the other alternatives.

17. Although the U2-A alternatives do not conform to the preference stated in the Makawao-Pukalani-Kula Community Plan, this was not the reason these alignments were not identified as the preferred alternative. In addition, the loss of agricultural resources and open space is a common impact of all the alternatives, and the modified Five Trees intersection would have included crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

    As described in Section 4.4.1 of the EIS, the U2-A alternatives would cause a contra-flow of peak directional traffic in Upcountry. This contra-flow pattern is considered beneficial. Since commuter traffic tends to peak during certain times of the day (i.e., early morning and late afternoon), arterial roadways tend to be over-utilized in one direction during the peak period, and under-utilized in the other direction. The benefit of the U2-A and U2-B alternatives, and to a lesser extent the U3 alternatives, is that they would have caused the directional splits of the highways in Upcountry to be more even.

    There would be no direct access to the U2-A alignment from the lower Pukalani neighborhood, so the neighborhood impacts described in the comment would not occur. The only access to the U2-A alignment would be at the Five Trees intersection. The new

intersection on Pukalani Bypass would be a T-intersection, and only right-turns would be allowed (right-turn in and right-turn out). This intersection would not likely require traffic signals.

Based on the information obtained or developed to date, a U2-A alternative would not have displaced any archaeological sites, including a heiau found in proximity to this alignment. Impacts on archeological sites are not necessarily sufficient reason to abandon an alternative.

Kihei-Upcountry Maui Highway would have included shoulders wide enough for bicyclists regardless of the alternative selected. Bicycle tour operators are allowed to use public roadways, but not in a manner that would be unsafe for their customers or others.

The issues raised above are addressed in more detail in Chapter 4 of the EIS.

18. Although the U2-B alternatives do not conform to the preference stated in the Makawao-Pukalani-Kula Community Plan, this was not the reason these alignments were not identified as the preferred alternative. One of the disadvantages of the U2-B alternative is its 10 percent grade near Kula Highway, which is normally not acceptable for a limited access highway facility. Limited access means that driveways are not allowed direct access to the roadway, but intersections are allowed.

    If a U2-B alternative had been identified as the preferred alternative, any noise impacts (see Section 4.6 for a definition of a noise impact) would be mitigated in accordance with the Department of Transportation Noise Analysis and Abatement Policy. In the vicinity of Kamehameha School and the future shopping center, an urban design would have been used, which includes sidewalks.

    Since a U2-B alignment was not identified as the preferred alternative, close coordination with the Kulamalu development will not be necessary. Therefore, a complete and current site map of this development is not needed in the Final EIS.

    The U2-B terminus would be designed to accommodate pedestrians (walking students). Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Based on the information developed to date, the U2-B alignment does not contain archaeological sites that would have made this alignment unworkable.

19. The U1,K1 alignment was identified as the preferred alternative. The U1 terminus conforms to the preference as stated in the Makawao-Pukalani-Kula Community Plan, if a build alternative is implemented.

    The U1 alternatives would displace the greatest amount of agricultural land in comparison to the other Upcountry terminus options. Mitigation measures will be implemented to maintain the productivity of fields not directly affected by the project.

    Alternative 1 was eliminated during the alternatives screening because, based on coordination with Hawaiian Commercial & Sugar Company, it would have caused substantially greater impacts to agricultural practices and agricultural infrastructure than the upper alignment. Alternatives 2B (U1,K1) and 2C (U1,K2) were developed to avoid bisecting the Maui R&T Park, retain an option with an Upcountry terminus at the Haliimaile intersection, and minimize impacts to active sugarcane fields. The potential for future urban development was not a factor in developing the U1 alternatives.

    The EIS discloses the potential impact that some motorists may choose to use Omaopio and Pulehu Roads to travel between the new highway and Kula because these roads would shorten their travel distance. This impact is expected to be greatest under a U1 alternative because of the greater distance between Kula and the U1 terminus. The basis for this assessment is that some motorists already use these roads instead of Kula, Haleakala and Hana Highways.

    The predicted level-of-service at the U1 terminus is not poor, although it is not as good as the other Upcountry terminus options because more Upcountry traffic would use this intersection. With the other alternatives, a directional split of traffic volumes would occur (see Response #16). A study of several concepts for grade-separating the U1 intersection is provided in Section 2.1.2 of the Final EIS. However, based on presently projected traffic volumes, the costs of these options are not justified considering their marginal benefits in relation to a signalized intersection, which costs substantially less.

20. To predict future traffic noise levels at noise-sensitive locations (e.g., residences, schools, certain kinds of parks, etc.), noise monitoring is performed to calibrate the noise model. For sites near a major roadway, noise monitoring is conducted when traffic conditions generate the highest noise levels. Impacts of the project are determined based on this "worst-case" traffic condition. Traffic noise is highest when the road is conveying high volumes of high-speed traffic (i.e., the road is crowded, but not too crowded that speed is affected). Therefore, the fact that the high school was not in session during the monitoring does not factor into the analysis.

    For noise-sensitive locations not presently near a highway, but near an alternative alignment, the monitoring could be done at any time during the day. Since noise monitoring was done at the Kamehameha School site, which would be adjacent to the highway if a U2-B alignment were identified as the preferred alternative, it is not necessary to monitor other proposed noise sensitive sites in the general area, such as the elderly housing project. Had a U2-B alternative had been identified as the preferred alternative, the Department of Transportation would work with the developer to ensure that no noise impacts would occur on the abutting properties, in accordance with the Department of Transportation's Noise Analysis and Abatement Policy.

21. The Department of Education (DOE) was sent a copy of the Draft EIS and was asked to review and comment on the document. The DOE responded, with a statement that they had no comments (see Volume 2: Draft EIS Comments and Responses).

22. The Maui Board of Water Supply was consulted during the preparation of the Draft EIS, and their input was used to evaluate the growth inducement potential of Kihei-Upcountry Maui Highway (see Sections 3.4.3 and 4.1.1). These sections are based on the latest information available from the Board of Water Supply.

23. Alternative 8 was dropped from consideration during the alternatives screening because it does not meet radius and grade standards for a modern highway. There could be liability issues associated with providing a highway facility that is not designed to current standards.

24. Coastal hazards are a major reason why South Maui needs evacuation capacity. Direct access to emergency services in Kahului, while important, is only one consideration. The

evacuation route you suggest could still be blocked by a coastal hazard or an incident in North Kihei.

25. Kihei-Upcountry Maui Highway, in its initial two-lane undivided configuration, would be similar to Haleakala or Hana Highway. The number of incidents on these highways is not high considering their traffic volumes. Kihei-Upcountry Maui Highway will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards.

26. The conversion of open space and agricultural lands to transportation infrastructure is not anticipated to affect the visitor industry on Maui. The preferred alternative, the U1,K1 alignment, will not affect significant archaeological or historic sites. The level of impact that the project will have on the "rural country atmosphere" and the potential effect on the visitor industry are debatable. The Department of Transportation recognizes that an important characteristic of the Upcountry's "rural country atmosphere" is its relatively low density. However, it is the availability of water, not transportation capacity constraints that would affect this aspect of Upcountry ambiance.

27. The criteria used to evaluate the build alternatives considered in the Draft EIS were based on cost, environmental, transportation, and community planning factors. There was no influence on the part of any developer or legislator with regards to the selection of the preferred alternative. If the commenter has evidence that improprieties have occurred, these should be reported to the appropriate authorities.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Steven Sutrov

Address: 124 Ainakula Rd. Kula 96790

Telephone (day): 878-2739

Telephone (eve): Same

Please make any comments below: Page (1)

1 I support the community Plan of the vast majority of the Project area of the upcountry/Kihei Road project, the Upcountry Community Plan. Improving all Kihei to upcountry existing roads to 4 lanes would satisfy 5 out of the 6 Purposes and needs of the project listed in the DEIS. The only need it would not support is the route out of Kihei for an evacuation. this could be handled with another road developed through Hawaiian Homes roads

2 to be in the South Maui area or existing Private roads improved for emergency use in the Makena area. To improve the existing and be safe and efficient the State DOT would have to design unacceptable intersections that would satisfy the

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: _____

Address: _____

_____

_____

_____

Telephone (day): _____

Telephone (eve): _____

~~Please make any comments below~~: Page (2)

Economic ~~opp~~ development would be accomplished by preserving the most valuable resorse ~~that~~ our visitors come to maui for, the open space and rural life style. ~~It~~ If a road, a new highway is deamed necessary after existing roads are improved. Haiimaile Rd. connection crossing only omappio road, and as little ag as possible would be the safest (with safe intersections designed by the State D.O.T.) and service the main population base of upcountry, keeping transient traffic out of rural neighborhoods in Kula and Pukalani.

Please continued

Thank you

Glen Sutton

Mr. Steven Sutrov
124 Ainakula Road
Kula, HI 96790

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala, Hana, Mokulele, and Piilani Highways. The preferred alternative is most consistent with the Makawao-Pukalani-Kula Community Plan.

2. The suggested alignment would be similar to Alternatives 6A and 6B, which were eliminated in the alternatives screening evaluation for their exceptionally poor benefit-cost ratios. Their poor ratios derive from the relatively small amount of traffic that would use these alignments.

Mr. Steve Sutrov
124 Ainakoa Rd.
Kula, HI 96790

Comment: The Construction of Kihei-Upcountry Maui Highway will encourage development in Upcountry.

Response: The potential for urban growth inducement in Upcountry was analyzed in Section 4.1.1 of the EIS. It was determined that the amount and pace of residential development in Upcountry will continue to be controlled by water availability, not transportation infrastructure.

Comment: Improve existing roads before building this new highway.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway.

Comment: Intersection level-of-service cannot be determined without detailed design work.

Response: Intersection level-of-service analyses can be conducted using conceptual engineering.

Comment: Requested details on the number and signalization of proposed intersections on Kihei-Upcountry Maui Highway, and other engineering details.

Response: This information is provided in Section 2.1 of the EIS. The Department of Transportation must approve all proposed future connections, and will maintain the roadway as a rural, limited access highway. Kihei-Upcountry Maui Highway would likely have only two signalized intersections located at the termini.

Comment: Requested a figure in the Final EIS showing the alternatives in relation to the areas of the two affected community plans. Since most of the project area would be within the Makawao-Pukalan-Kula planning district, this community plan should govern. Alternatives not contained in this community plan should not be considered.

Response: Since two community planning areas would be affected the project, both plans must be equally considered. The notion that the controlling community plan should be the one with the greatest proportion of the alignment is rejected. Therefore, the requested figure is not

needed. State highway projects are not required to conform to locations set forth in community plans. The Department of Transportation considers community plans to be important expressions of public sentiment, not regulatory documents. Nevertheless, the Makawao-Pukalani-Kula Community Plan was given substantial weight in the identification of the preferred alternative, the U1,K1 alignment.

Comment: The EIS should have considered the Haliimaile terminus alternative that crossed only Omaopio Road, not the current alternatives that cross both Omaopio and Pulehu Roads.

Response: The alignment suggested, Alternative 1, was eliminated during the alternatives screening because it would cause substantially greater impacts to active sugarcane fields when compared to the other alternatives. This alignment evolved into the current U1 alignment.

Comment: The EIS needs an origin-destination study.

Response: An origin-destination study was completed for the Maui Long Range Land Transportation Plan. This origin-destination study was used to estimate the volumes that would use Kihei-Upcountry Maui Highway (see Section 4.4.1.2).

Comment: The noise analysis of the impacts to Kamehameha School and King Kekaulike High School is not sufficient because of inadequate monitoring: Kamehameha School was not in existence and only two grades were in session at the high school.

Response: See the response to Comment #20 from your letter.

Comment: The U3 alternatives were included in the EIS to confuse the public.

Response: The U3 alternatives were evaluated in the Draft EIS because they are low-cost alternatives that address the project's purposes and needs. Alternative U3,K1 has the lowest cost, and Alternative U3,K2 has the third lowest cost. Therefore, they are reasonable alternatives, and were not presented to divide opposition to this project.

Comment: Kihei-Upcountry Maui Highway should be a divided roadway for safety reasons.

Response: A two-lane highway is proposed because projections indicate that two lanes would be sufficient to accommodate travel demand in the design year 2020. In its initial two-lane

undivided configuration, the highway would be similar to Haleakala or Hana Highway. Kihei-Upcountry Maui Highway will be designed in accordance with accepted standards.

HWY 3777

Margaret T. Sutrov
Seabury Hall Student
October 13, 1999

Keep Upcountry Worth the Drive

Testimony Against the Building of the Upcountry-Kihei Highway

I am opposed to the building of the Upcountry-Kihei Highway because every time we lose a part of Maui's natural beauty, residents and visitors alike lose something very special. The highway, its string of street lights, and its traffic will blight the mountainside. Upcountry must also be kept a rural environment. Growth is inevitable, but it must be controlled. There are plans to widen Haleakala Highway to four lanes. This will be enough. In the future, there is also the posibility of a highway to Kihei through Hawaiian Homeland's Waiakoa land. If Upcountry is not preserved, what will be the point to escape hot, sticky, touristy, and crowded Kihei to travel to Upcountry with its cool air, small farms and open pastures. What would be the point to live up here, far from the employing hotels in the first place?

Regarding the different possible Upcountry connections, if this highway must be built, Hailiimaile would be the best route.

1 Any connection in Pukalani will create havoc with the schools there, King Kekaulike, and later, King Kamehameha as well. Many students would have to cross the new highway's traffic, added on top of the current congestion, to walk home from school. Do not let it take a student to be hit by a car for this route to be realized a mistake.

2 I am opposed to the Omaopio Road connection because though this might be the most direct route to build, it is not easily reached by much of Upcountry's population. Also, if tourists from Kihei were to use that route to reach Haleakala National Park, which way would they take to reach the summit? There are no direct routes. I would like to see the rental car agencies send their customers into the Lower Kula Road and Kimo Drive neighborhoods.

The Hailiimaile connection is not in the middle of a town or schools and is still accessible from, and gives access to, all of Upcountry. Though Hailimaile is the least of the evils, people there are also concerned about the traffic it will bring through their neighborhoods.

In conclusion, since there are allready plans to expand the existing roadways connecting Down Country and Upcountry, the Upcountry-Kihei Highway should not be built. Let us preserve our beautiful and peaceful Upcountry, one of Maui's jewels. It will be worth the drive.

Margaret T. Sutrov

Ms. Margaret T. Sutrov

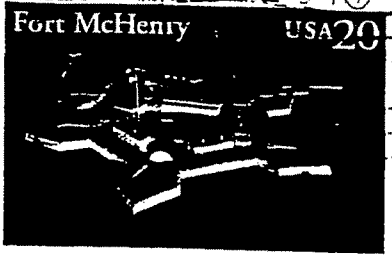
1. Had a U2-A or U2-B terminus been identified as part of the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would have included crosswalks and sidewalks to the high school (see Section 4.4.4 of the Final EIS). Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

2. The EIS discloses that one of the impacts of the U3 alternatives would have been that some motorists traveling to and from the summit may inappropriately choose to travel through the residential roads of Kula instead of staying on the main highways. A U3 alternative was not identified as the preferred alternative.

Allen K. Lewis
393-B Front St
Lahaina HI 96761-1155

HONOLULU HI 808
PM

HAN 25TH



DIRECTOR'S OFFICE
DEPT. OF
TRANSP.

OCT 28 11 10 AM '93

KAZU HAYASHIDA, DIRECTOR OF TRANS
STATE DEPT OF TRANS, HIGHWAYS DIVISION
869 PUNCHBOWL ST

37
©1996 USPS recycled

Mon 10/25

DEAR SIR -

PLEASE DONT CONTRIBUTE TO THE DESTRUCTION OF OUR BEAUTIFUL ISLAND BY BUILDING EITHER A "KAHEKILI HWY" AROUND THE NORTH END OF WEST MAUI, OR BY MAKING HONOAPILANI HWY 4 LANES

1 PLEASE PLAN FOR THE FUTURE DECADES (+NOT JUST A FEW YEARS) BY PUTTING UP A "RAISED RAIL" SYSTEM AS PROPOSED BY TOM CANNON IN THE "VIEWPOINT" COLUMN IN THE MAUI NEWS ON SUNDAY OCT 24. PLEASE READ THAT COLUMN - IT MAKES REAL SENSE ALL THE WAY ABOUT ALL ASPECTS. MAHALO NUI LOA

Mr. Allen K. Lewis
393-B Front Street
Lahaina, HI 96761-1155

1. A "raised rail system" (rail transit) would not meet the purposes and needs of the proposed Kihei-Upcountry Maui Highway. In addition, given the present population size and land use pattern on Maui, it would be highly inefficient. For rail transit to work, higher population densities are required than currently occur on Maui. Should the people on Maui wish to pursue the development of a public transit system, a bus system would be a less expensive technology to start with.

HWY 3908

Margaret J.B. Sutrov
124 Ainakula Road
Kula HI 96790
October 26, 1999

Mr. Kazu Hayashida
Director of Transportation
State Department of transportation
Highways Division
869 Punchbowl Street
Honolulu, HI 96813

Dear Sir:

I have been an Upcountry resident for over twenty years. I have been aware of the plans to build a highway to link Kula with Kihei for a long time and I still arrive at the same conclusion.

1 I feel the existing highways are inadequate and need to be upgraded. I would prefer seeing the Mokulele Highway become a four lane divided highway connecting to Hana Highway, a six lane highway that connects to a divided four lane Haleakala Highway. I believe we need to exhaust our present access routes first. I am afraid that the construction of a new highway will impede the upgrading of our already inferior road system.

If the government insists upon building a separate road, I feel that the U1 Haliimaili terminus is the only one to consider. U1 would serve a greater Upcountry population, diverting more traffic to Kihei from Hana Highway as the EIS states. It would also bring Kihei residents and tourists to where the Upcountry begins allowing a more broader access to where they may want to go. It also appears to be the safest and logical design solution. This route would serve the Kihei residents with a direct route to the emergency hub of the island (airport, Civil Defense, hospital, etc.).The Haliimaili intersection is a mere ten minutes to the airport.

2 The U2A connection is too unsafe. There is already a bottleneck there and traffic accidents happen too frequently.

The U2B connection is even more unsafe, exposing two schools to more traffic.

The U2A, U2B, and U3 pose too much safety risk because there will be too much traffic trying to go in all directions during rush hour.

There will be bike tours going down the mountain, service vehicles servicing the new commercial development and the two schools, tour busses going to the summit, school traffic going and coming from both high schools as well as going to Pukalani School, Kalama Intermediate, and Seabury Hall along with the community trying to get to work.

Combined with this congestion there will be high school students from three high schools in this area learning to drive.

There is already a problem in this area. Another road would make the situation worse.

I support the Pukalani-Makawao-Kula Community Plan. It was formulated by citizens from every corner of Upcountry who studied the options carefully. After much consideration they came to an unbiased and educated conclusion that they felt is in the best interest of the communities.

This plan was passed by the Maui County Council and signed into law by our Mayor. Thus it should be honored.

Sincerely,

Ms. Margaret J.B. Sutrov
124 Ainakula Road
Kula, HI 96790

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway, and Piilani Highway.

2. Had a U2-A or U2-B terminus been identified as part of the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would have included crosswalks and sidewalks to the high school (see Section 4.4.4 of the Final EIS). Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

   As described in Section 4.4.1 of the EIS, the U2-A, U2-B, and U3 alternatives would cause the contra-flow of morning peak directional traffic in Upcountry. Since commuter traffic tends to peak during certain times of the day, arterial roadways tend to be over-utilized in one direction during the peak period, and under-utilized in the other direction. A benefit of the U2-A and U2-B alternatives, and to a lesser extent the U3 alternatives, is that they would cause the directional splits of the highways in Upcountry to be more even.

HWY 371-1

Kaza Hayashida
Director of Transportation
DOT, Highways Division
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr. Hayashida;

Please don't build any new Kihei – Up Country route.

1 A new highway would adversely divide agricultural land and hurt farmers.

2 A new highway would enable more development on agricultural lands, which would be detrimental, both to the land, and to the island water supply.

3 Installations at the summit of Haleakala are too high to be suitable for a work site for many people. The few workers who travel there could be transported quicker and for less total cost if they were flown by helicopter.

Communication between Kihei + Haleakala should be done "HIGH TECH", electronically.

4 Tourist industry employers should build more employee housing close by the jobs, and also support mass public transportation for workers living further away. A scheduled mass transport system could run between "car park areas" around the island.

5 Kihei DOES need an ESCAPE ROUTE. An inexpensive way to make it would be to maintain a simple road which was normally closed, except for times of emergency. Some existing road might do.
I spent 10 working years driving from Paia to Lahaina + Kihei. But,
Please don't build any new Kihei – Upcountry highway.

October 20, 1999

Aloha,
Martha Martini
Martha Martini
P.O. Box 296, PAIA, HI 96779

Ms. Martha Martin
P.O. Box 296
Paia, HI 96779

1. The project would adversely affect agricultural land. The preferred alternative, the U1,K1 alignment, will bisect sugarcane and pineapple fields. The impact on agricultural activities will need to be mitigated, as described in Section 4.2.4 of the EIS.

2. The potential for urban growth inducement in Upcountry was analyzed in the EIS. It was determined that the amount and pace of residential development in Upcountry will continue to be controlled by water availability, not transportation capacity.

3. The EIS acknowledges that the number of persons traveling between the Maui R&T Park and Science City using Kihei-Upcountry Maui Highway will be relatively small compared to other travel markets. However, there are other purposes for the project than providing improved mobility between the Maui R&T Park and Science City.

4. The Department of Transportation supports the concept of developing housing near workplaces. However, the Department is not a housing authority, and must plan for the travel demand generated by the current and forecasted land use patterns. The Department also supports public transit on Maui because it would provide residents with other transportation options. However, transit operations are typically a County responsibility.

5. The suggestion to maintain a simple road that is normally closed may help address the evacuation capacity goal of the project. However, there are other purposes of the project that this suggestion would not address.

HWY 3426

RECEIVED
AUG 1 2 1999
HAWAII DIVISION

ULUPALAKUA RANCH, INC.

Kula, Maui, Hawaii 96790

Tel: (808) 878-1202
Fax:(8080878-2178

August 12, 1999

Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

Attn: Mr. Abraham Wong

Dear Sir:

Re: EIS Kihei-Upcountry Maui Highway

After reviewing the Draft Environmental Impact Statement for the Kihei Upcountry Upcountry Maui Highway and considering the cost benefit ratios of the various proposed routes, the "No Build" alternative is by far the best option.

1 Most of the "No Build" projects are needed even if there is a Kihei-Upcountry Highway. However the "No Build" options would relieve enough of the traffic congestion that the Kihei-Upcountry highway might not be justified.

2 There is no justification for a highway to link the Maui R & T Park with Science City other than a highly questionable legislative directive.

This project should be terminated in favor of addressing the existing improvements listed in the "No Build" option.

Sincerely,

C.P. Erdman
CEO Ulupalakua Ranch, Inc.

Mr. C.P. Erdman
CEO Ulupalakua Ranch, Inc.
Kula, HI 96790

1. Even with the implementation of the projects assumed under the No Build alternative, the Kihei-Upcountry Maui Highway was still evaluated as being needed, as discussed in Chapter 1 of the EIS.

2. There are other purposes and needs for the project beyond improving mobility between the Maui R&T Park and Science City.

HWY 3130

October 15, 1999

Abraham Wong, Division Administrator
Federal Highway Administration
PO BOX 50206
Honolulu, HI 96850

Dear Abraham Wong,

I am writing to express my opinion regarding the proposed Kihei to Kula highway. I have studied the issues to a reasonable extent. Although a fear of Tsunami is a concern, the reality is less so. The need for people working at Maui research facilities to have convenient access is easily addressed. We have many helicopters on this island available for contract by these few travelers. Maui needs other roads improved (eg, Mokulele highway, Honoapiilani highway widened to 4 lanes, Haleakala highway widened to 4 lanes) and so we should focus on what is needed most.

1

2

I am opposed to the building of the road. I drive every day on Maui. I do not see much benefit to the road. And I fear several possible negative aspects of the road being built. What we do need is to prioritize our spending. The money that the State of Hawaii could spend on this road should be returned to the University of Hawaii budget. And the money that our federal government could spend on this road should be returned to balance the federal budget.

Sincerely,

Robert Crook

Robert Crook
140 Uwapo Rd, Apt 21-104
Kihei, HI 96753

Mr. Robert Crook
140 Uwapo Road, Apt 21-104
Kihei, HI 96753

1. Coastal areas should always take tsunami threats seriously as evidenced from recent history. As described in Section 3.9.3 of the EIS, much of Kihei is within a tsunami evacuation area. There are other purposes and needs of the project beyond improving mobility between the Maui R&T Park and Science City.

2. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway.

Hwy 3966

Sara Backowski
Hamline University
1536 Hewitt Ave.
St. Paul, MN 55104

October 25, 1999

Mr. Kazu Hayshida. Director of Transportation
State Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Re: Kihei-Upcountry Highway, Maui, Hawaii

Dear Mr. Hayshida:

I am in agreement with the Kula Community Association Board of Directors which opposes the Pulehu, Kulamalu and "5 Trees" termini of the proposed Kihei to Upcountry Maui highway. The Kula Community Association developed its position based on surveys of the residents of Upcountry Maui, and I feel that these residents have the right to decide what will happen to their community.

1 Other options are available to alleviate growing traffic concerns, such as upgrading existing roads. If a new road must be built, the Haliimaile terminus is the best option in terms of minimizing what is already severe traffic congestion.

Although I do not live in Hawaii, I have friends who do and I care a lot about it. I hope the government listens to the residents of Upcountry, Maui. Maui is a beautiful and unique place with a pace of life slower than that on the mainland. It deserves to be kept that way.

Sincerely,

Sara J. Backowski

Sara Backowski

Ms. Sara Backowski
Hamline University
1536 Hewitt Ave.
St. Paul, MN 55104

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway. However, these improvements alone will not address the purposes and needs that have been established for the project.

HWY 3969

Matthew J. Medeiros
Hamline University
Box 1038, 1536 Hewitt Ave.
St. Paul, MN 55104

October 24, 1999

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Re: Kihei-Upcountry Highway, Maui, Hawaii

Dear Mr. Hayshida:

I am in agreement with the Kula Community Association Board of Directors which opposes the Pulehu, Kulamalu and "5 Trees" termini of the proposed Kihei to Upcountry Maui highway. The Kula Community Association developed its position based on surveys of the residents of Upcountry Maui, and I feel that these residents have the right to decide what will happen to their community.

1 Other options are available to alleviate growing traffic concerns, such as upgrading existing roads. If a new road must be built, the Haliimaile terminus is the best option in terms of minimizing what is already severe traffic congestion.

Although I do not currently live in Hawaii, I have in the past and plan to again someday. I hope the government listens to the residents of Upcountry, Maui. Maui is a beautiful and unique place with a pace of life slower than that on the mainland. It deserves to be kept that way.

Sincerely,

Matthew J. Medeiros

Matthew J. Medeiros

Mr. Matthew J. Medeiros
Hamline University
Box 1038, 1536 Hewitt Ave.
St. Paul, MN 55104

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway. However, these improvements alone will not address the purposes and needs that have been established for the project.

Hwy 3974

DIRECTOR'S OFFICE

OCT 28 10 53 AM '99

October 27,1999

Dear Mr. Hayashida,

Thank you for the opportunity to comment on the proposed upcountry- Kihei highway. My concern with the current proposal is twofold.

1 The Environmental Impact Statement contains a suspicious absence of the full description of the proposed soil to be paved with the selection of any of the proposed upcountry termini. In the 1970 Soil Survey by the U.S.D.A Soil Conservation Service and University of Hawaii Agricultural Experiment Station, the Keahua Series of soil (to be paved with either Haliimaile, Pukalani, or Kulamalu termini) is described as" well-drained soils on the uplands on the island of Maui...annual rainfall 15-25 inches...used for sugarcane, pasture, wildlife habitat... pineapple, truck crops, and home sites... the surface layer is dark reddish brown silty clay loam about 10 inches thick...the subsoil about 50 inches thick is dark reddish brown silty clay loam ...the soil is slightly acid in the surface layer and slightly acid to neutral in the subsoil...permeability is moderate...runoff is slow, and the erosion hazard is slight...the available water capacity is about 1.3 inches per foot of soil ...IN PLACES ROOTS PENETRATE TO A DEPTH OF 4 FEET OR MORE". This clearly describes some of the best soil in the state and probably the tropics. Thus, we have the logical opposition by both Maui Pineapple and H.C.& S. to any of the currently proposed upcountry termini. Please provide for everyone your staff's "TOP TEN REASONS " why we should pave our best soil.

2 Secondly, the road is to be funded by U.S.Military Defense funds. The failure to connect the defense facilities to the termini raises a strong suspicion of fraudulent misappropriation of those defense funds and lends greater credibility to the rumor and innuendo that the connection of the U2-K2 routing is shrouded in graft with criminal implications.

When Sen. Daniel Inouye first acquired the funds to do the route proposal he was clear it was to be for defense and did not want the process to deteriorate into "another H-3". Clearly, the current choice of termini sabotage and betray Sen. Inouye and his most honorable intentions.

Do we need a road? Yes, we have needed a road for 25 years. However, the currently proposed termini fail to directly connect the two defense facilities in an expeditious way.

Originally, the route from Maui Research and Tech facility to Hawaiian Homes was discounted because the proposal included paving from MRT to Lower Kula Highway. Now, nearly 10 miles of roads are developed in Hawaiian Homelands lowering the proposed terminus to an elevation well within a possible federal highway percent grade approval or exemption.

3 If a terminus near Haliimaile becomes absolutely unavoidable, please consider an alignment much closer to the existing H.C.& S.'s Keahua Road and Upper Kihei Road. Please place a stronger emphasis on minimal disruption to their agricultural operations and provide a much better plan to handle any cross traffic.

4 The current rush hour congestion can easily be relieved with staggered work hours just like New York and Chicago, and widening existing roads.

I strongly urge you and your staff to reconsider the proposed termini and avoid protracting this highway project into "another H-3".

Sincerely,

Patrick Tahl
Kula

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
NOV 4 3 44 PM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Mr. Patrick Tahl
Kula, HI 96790

1. Thank you for the information about the soils found in the project area. Section 3.9.1 of the EIS contains information about these soils. As you point out, and as disclosed in the Final EIS, the proposed project would result in the loss of productive agricultural soils, in addition to affecting agricultural activities and open space. Mitigation measures will be incorporated into the project to help minimize adverse impacts on agricultural activities.

2. U.S. military defense funds will not be used. Construction of the project would be funded by a combination of State highway funds, and federal funds administered by the U.S. Department of Transportation, Federal Highway Administration. Enhancing mobility between the Maui Research and Technology Park and Science City is one of several project purposes. Alternatives do not need to directly terminate at these facilities in order to improve the connection between them.

3. The U1 alternatives were coordinated with HC&S, and HC&S has stated a willingness to work with the Department of Transportation to minimize adverse impacts on agricultural operations. Section 4.2.4 of the EIS describes the mitigation measures that would be employed for maintenance of agricultural activities.

4. The Department of Transportation would support staggered work hours program, or other transportation demand management strategies that would lead to a more efficient use of the Maui 's roadway system.

Hwy 3984

Steven B. Anderson
749-B Pulehuiki Rd.
Kula, HI 96790
Phone/Fax: 808-878-6946
Email: sbanderson@maui.net

October 19, 1999

Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
Highways Division
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr. Hayashida,

Please carefully consider the following comments on the proposed 'Kihei-Upcountry Highway' on the island of Maui. I offer the following comments as an objective professional concerned about a very significant, but rarely mentioned, public safety issue regarding this road: deer-vehicle related accidents.

I am a professional wildlife biologist, wrapping up 30 months of research on axis deer biology here on Maui in pursuit of my PhD in ecology for the University of California, Davis. Although, I currently reside in Kula, I am only a temporary Maui resident. As a result, I have no strong feelings regarding the ultimate outcome of this proposal. However, after spending more than two-years, full-time, studying the deer in this region, I would consider my comments to be the closest thing we have to 'expert testimony' regarding this particular issue. Throughout this region, my knowledge of current deer population sizes, future population trends, and deer habitat preferences leads me to have serious reservations about the proposal as it is currently presented. In this letter, I will give a general overview of the deer situation on Maui and then I will present a few suggested mitigation measures that should be seriously considered if this highway is to go forward and provide a safe route of travel for vehicular traffic. I have read the entire Draft Environmental Impact Statement (DEIS) for this project and some of my comments relate to this document.

Nine axis deer were first introduced to Maui in 1959 and 1960 just above Kihei on the Kaonoulu Ranch property. They have since grown tremendously in numbers, with hunting (both legal and 'poaching') becoming a significant source of mortality only in very recent years (1995 onwards). I currently estimate that there are over 3000 deer on the island. There could be as many as 5000. By the time the highway is expected to open in 2004 (DEIS p. 2-16) I project that Maui will have 8-10,000 deer.

1 Currently, deer numbers remain highest in the vicinity of the original release site on the western slopes of Haleakala from 'upcountry' to Makena, below about 3000 feet in elevation. This is the true 'heart' of the deer population on Maui at the moment. I expect that 75% or more of the population is found in this region. Unfortunately, the deer are also scattered widely throughout the island in smaller numbers. We know that there are currently deer in Hana, Kaupo, Kahakuloa, Kapalua/Lahaina, Ukumehame, Waikapu, Kanaha and Haiku. This is clearly an issue that will become increasingly bothersome to motorists throughout the island in the coming years.

I have enclosed a map of East Maui that provides a ROUGH indication of relative deer numbers throughout this region. As you can see, the proposed highway will bisect a significant portion of the high density deer area. As a result, I offer the following recommendations:

1

1) The population distribution of deer on Maui leads me to prefer the highway routing that begins at the northernmost Kihei terminus (K1) and ends at the Haliimaile terminus upcountry (U1). This will still provide an alternative escape route for Kihei residents and meet the traffic objectives of this project. From a deer (and safety) perspective this route is preferred because it is furthest from the Makena/Wailea area that holds the highest local numbers of deer. Further, this routing incorporates much more agricultural land, and much less 'ranch' land. This means that the highway is bisecting an area that will hold fewer deer. The deer clearly prefer 'ranch' land habitat (dry kiawe forests, buffelgrass...) as described in the DEIS (beginning on p. 3-44). Further, the DEIS states that "from a botanical perspective no alternative is more or less favorable" (p. 4-44). While this may be true when viewed through an 'endangered plants lens', this is not the case when viewed in terms of deer habitat and vehicular safety.

2

2) It is imperative that the proposed highway not only include 'fire danger' warning signs (DEIS p. 2-15), but that numerous 'deer xing' signs are included as well. I would suggest signs be placed no less frequently than every 2-3 miles. Research out of Cornell University has shown that signs stating "deer crossing next 5 (or 10) miles" are ineffective because drivers become complacent within several miles after passing the sign(s). Frequent signage has been shown to greatly increase driver awareness of deer activity.

3

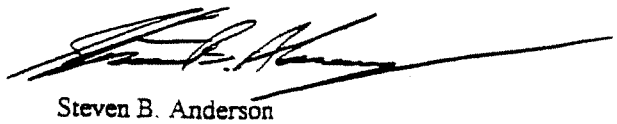
3) I suggest that the project also re-consider the 55mph speed limit that has been proposed and, instead, consider a maximum speed limit of 45mph. The axiom that "speed kills" is especially true with regard to "deer-vehicle related accidents". This is the term that is most frequently used regarding deer issues, since close to one half of the incidents that occur involve people swerving into an accident to avoid hitting a deer. Thus, there is no actual "deer-vehicle collision", but an accident that was caused by deer in the road. If a 45mph speed limit is unacceptable to meet the "time savings" aspects of the project, then I strongly encourage a dual speed limit on this highway of 55mph during daylight hours and 45mph after nightfall. Most deer vehicle collisions should occur at night, but with less daylight in the winter season I expect deer to be frequently encountered during the peak traffic hours from 5am-8am and 5pm-8pm.

4

4) Finally, there is a significant potential problem regarding standard highway reflectors with regard to axis deer. It is an unfortunate coincidence that the yellow reflectors that are placed continuously along the roadways reflect exactly as do axis deer eyes in car headlights. I doubt that this is a project aspect that can be manipulated, but it is clear that with all of the yellow reflectors along Maui's roadways drivers rapidly become conditioned to this reflection. The result is a greatly reduced ability to detect deer in, or nearby, the road.

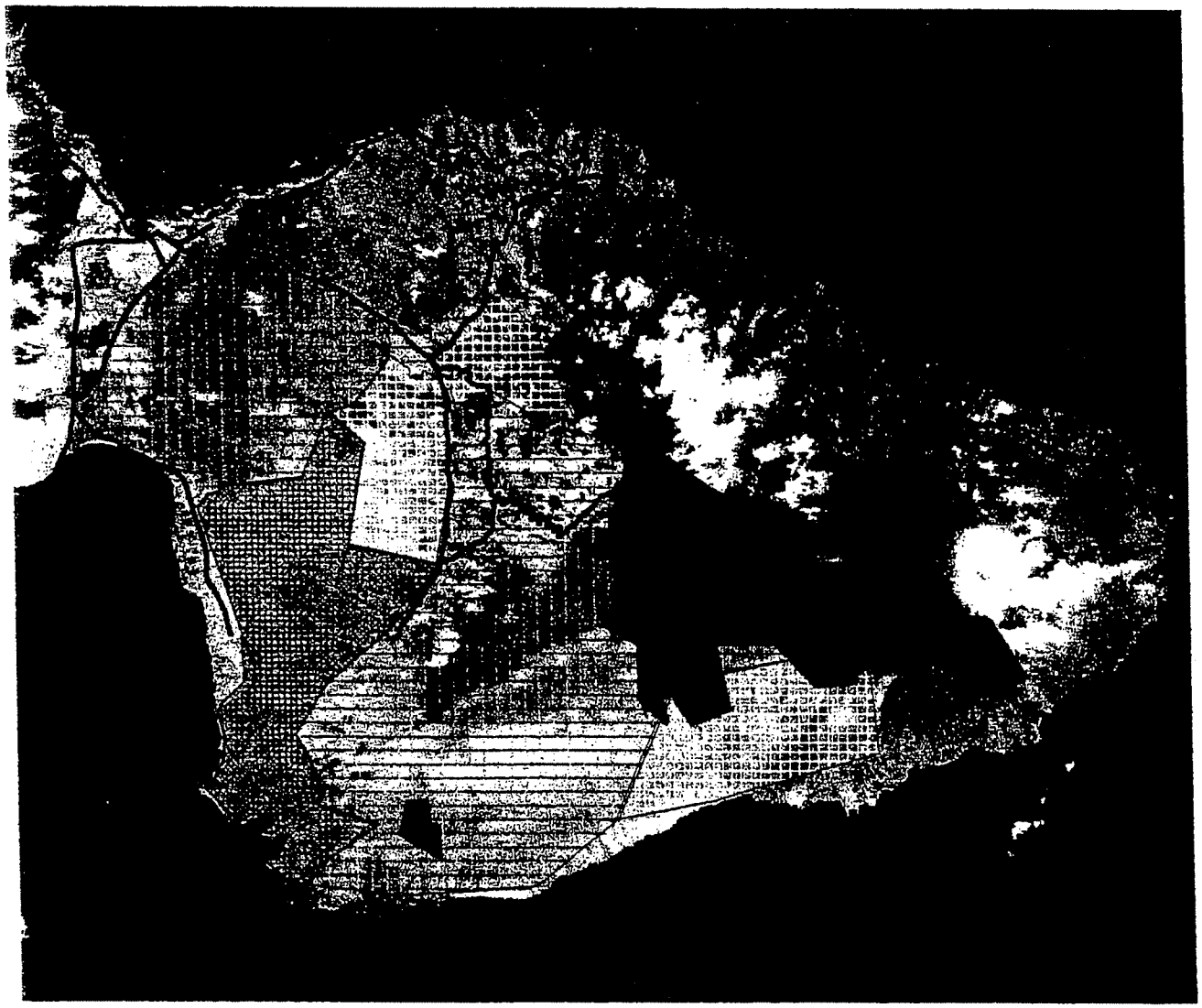
Please feel free to contact me with any questions or concerns regarding these issues. My principal role here on Maui has been to help devise deer management options and recommendations for a variety of different agencies and organizations that, to date, have included: Haleakala National Park, The Nature Conservancy, The Maui County Farm Bureau, Makena Resort and other golf courses, and all of the large ranches in this region. I would welcome the opportunity to discuss my comments further with you.

Thank you and Aloha,



Steven B. Anderson

Regional Management



0 10 20 Kilometers

N

Major Roads
Natural Areas
Conservative Popln. Estimates
1000's
None-10's
100's

Mr. Steven B. Anderson
749-B Pulehuiki Rd.
Kula, HI 96790

1. Thank you for the additional information that you have provided. This information will be used in the Final EIS. The route that you identify as minimizing impacts on the deer population (U1,K1) is the route that has been identified as the preferred alternative.

2. Section 4.8.4 of the Final EIS includes measures proposed to minimize the incidence of vehicle-deer collisions. Your suggestion of frequent signage is noted, and is included on the list of mitigation measures.

3. Although the Kihei-Upcountry Maui Highway is currently planned with a 90 km/h (55 mph) posted speed limit in rural areas, this speed will be re-evaluated during the design phase, and the information you provided will be considered in this re-evaluation.

4. Thank you. The Final EIS will include this information. The color of the highway reflectors will be considered during the design phase of this project. It is possible to use reflectors that are not yellow.

Mr. Steven B. Anderson
749-B Pulehuiki Road
Kula, HI 96790

Comment: Concerned about axis deer-vehicle collisions. Proposes several mitigation measures to prevent vehicle-deer collisions.

Response: Please see responses to your letter.

1061 Kokomo Road
Haiku, HI 96708
Telephone: 575-2398

October 26, 1999

Abraham Wong, Division Administrator
Federal Highway Administration
P.O. Box 50206
300 Ala Moana Blvd
Honolulu, Hi 96850
(808) 541-2700
Also delivered by FAX to (808) 541-2704

Kazu Hayashida, Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813
(808) 587-2150
Also delivered by FAX to (808) 587-2167

RE: COMMENTS AND QUESTIONS ON DRAFT EIS FOR THE KIHEI-UPCOUNTRY MAUI HIGHWAY

Dear Sirs:

I would like to take this opportunity to comment on the aforementioned draft EIS and to ask questions which have been asked for many years but never answered.

1. In a letter dated October 9,1994, John Harrison, environmental coordinator of the Environmental Center at UH Manoa stated: "In weighing the (then) seven alternatives our reviewers found 4 critical parameters necessary for evaluation:

1

a. (number of projected) visitor trips
b. (projected trips for) recreational use by residents
c. (projected) transits to and from work

d. (projected) travel between the Kihei Industrial (R&T) Park and the Haleakala Summit

The pertinent points in optimizing the location of the road would be gas and time savings during the above mentioned operations."

In his letter to you dated September 19, 1994 then Planning Director for Maui County, Brian Miskae asked "How many people commute from which areas of upcountry to which areas of Kihei-Makena? Which route would carry the most number of people?"

1

Please provide this data for each of the alternative routes. Five years have passed since the questions were asked by the reviewers at UH Manoa and Maui's Planning director. The data should have been assembled. The distances of each proposed route do not answer these question. If 10 people save 10 miles driving the benefit is less than if 500 people save 2 miles driving. Cost benefit analysis cannot be done without estimating how many people will use each route.

2. In his letter dated November 21, 1994, Maui Water Department Director David Craddick informed you that there would not be water available to irrigate landscaping for the road project. Although he did not include concerns about water for fighting fires I would add that concern. Please address this issue. Where will the water come from for landscaping and fire fighting? What will be the impacts of each proposed water source?

2

3. Your draft EIS mentions the benefit of providing escape routes from coastal hazards for Kihei residents. However it fails to address the ever present danger of fire to Kihei residents. Since the EIS identifies increased fire hazard as a consequence of allowing extensive travel across the dry regions above Kihei, the issue of the increased hazard to Kihei must be addressed. Please identify the number of mauka area fires that have threatened Kihei in the past 25 years and explain how the increased risk of fire posed by the highway users will be addressed.

3

4. Several commentators including Planning Director Brian Miskae and the US Department of the Interior pointed out that "Road planners recognize that without stringent limited access rules, road development is the

4

purveyor of a sequence of growth." " The EIS should also address the growth inducement potential along the alignment and at the terminus."

4 Instead your draft EIS says that other factors, like water availability, control growth. A relatively sophisticated middle school child understands that without a road to an area development is not possible and with a road it is very possible. Ergo the road has an important influence. Please address that potential for growth inducement and its consequences in detail.Include discussion of "stringent limited access rules".

5 5. The Maui Farm Bureau, Maui Land and Pine, HC&S and small farmers have stated their serious concerns about the threats to agriculture posed by the highway in oral testimony and in writing. To quote Richard Cameron, president of HC&S, "This is a major threat to the future viability of HC&S and ultimately to the island of Maui." Letter dated September 28, 1994. The draft EIS should specifically address each proposed mitigation measure for each proposed route and identify its cost. Also identify the impact on the agricultural pursuits in reduced yields and increased expenses remaining after mitigation measures.

6 6. The draft EIS identifies increased road kill as an impact but fails to identify that road kill as human. Hitting a deer or cow at 55 miles per hour is often fatal to both animal and vehicle occupant. Maui is now home to large herds of axis deer that will not be deterred by stock fencing. In any case, who will maintain the fences and at whose expense? Please address these questions in detail.

7 7. Does Haleakala National Park want more visitors and can they be accommodated. In response to the question of the impact on Haleakala National Park posed by Gary Gill you stated: "However the direct influence of the proposed project on the number of visitors who visit the summit would be less than the overall health of Maui's visitor industry." What does that sentence mean? Please address the impact to the park.

8 8. The response to the letter from R. Dougal and Ann Crowe dated November 9, 1995 states that it is understood that "the highway could have adverse effects on the rural-farm community of upcountry" but in the draft EIS these adverse effects are not discussed. Please specifically

8 discuss and quantify these adverse effects on upcountry's rural-farm community.

9. Since the projected benefits of the project include access to Lahaina, the Lahaina By Pass should be a part of the No Build alternative. Please address this issue. Describe in detail how much time and distance will be saved by all the new roads and highway improvements that are a part of
9 the No Build alternative. Then compare the estimated savings in total miles travelled (including distance and projected number of vehicles) for each proposed route with the improved highway linkage provided by the no build alternative.

10. In a letter dated February 3, 1998 and included in the draft EIS, Mr. Kazu Hayashida, Director of DOT, expressed grave concern about the proposed route through Mr. Dowling's Kulamalu development. He was concerned about safety because of the steep grade and the need for trucks
10 to brake above the elementary school with its pedestrians, he was concerned about the need for a truck climbing lane, he was concerned about the huge bridge requirement and he disagreed with the design speed. Please explain how those concerns were addressed and why Mr. Dowling's proposal survived tier analysis.

11. Please address in detail the impact of the Dowling route (U2B) on the businesses in Makawao. Mr. Dowling plans a shopping plaza which will divert the tourist dollars now spent in Makawao by visitors from Kihei to the Haleakala National Park. This impact should be addressed. The EA for
11 Mr. Dowling's Kulamalu project includes a market assessment which states that his commercial project is not feasible unless the upcountry highway goes through or adjacent to his property. Makawao is promoted as one of Maui's small town jewels and the loss of its business district would have an impact on the tourist industry. Please assess the impacts.

13. What was the basis for determining that U2A-K2 results in a 50% trip
12 reduction? For how many people, living where? Does this mean in time or distance. See p.S-21.

13 14. Please identify the tourist attractions that you are referring to in Section S-24.

14 15. Do residents and visitors typically travel on the roads between upcountry and Kihei in the same direction at the same peak times? Please explain. If they are using the roads at different times, then the use would be complementary and not cumulative, would it not? What are the levels of service at each of the intersections at non peak hours?

15 16. Please identify studies and or reports that would support your counter -intuitive conclusion that "the highway would have minimal influence on long term regional land use trends." at S-11

16 17. Upcountry residents travelling to Kihei use Hansen Road since this is the most direct road. Why does the draft EIS indicate that they use Dairy Road. Have any studies been conducted to determine this?

17 18. Do you expect Haiku residents to drive through Makawao to access the new road if it intersects the Kula highway. Please analyze the effect of this additional traffic on road conditions in Makawao town.

18 19. Please analyze the increased use of fuel and the increased commute time generated by those people who now live and work in Kihei but who will decide to move upcountry when the commute is shorter. Is it the policy of the DOT and the FHWA to encourage people to live in one area and commute to another for work? If so, why?

19 20. How many people living in North Pukalani work in Kihei?

20 21, Please discuss the effect of the burgeoning bed and breakfast businesses on the need for the highway from a tourist perspective.

21 22. Please discuss the effect of U2-A and the accompanying dead end of Pukalani Avenue on the numerous businesses located on Makawao Avenue between Pukalani Avenue and the Pukalani Bypass.

22 23. Please give the citations for the requirement that Transportation Systems Management must be considered because FHWA funds are involved. Since this is a requirement then please give detailed consideration to the alternative systems. Improving transportation

22 options is a legitimate goal, building a road cannot be the goal but only one means to that end. Otherwise the requirement to consider alternatives would be meaningless.

23 24. What are the proposals to mitigate the potential for increased crime upcountry resulting from easier access from Kihei?

24 25. How will a road from Kula contribute to more infill development in Kihei?

25 26. In Section 4-2 the draft EIS refers to unplanned development. What does that mean? All development on Maui must go through the planning process.

26 27, What is the basis of the statement on page 4-24 that "the proposed project will divert most if not all trips.."

27 28. If U2A or U2B are chosen, a tourist looking at a map will conclude that the fastest way to the Crater road is up Kimo Drive. How will this be mitigated?

28 29. Aren't state highway projects required to conform to locations set forth in community plans. See for example HRS 226-57 and HRS 214-2? How do you plan to deal with the fact that the Maui County Council has already set forth its options in the community plan? Why did you feel that it was not appropriate to follow the Council directive to choose route U1 is a highway had to be built? This location survived tier review and so had no engineering concerns that render it infeasible. It was chosen on the advice of the Citizens's Advisory Committee, the Planning Director and the Planning Commission. Why was this public process deemed inadequate?

29 The Kihei Community plan does not attempt to select an upcountry terminus and expresses concern about need and impacts. It is not inconsistent with the Upcountry Community Plan. Why does the EIS misquote the Kihei Community Plan? Please reassess the impact of the Community Plans using the correct language from the Plans.

30 30. Please address the alternative of providing emergency evacuation

30 routes from Kihei by means of a limited access civil defense highway and/or cane haul or other agricultural roads.

31. The traffic study of intersections depicted in Figure 1-4 is not well identified. When was the study done and what time periods were studied. According to the data supplied, 1859 vehicles turned right from the Haleakala Highway onto the Hana Highway during the morning peak period. 31 An additional 726 vehicles proceeded through the intersection continuing in the Kahului direction on the Hana Highway for a total of 2585 vehicles. When these vehicles reached the Hansen road intersection with the Hana Highway 223 turned left onto Hansen road and 1783 continued on Hana Highway. Where did the other 579 cars go?

I look forward to yourresponses to my questions and comments.

Sincerely,

Madelyn D'Enbeau, Esq.

cc: Governor, State of Hawaii
c/o OEQC
235 So. Beretania St
Suite 702
Honolulu, HI 96813

Warren Unemori Engineering Inc.
2145 Wells St. Suite 403
Wailuku, HI 96793

Depart of Transportation
Highways Division
869 Punchbowl Street
Contact : Kenneth Au
Honolulu, HI 96813

Ms. Madelyn D'Enbeau, Esq.
1061 Kokomo Road
Haiku, HI 96708

1. The estimated traffic volumes that were used in the EIS analyses are provided in Section 4.4.1.2. The volumes would vary depending on alternative. In general, the U3 and K2 alternatives would experience lower volumes while the U1, U2-A, U2-B, and K1 alternatives would convey higher volumes. The reasons for these differences pertain the travel markets that would be served by the alignment alternatives.

2. Department of Transportation understands that the Maui Board of Water Supply will not provide water for landscaping. Section 4.13.2 of the EIS discusses the appropriate selection of landscaping materials for a xeriscape setting. A water delivery system for fire fighting will not be provided along the highway. Water sources are available in the agricultural areas, and water may be brought in by tanker truck. Further investigation of water sources will occur during the design phase of the project.

3. In addition to signage warning motorists of fire hazards, the Department of Transportation will conduct regular maintenance to control weed growth along highway shoulders. While the Kihei-Upcountry Maui Highway will increase access to the dry area between Kihei and Upcountry, such that the risk of man-made fires may increase, the highway would simultaneously decrease the damage from fires because it would improve emergency response. Although brush fires can threaten Kihei, this area has established fire protection infrastructure.

4. Both transportation and water supply infrastructure are important elements needed for development. However, for Upcountry specifically, coordination with the County Board of Water Supply and other stakeholders indicated that the amount and pace of residential development in Upcountry would continue to be controlled largely by water availability, not transportation constraints. If it were not for current water restrictions, the level of development in Upcountry would be much higher than it is today. For example, the Kulamalu development was only able to proceed after it secured a water supply by drilling a new well in Haiku. This development will proceed regardless of the Kihei-Upcountry Maui Highway.

The EIS reports that the U1 alternatives could have the greatest growth inducement influence because it would directly serve lower Pukalani and Haliimaile. These are areas designated for development in the Community Plan, and therefore, the Maui Board of Water Supply has indicated that it would supply water to this area.

"Stringent limited access rules" are typically applied to opening public lands to access. They do not appear to apply to this situation.

5. Adverse impacts to agriculture were disclosed in Section 4.2.1 of the EIS. The preferred alternative, the U1,K1 alignment, will displace more HC&S sugarcane land than any other alternative (U1,K2 had the same impact). However, HC&S has stated a willingness to work with the Department of Transportation to minimize impacts to their operations. The Department will implement mitigation measures as described in Section 4.2.4 of the EIS.

6. Section 4.8.4 of the Final EIS includes a discussion of measures to minimize vehicle-deer collisions. Frequent signage and fencing are the types of measures that would be implemented.

7. The sentence is attempting to say that the level of tourist activity on Maui is the best predictor of the number of visitors to Haleakala National Park. The attraction of the Park is sufficiently strong that the present level of transportation service is not a barrier constricting the number of visitors. Therefore, the Kihei-Upcountry Maui Highway is not anticipated to have a large influence on travel decisions regarding the Park.

8. Section 4.2.1 of the EIS describes the impacts to both large and small-scale farming. Only the U3 alternatives would affect small-scale farms by bisecting the Kula Agricultural Park. As described in Sections 4.1.3, 4.3.1 and 4.3.4, none of the alternatives will bisect an existing neighborhood, nor would any alternative require the relocation of a residence or business establishment.

9. The potential benefits to the West Maui region would extend only as far as north Kihei. The proposed project would offer no additional benefit closer to Lahaina. Therefore, a detailed treatment of the Lahaina bypass project would not add any information useful for the decision-making occurring at this point of project planning.

10. The U2-B alternatives were evaluated in the Draft EIS because this is the alignment most consistent with the Kulamalu master plan. The concerns expressed in the February 3, 1998 letter remain. However, a U2-B alignment was not identified as the preferred alternative, so resolution of the concerns was not pursued.

11. If a U2-B alignment were identified as the preferred alignment, visitor spending could shift away from Makawao because of enhanced access to the Kulamalu shopping center. This potential impact is disclosed in the Final EIS.

12. The reduction in trip distance of up to 50 percent would occur under the U2-A,K1 Alternative, not the U2-A,K2 Alternative. This figure was calculated by comparing travel distances from the Five Trees intersection to the Lipoa Street / Piilani Street intersection. Five Trees was considered a centroid of Upcountry population. The Kipoa Street / Piilani Street intersection approaches the center of Kihei population. The purpose of the analysis was to develop a general comparison of the alternatives' effect on fuel consumption.

13. The tourist attractions in Upcountry include Haleakala National Park, downtown Makawao, Kula Lodge, and Tedeshi Winery.

14. The level-of-service analysis presented in Section 4.4.1.2 of the EIS applies to the peak travel hours, when roadways are the most congested. The level-of-service at other times of the day would be better than that reported in the section. The analysis requested would not assist in decision-making.

15. The analysis of potential land use impacts is presented in Section 4.1.1 of the EIS and the Community Impact Assessment report in Appendix H. Please see Response # 4.

16. Motorists traveling between Upcountry and Kihei use both Dairy and Hansen Roads. This behavior will be indicated in the Final EIS.

17. Since the U1,K1 alignment was identified as the preferred alternative, Makawao's traffic patterns will not change.

18. It is very difficult to determine how many people would choose to move from Kihei-Makena to Upcountry because of the existence of Kihei-Upcountry Maui Highway. Transportation planning is based on Maui County projections of population and land use. Neither

Department of Transportation nor the Federal Highway Administration have issued policies to encourage people to live in one area and commute to another.

19. According to 1990 information used to prepare the Maui Long Range Land Transportation Plan, a little over 13 percent of all employment on the island was in Kihei-Makena. Roughly this same percentage would likely apply to those workers living in Pukalani.

20. Significant changes in the size of the bed and breakfast industry would affect traffic volumes. In general, economic activity increases travel demand.

21. Under the U2-A alternatives, the closure of the Haleakala Highway on the Pukalani side of the Five Trees intersection, and its conversion to a pedestrian path, would not affect businesses on Makawao Avenue because access along this street would not change. Traffic on Haleakala Highway will be rerouted onto a new roadway on the mauka side of Makawao Avenue.

22. The citation requested is 23 Code of Federal Regulations, Section 771.123(c), which states that "reasonable alternatives" be considered in the EIS. The alternatives screening (see Section 2.2.1) found that the TSM alternative would not address the project's purposes and needs. Therefore, it was eliminated from further consideration. The Federal Highway Administration does not require a TSM alternative to be considered viable if it would not address the purposes and needs of the project.

23. Enforcement of criminal laws is the responsibility of Maui Police Department and other law enforcement agencies. The Department of Transportation would support and provide assistance to these agencies if it is requested.

24. The proposed highway would enhance access where it terminates in Kihei, contributing to those factors that promote urban development. Unlike Upcountry, Kihei has other conditions conducive to growth, such as County objectives for urban development, water availability due to its low elevation, and developable land between South Kihei Road and Piilani Highway.

25. A development that is "unplanned" is one that does not appear in currently approved land use plans.

26. The statement points out that motorists typically choose the fastest route to their destination. The fastest route may be either the shortest or least-congested option. Kihei-Upcountry Maui Highway would provide travel time savings for certain travelers, and so this change in route selection is stated in terms of trip diversion from currently chosen routes.

27. Under a U2-A or U2-B alternative, visitors wishing to go to the crater would most likely stay on State highways. The potential impact identified in the comment is disclosed in the EIS, and may occur with a U3 alternative. If a U3 alternative had been identified as the preferred alternative, signage would need to be provided to direct motorists along the proper route to the crater.

28. State highway projects are not required to conform to locations set forth in community plans. The Department of Transportation considers community plans to be important expressions of public sentiment, not regulatory documents. Nevertheless, the Makawao-Pukalani-Kula Community Plan was given substantial weight in the identification of the preferred alternative, the U1,K1 alignment.

29. The Kihei-Makena Community Plan did not clearly communicate a preference for the Upcountry terminus. The Community Plan stated that the focus should be on minimizing travel times for the maximum number of island residents. This statement could be interpreted to mean that the Plan favors an Upcountry terminus near the population center of Pukalani and Makawao. The Department of Transportation does not believe that the EIS misrepresents the views of Kihei-Makena Community Plan. The EIS does not suggest that the Kihei Community Plan is inconsistent with the Makawao-Pukalani-Kula Community Plan.

30. The provision of an emergency access route for Kihei-Makena is just one purpose of the project. A reasonable alternative should address all of the project's purposes and needs. The options suggested would not address many of the project's purposes and needs.

31. The source of Figure 1-4 is shown on the bottom left corner the page, Parsons Brinckerhoff, June and August of 1996. Traffic counts are often conducted on different days, and therefore, do not necessarily match exactly. However, the vehicles per hour (vph) volume shown for the AM peak period Hana Highway through movement at Hansen Road was erroneously shown as 1783 in the Draft EIS. It should have been 2,383 vph, and will be corrected in the Final EIS. When 2,383 vph is added to the 223 vph shown turning left

from Kahului-bound Hana Highway to Puunene-bound Hansen Road, the total volume is 2,606 vph, which is very close to the 2,608 vph departing the Hana Highway/Haleakala Highway intersection in the Kahului-bound direction. The Department of Transportation believes the traffic volumes shown in Figure 1-4, as corrected, to be a reasonable representation of baseline traffic conditions.

Ms. Madelyn D'Enbeau
Makawao Main Street Association
P.O. Box 1869
Makawao, HI 96768

Comment: The Department of Transportation cannot implement a project that is contradictory to the Makawao-Pukalani-Kula Community Plan. Therefore, why are alternatives being studied when the community plan has already stated an alignment preference?

Response: State highway projects are not required to conform to locations set forth in community plans. The environmental review process requires the study of all reasonable alternatives, and there are reasonable alternatives in addition to the recommended alignment in the Makawao-Pukalani-Kula Community Plan. The Department of Transportation considers community plans to be important expressions of public sentiment, not regulatory documents. Nevertheless, the Makawao-Pukalani-Kula Community Plan was given substantial weight in the identification of the preferred alternative, the U1,K1 alignment.

Comment: Requests citation of regulation requiring the State Department of Transportation and Federal Highway Administration to consider transportation system management (TSM) as an alternative. The TSM should have been considered as a viable alternative in the Draft EIS.

Response: The citation requested is 23 Code of Federal Regulations, Section 771.123(c), which states that "reasonable alternatives" be considered in the EIS. The alternatives screening (see Section 2.2.1) found that the TSM alternative would not address the project's purposes and needs. Therefore, it was eliminated from further consideration. The Federal Highway Administration does not require a TSM alternative to be considered viable if it would not address the purposes and needs of the project.

Comment: The Draft EIS states that there is a conflict between the Makawao-Pukalani-Kula Community Plan and the Kihei-Makena Community Plan.

Response: Section 3.1.4.2d of the EIS states that Makawao-Pukalani-Kula Community Plan prefers the No Build alternative, and the Kihei-Makena Community Plan recommends a transportation connection with Upcountry. These statements were written in the plans. No conclusion was made in the Draft EIS that the plans are conflicting.

Comment: Concerned that a U2-A, U2-B, and U3 alternative would increase traffic through the already congested Makawao town.

Response: A U-1 alternative was identified as the preferred Upcountry terminus, and not U2-A, U2-B or U3 alignment.

Comment: The Draft EIS did not address the impact of the project on Makawao businesses, especially since a large shopping center is being planned in Kulamalu, which would be adjacent to the U2-B alignment, and close to the U2-A and the U3 alignments.

Response: If a U2-B (or U2-A or U-3) alternative had been identified as the preferred alternative, visitor spending could be shifted away from Makawao because the road would have been adjacent to the future shopping center in Kulamalu. This potential impact will be disclosed in the Final EIS.

326 Pukalani St.
Pukalani, Hi. 96768

Mr. Kazu Hayashida
Hawaii State Director of Transportation
869 Punchbowl St.
Honolulu, Hi 96813

September 30, 1999

Dear Director Hayashida,

As a resident of Pukalani, I am offering the following comments on the proposed Kihei-Upcountry Maui highway.

In my view, the U2-A and U2-B alternatives are both unacceptable for three reasons:

1

1. They would greatly disturb the Pukalani residential neighborhood with construction and traffic noise.

2

2. Both of these routes would produce a road with a very steep grade on the order of 10-12%, adding the risk of failed brakes and an out-of-control vehicle picking up speed through a densely populated residential area.

3

3. Both of these routes are too close to Kamehameha and King Kekaulike schools where a large number of children walking along the road going to and from school would be exposed to more and faster traffic.

4

My own preference would be to add a 4th lane to the Haleakala and Mokulele Highways, thereby aliveating the current congestion on the drive from Upcountry to Kihei, while not disturbing the rural nature of our Upcountry region. Another

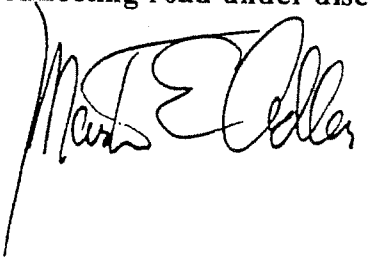
5

reasonable option would be to simply upgrade the crude dirt road that runs between Makena and Lower Kula Highway- certainly the shortest route and probably the cheapest. In the worst case, I would accept the U1 route that has Hailemaile as its terminus since this approach would provide an alternative route from Upcountry to Kihei, utilizing existing roads without disturbing residential neighborhoods.

In any case, let me make clear that I am totally opposed to the U2 and U2B routes which would destroy the tranquility and rural character of my neighborhood.

Thank you for your consideration of these comments in your department's decision if and where to build the connecting road under discussion.

Respectfully yours,
Martin E. Adler



Mr. Martin E. Adler
326 Pukalani Street
Pukalani, HI 96768

1. The U2-A and U2-B alternatives are far enough from Pukalani for construction impacts to not be highly noticeable. Noise and dust control measures would be implemented. Section 4.17 of the EIS discusses construction-phase mitigation measures in more detail. Neither alternative would also not cause traffic noise impacts in Pukalani as described in Section 4.6.

2. Only the U2-B alignment has a maximum grade of 10 percent. The U2-A alignment's maximum grade is 6.8 percent.

3. Had a U2-A or U2-B alternative been identified as the preferred alternative, pedestrian facilities would be provided to the high school. Information regarding these measures is provided in Section 4.3.5 of the EIS. The amount of traffic projected at either of these intersections would not cause a safety problem. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

   If a U2-B alternative were identified as the preferred alternative, an urban design with sidewalks would be used on the section of the highway adjacent to Kamehameha School.

4. Haleakala Highway and Mokulele Highway will be widened to four lanes regardless of whether Kihei-Upcountry Maui Highway is constructed. However, these improvements alone will not satisfy the purposes and needs that have been identified for the project.

5. The alternative being suggested is Alternative 7, which was eliminated from further consideration early on in the analysis because it would have very low traffic volumes not justifying its cost.

October 6, 1999

To Whom It May Concern:

As concerned homeowners in Kula 200, we would like to express our opinion that the proposed highway from Kihei to Upcountry should terminate at Haliimaile Road for the following reasons:

1. Locating the terminus at either Five Trees or at the entry to the Kulamalu project would jeopardize the safety of the students at both King Kamehameha and King Kekaulike schools. Upon personal observation, keiki walk along and cross the roads going to and coming from school, and the increased traffic in the area in a hurry to go to or from work is a major threat to them. It seems very unwise and foolhardy to place a highway such as the one proposed in such an area. Rather than wait until children are injured or killed to validate this point, let us look forward and realize it now.

2. It appears that construction of such a highway would be much easier and less expensive if it came through gentler land to Haliimaile Road (read: less rugged terrain to build upon). It also takes the traffic out of populated areas, which is a major safety concern. Current traffic on Haliimaile Road would remain the same, as people would use it the way they now use it coming up by way of Haleakala Highway. No matter how cars get to Haliimaile Road, they are either going to use it or they aren't. As an added plus, a signal at that point may certainly help to stop people who tend to exceed the speed limit there. A signal there as is would not be intimidating, as there is no cross traffic to think about. If drivers knew there was cross traffic, they may well be more inclined to slowing down and obeying signal lights.

3. As a weak point, but one with the spirit of Hawaii in mind, those of us who chose to live Upcountry did so with a reason, and that is to have a quiet and pastoral setting. To put a major thoroughfare in the middle of the area seems rather like sacrilege and will only serve to alienate voters and supporters of Maui County.

Thank you for your kind consideration in this matter.

Very truly yours,

Alvin & Candace Barnhart

Mr. and Mrs. A. K. Barnhart
14 Aulii Place
Pukalani, HI 96768-8252

Mr. And Mrs. A. K. Barnhart
14 Aulii Place
Pukalani, HI 96768-8252

1. Had a U2-A or U2-B alternative been identified as the preferred alternative, pedestrian facilities would be provided to the high school. Information regarding these measures is provided in Section 4.3.5 of the EIS. The amount of traffic projected at either of these intersections would not cause a safety problem. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

   If a U2-B alternative were identified as the preferred alternative, an urban design with sidewalks would be used on the section of the highway adjacent to Kamehameha School.

2. The U1,K1 alignment has been identified as the preferred alternative, consistent with this comment.

10/26/99

Kazu Hayashida, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

Thank you for having allowed an additional meeting for further input into the UpCountry-Kihei highway project on Maui.

I represent the King Kekaulike High School PTSA with a current membership of over 370. Also of note is the student body count which is now over 1,400 students. At our General Membership Meeting held on October 21, 1999 a vote was taken indicating a **strong desire not to have the new highway connect any where near the high school facility,** specifically referring to locations U2-A and U2-B.

1 Since our concerns pertain to the anticipated traffic flow caused by this new highway system, it will follow that the U-3 connection is equally undesireable since upcountry traffic using U-3 will need to flow pass our school and the same thing would happen with traffic coming up from Kihei.

Connection identified as U-1 (Haliimaile Road) would dissipate traffic coming up and also collect traffic from a variety of sources with a reduced impact on traffic directly fronting our school. This would be our preferred conjunction of the new highway.

2 It is also our understanding that there are plans currently in place to provide a continuation of a 4-Lane highway system which will extend past King Kekaulike High School. We are hopeful that these plans provide adequate traffic controls to facilitate safe ingress and egress from our school.

Please feel free in contacting me directly if you have any need for clarification.

Cordially,

Mel Ito

Mel Ito, President
King Kekaulike PTSA
808-242-6800
121 Kula Highway
Pukalani, HI 96768

Mr. Mel Ito, President
King Kekaulike PTSA
121 Kula Highway
Pukalani, HI 96768

1. Had a U2-A or U2-B alternative been identified as the preferred alternative, pedestrian facilities would be provided to the high school. Information regarding these measures is provided in Section 4.3.5 of the EIS. The amount of traffic projected at either of these intersections would not cause a safety problem. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

   The amount of traffic passing directly in front of King Kekaulike High School would be the same under the U1 and U2-A alternatives because neither alternative would alter traffic patterns fronting the school, disregarding the effect of Omaopio and Pulehu Roads in diverting some traffic. The commenter is correct to note that the traffic volumes passing in front of the school would be higher under a U3 alternative because it would change traffic patterns fronting the school, such as trips by Pukalani residents.

2. Kula Highway is proposed for widening to four lanes from the Five Trees intersection to Pulehu Road. King Kekaulike PTSA and the Department of Education will be consulted on ingress/egress details when planning of this project is initiated.

P.O. Box 662
Kihei, Maui, Hawaii 96753

879-5390
KCA Message Phone /FAX

"Working Together to Shape our Community's Future""

Sept. 29, 1999

Mr. Kazu Hayashida, Director
Department of Transportation
869 Punchbowl
Honolulu, HI 96813

Dear Mr. Hayashida:

The Kihei to Upcountry Highway has been in the planning stage for several years. I would like to state our position on the Kihei terminus of this road.

Presently, the only access to the ten-mile long, linear community of Kihei/Wailea/Makena is at the North end of this community. Were there to be some catastrophic event in the vicinity of the current intersection of Piilani and Mokulele highway such as a plane crash or gasoline tanker accident, the entire community with a defacto population on the order of 30,000 could be trapped. If the event were a wildfire driven by trade winds, the end result could be a loss of life unparalleled in history. If there were a major tsunami, the absolute inability to evacuate the community could again be cataclysmic.

There are two locations being considered for the Kihei terminus of this highway, in North Kihei at Ka Ono Ulu or in South Kihei at Ke Alli Alanui. The Northern connection is the least expensive. The Southern terminus at Ke Alii Alanui would provide many benefits: 1) it would provide a southern access point to the linear community thereby providing a vast improvement in public safety. 2): The Southern route would run beside the 150-acre regional park location. Presently this site cannot be developed due to the lack of infrastructure. The presence of the terminus of the Kihei-Upcountry Highway would allow development of the park and accessibility to the park for the upcountry people. 3) The Southern terminus would bring the Kihei-Upcountry Highway to within stones throw of the Keokea Hawaiian Homelands. It would then be possible for the Hawaiians that will be on this land to construct small access roads to connect the Keokea/ Ulupalakua region to Kihei. This could be of enormous benefit to the Hawaiian people who will be living on that land.

1

The downside of the Southern terminus is that it is significantly more expensive due to the need for additional bridges. Also, the Southern terminus would end in the vicinity of an elementary school. There are no perfect solutions but we continue to strongly support the southern most terminus for the Kihei-Upcountry Highway.

Sincerely,

Buck Joiner

Buck Joiner

17

Mr. Buck Joiner
Kihei Community Association
P.O. Box 662
Kihei, HI 96753

1. The U1,K1 alignment was identified as the preferred alternative. While the Department of Transportation agrees with your facts and analysis, the added cost of a K2 alignment, in addition to the alignment not serving the West Maui travel market, resulted in it being ranked below the K1 alternatives.

Kulamalu, Inc.

P.O. Box 1417 Wailuku, HI 96793
(808) 244-1500 Fax (808) 242-2777
develop@dowling-company.com

September 20, 1999

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

RE: Kihei - Upcountry Maui Highway

Dear Mr. Wong,

We have reviewed the EIS for the subject project and would like to offer the following comments:

1. Page 2-5, Table 2-1, Columns "U2-A,K1", "U2-A,K2", "U2-B,K1", and "U2-B,K2", Line labeled "Others".

1 The Alternatives U2-A,K1 and K2, and U2-B,K1 and K2 are basically the same with the exception of its respective alignments through the Kulamalu parcel. We feel that the estimated right-of-way requirements for "Others" in the U2-B columns should be zero or substantially less than that represented in the U2-A columns since the U2-B requirements have already been accounted for under the line labeled "Dowling Company".

2. Page 2-7, Paragraph 5

2 Alternative U2-B,K2 should be U2-B,K1.

3. Page 2-11, Table 2-2

3 There is no listing for a bridge at Kaluapulani Gulch for Alternative U2-A. Assuming that U2-A will traverse this gulch utilizing a culvert crossing further investigations to confirm the feasibility of such a crossing should be seriously considered. This should take into account the length and depth of the gulch, the extent of fill needed for the crossing, the impact of this fill on existing burials and archeological sites within the gulch, and the presence of existing utilities running along the bottom of the gulch. Consequently, we feel that Figure 2-4 and Table 2-3 should reflect an additional bridge for Alternatives U2-A,K1 and U2-A,K2.

4. Page 2-16, Table 2-4

4 The construction cost listed under the U2-B alternatives do not reflect the fact that 3000 lineal feet of the roadway through the Kulamalu parcel and the intersection improvements at Kula highway has been completed by KSBE and Kulamalu at cost of approximately 6 million dollars. Additionally, Kulamalu has represented to DOT that it will dedicate at no cost the right-of-way within the Kulamalu project area should Alternative U2-B be selected.

5. Page 2-35, Second paragraph: U2-B

The Kamehameha School Campus opened in August, 1999 and is in operation.

6. Page 2-35, Third paragraph: U2-C

5 This alignment would also bisect the public/quasi-public and commercial parcels within the Kulamalu project.

7. Page 2-35, Fourth paragraph: U2-D

This alignment would also bisect the park parcel within the Kulamalu project.

8. Page 2-36, Table 2-9

6 The "Maximum Height of Fill" and "Maximum Height of Cut" for Alternative U2-B should be decreased due to KSBE and Kulamalu having completed the construction of 3000 lineal feet of the roadway. Pursuant to No. 4, above, Alternative U2-A should include a bridge crossing at Kaluapulani gulch and therefore, "Number of Bridges", "Length of Bridge Required", and "Number of Gulch Crossings" should be revised accordingly.

9. Page 2-37, Top of the page:
"U2-B's disadvantage is that it does not meet AASHTO's recommended seven percent grade for a limited access rural highway. U2-B's maximum grade is 10 percent".

7 The 10 percent grade is near the mauka terminus of the highway, within the Kulamalu project area. The Kulamalu project has been zoned and urbanized. Adjacent land uses will consist of residential, elderly housing, commercial and the recently opened Kamehameha School. Under these conditions, it would be appropriate to characterize the area as mountainous-urban, and use a lower design speed for the highway. Therefore, the design criteria could be adjusted to utilize a design speed of 40 mph (posted 35) and the maximum grade of 10 percent, as shown in Table VII-4, Maximum grades for urban arterials, page 525 of the AASHTO Green Book (A Policy on Geometric Design of Highways and Streets, 1990). Further, since the Kulamalu project is the Upcountry terminus of Alternative U2-B, it is desirable to reduce the highway speed limit

approaching Kula Highway to provide the transition from the open highway to the Stop condition at Kula Highway. Lastly, this section of the roadway has already been constructed.

10. Page 3-24, Section 3.3.5 Public Facilities and Services

8 Kamehameha School, opened in August of 1999 should be added to the inventory of schools in Upcountry Maui.

11. Page 3-33, Second paragraph

9 Kulamalu has completed the drilling and testing of a well in Haiku. The pump capacity, as approved by the State's Water Commission, is 2 million gallons per day. The pump that will be installed will produce 1.64 million gallons per day of which 45% (738,000 gallons) will be allocated to the Kulamalu project.

12. Page 3-58, Second paragraph

10 The future 14.74 acre Kulamalu park should be added to the inventory of Upcountry parks.

13. Page 4-5, Figure 4-1

11 The Kulamalu area is designated as "Future Urban Areas". This should be reclassified as existing urban areas since the project has been zoned and urbanized. Further, as mentioned earlier, Kamehameha School has opened and is in operation.

14. Page 4-11, Section 4.1.3 Relocation Impacts (under Dowling Company)

12 The Kulamalu project is not vacant. Kamehameha School is in operation and 3000 lineal feet of roadway has been completed. If Alternative U2-B is selected no relocation is required since this alignment has been considered in the Kulamalu development plan.

15. Page 4-23, Table 4-2

13 Alternative U2-B is not listed in the table.

16. Page 4-46, Table 4-9

The approximate vegetational displacement listed with U2-B,K1 and U2-B, K2 should be reduced to reflect the 3000 lineal feet of roadway that has been completed within the Kulamalu project.

14

17. Page 4-48, Table 4-10

The earthwork quantities listed with Alternatives U2-B,K1 and U2-B,K2 should be reduced to reflect the 3000 lineal feet of roadway that has been completed within the Kulamalu project.

18. Page 4-63, Infrastructure and Utilities

15 The Kulamalu Development has completed the drilling a well in Haiku and is currently in the process of installing the pump and appurtenances. Completion is expected during the first quarter of 2000.

Thank you for the opportunity to comment on this EIS. We look forward to the completion of this project. Please call me should you have any questions regarding our comments.

Sincerely,

Don S. Fujimoto
Vice President

cc: OEQC
Warren S. Unemori Engineering, Inc.

DF:to

Mr. Don S. Fujimoto
Vice President
Kulamalu, Inc.
P.O. Box 1417
Wailuku, HI 96793

1. Thank you. Table 2-1 will be corrected to reflect the information provided.

2. Thank you; corrected in the Final EIS.

3. The selection of a bridge or embankment crossing at the numerous gulches the highway would cross was based on the storm water flow of the affected gulch, not the size of the gulch. This assisted in the cost estimates of the alternatives. These decisions will be reviewed in greater detail during the design phase of the project. Regardless of a bridge or embankment crossing, the study area to determine potential impacts to archaeological and other resources is the same. Therefore, the U2-A alignment, using the embankment concept, avoids the archaeological sites in Kaluapulani gulch. Impacts on existing utilities running along the bottom of the gulch would be examined in more detail in the design phase, but either a bridge or embankment crossing would affect these utility systems. In any case, the U2-A alternative has not been identified as the preferred alternative.

4. Thank you. Definitions of the U2-B alternatives have been revised to reflect the donation of 3000 feet of constructed U2-B alignment by Kulamalu, Inc. and KSBE. The cost estimates as reported on Table 2-4 have been revised in the Final EIS.

5. Thank you; corrected in the Final EIS.

6. The information provided in Table 2-9 describes characteristics of complete U2 concepts. The fact that a portion of one option has already been constructed does not remove that piece of alignment from environmental analysis. Cut and fill elevations are used as numeric measures of potential for visual impact. However, as explained in Section 2.2.2 of the EIS, the U2-B alternatives advanced to detailed consideration in the Draft EIS.

   With respect to the crossing of Kaluapulani Gulch, please see prior response.

7. The 10 percent grade of the U2-B alternatives was not a determining feature in the identification of the preferred alternative, which heavily weighted formally-adopted

community planning efforts (see Section 2.2.4 of the Final EIS). Therefore, these alternatives were not penalized for having this characteristic.

8. Thank you; corrected in the Final EIS.

9. Thank you; revised in the Final EIS.

10. Thank you; corrected in the Final EIS.

11. The hatching representing "future urban areas" will remain in Figure 4-1 to set apart areas that are planned for urbanization, such as Kulamalu, from areas already constructed, such as Pukalani. The figure in the Final EIS was corrected to show Kamehameha School.

12. Thank you; corrected in the Final EIS.

13. Thank you; corrected in the Final EIS.

14. Tables 4-9 and 4.10 are intended to address the entire concept of the alternatives. The private donation of a segment of road does not remove that section of road from the environmental review process.

15. Thank you; updated in the Final EIS.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Don Fujimoto

Address: P.O. Box 1417
Wailuku, HI 96793

Telephone (day): 244-1502

Telephone (eve): _____

Please make any comments below:

1 I have submitted comments to FHWA regarding some descrepancies in the EIS, mainly that 3000' of roadway has been constructed by Kulawalu and KBBE for Alternative U2B. at a cost of about $6,000,000. This should be considered in the final analysis. As I have testified before we are in support of Alternative U2B that passes through the Kulawalu project.

0

Mr. Don Fujimoto
P.O. Box 1417
Wailuku, HI 96793

1. Thank you. The information provided was used to revise the cost estimates of the U2-B alternatives. The revised costs were considered in the identification of the preferred alternative.

October 19, 1999

Mr. David Atkin
Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu HI 96813

Dear Mr. Atkin:

SUBJECT: Kihei Upcountry Maui Highway Project U2B

1 I would like to voice my opposition to the proposed subject highway. The EIS for the Kihei to Kula Highway through U2B Kulamalu Subdivision does NOT address the opening of Ainalani Street into Pukalani Terrace Country Club Estates. Ainalani Street is not a through street now and I believe it should be kept as such. I like the quiet, low traffic flow in this area and opening up Ainalani Street would just destroy this rural, peaceful existence.

May I suggest you helicopter over this area to get a sense of what is being said here.

Please do not open up Ainalani Street or any other streets in Pukalani to Kulamalu Subdivision.

2 And may I also say if there is to be a Kihei to Kula access, it should be the original road which is already in existence needing only paving and maintenance. Opening more traffic to already congested areas does not make sense. When traffic flows, which it would if the original road were constructed, there is no congestion and no dumping of traffic into one particular area.

Sincerely,

Barbara A. Meinke

Barbara A. Meinke
Pukalani Resident

Ms. Barbara A. Meinke
Pukalani, HI 96768

1. The Five Trees intersection (with the U2-A alternatives) would be the only direct connection between Kihei-Upcountry Maui Highway and Pukalani. If you are providing information that Pukalani Terrace will be directly connected to the Kulamalu development, it is possible that Pukalani Terrace could be indirectly affected by a U2-A or U2-B alternative depending on what kinds of connections, if any, there would be between the highway and Kulamalu. Since neither a U2-A nor U2-B alternative was identified as the preferred alternative, issues surrounding the connection between Pukalani Terrace and Kulamalu are beyond the scope of this project.

2. The suggested alternative is similar to Alternative 7 (see Section 2.2 of the EIS), which was eliminated because it had a poor benefit-cost ratio.

9/10/99

Christopher FERREIRA
425 KAULANA St.
Kahului, HI. 96732-2020

Dear Abraham Wong, (Division Administrator)

Thank You for letting me comment on the ~~Upcountry~~ to Kihei Maui Highway. I hope this Highway will be built to Federal Highway Standards. I'm in favor of a four-lane Highway with shoulders and a median strip. If this project is too costly, the land for a four-lane Highway should be purchase now. Land banking for the future is a good idea. My second choice for the Highway would be a two-lane road with shoulders and a median strip. Thank You for your assistance. 1

Sincerely,
Christopher Ferreira

Oct. 21, 1999

Christopher Ferreira
425 Kaulania St.
Kahului, HI. 96732-2226

Dear Kazu Hayashida, Dir. of Transportation

My first choice for the Upcountry-to-Kihei Highway (Maui) would be from Kaonoulu to Ordegia. This route would be the least expensive of the choices, and would be at uncrowded intersections. My second choice would be Haliimaile to Kaonoulu. Haiku and Paia resident would benefit from this choice. The Haliimaile intersection is crowded already.

Thank you for letting me comment on this important issue. This Highway is really needed and will be used a lot. Also, I would support making it a four-lane Highway. If this can't happen, making it a two-lane Highway and buying the property rights for future expansion is okay.

Sincerely,
Christopher Ferreira

Mr. Christopher Perreira
425 Kaulana Street
Kahului, HI 96732-2020

1. Thank you for your input. The type of highway provided must relate to the traffic volumes that are projected. The projected traffic volumes for 2020 do not justify a four-lane highway. However, the project does including acquiring enough right-of-way for a four-lane divided highway at some future point. When initially constructed, the highway will be a two-lane undivided roadway.

SCOTTS INTERNATIONAL
Creative Consultants

Dorothy Scott

William H. Scott

Aug 14, 1999

Dear Mr. Wong,

As long time residents of South Maui, the construction of a Kula / Kihei road is long awaited. The opportunity of residents, guests, and workers to have access to the "up country" is a priority that needs to be solved. The Kulanalu connection appears the most logical. Would it be possible to see a overlay map of the two sites published in the paper.[1] [2]

Thank you for your concern.

Dorothy Scott

3146 Makamae Place, Kihei, Maui, HI 96753 • Tel / Fax (808) 874-0929

1251

Ms. Dorothy Scott
3146 Makamae Place
Kihei, HI 96753

1. Maps are available in the EIS that show all the alternatives considered for the project. Also, a legal advertisement announcing the project's Draft EIS and public hearings appeared in the August 22, 1999 issue of the Maui News with a map of alternatives considered in the Draft EIS.

Oct-18, 1999

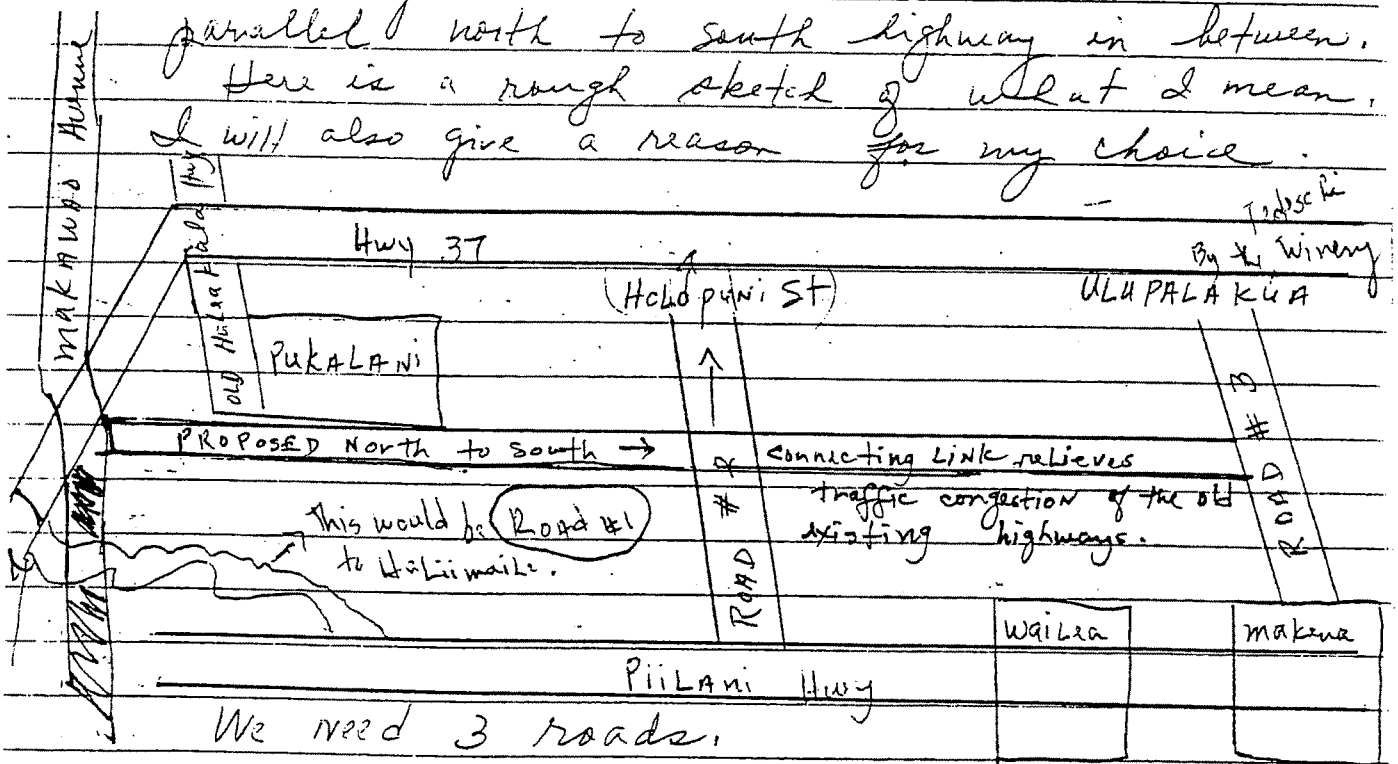
Dear Mr. Hayashida

My name is Julia Shim I am resident of Maui. I am writing you concerning this proposed road from Kihei to upcountry Kula.

I am in favor of this road but I have a few questions.

My first question is how many roads are being proposed. How many terminals or end points or connecting points to Highway 37 are proposed or planned? I hope there are 3.

I would personally prefer 3 sites for connecting links to Kihei with a parallel north to south highway in between. Here is a rough sketch of what I mean. I will also give a reason for my choice.

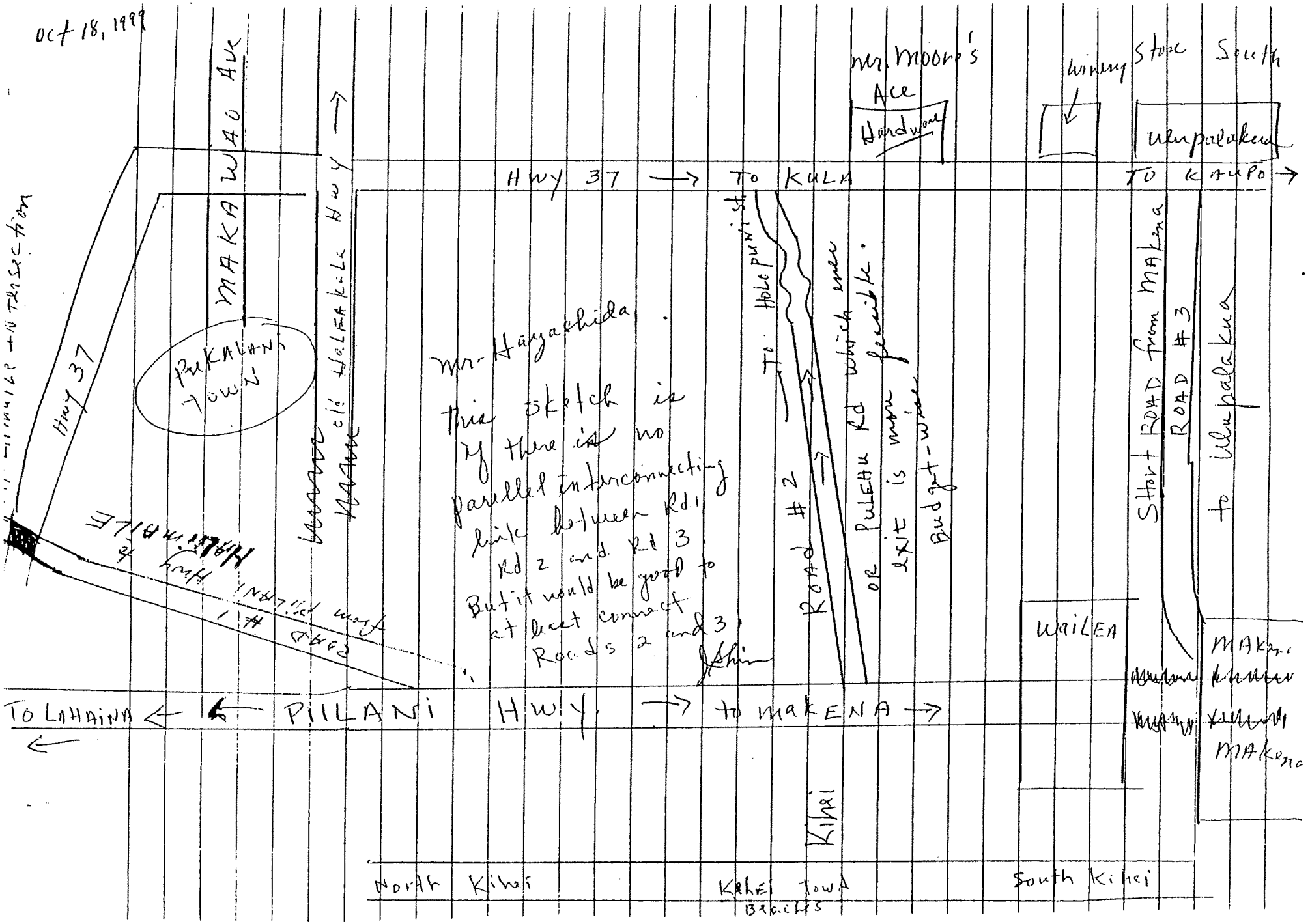


We need 3 roads.

When I say we need 3 roads its because when there is a disaster such as a Tsunami, the people of Makena, Wailea and all of Kihei will need 3 routes of quick, easy and safe access to escape danger. Also, 3 routes will prevent a traffic congestion; in case of an accident on one of the roads, the people will have 2 remaining

alternatives to choose from.
Another reason is - if we have a short road from Ulupalakua to Makena, it will save the people money for gas and save travelling time and also save traffic congestion from Ulupalakua to Kahului, etc. since the tourists coming from Hana and Kaupo can now descend to Kihei from Ulupalakua to Makena.
Economically, it will benefit the local people because more tourists will come up this way. The Tedeshi Winery will benefit the most.
Another reason why we need 3 roads with 3 terminals is easy and quick access by the people of Kula who may need to work in Kihei. I personally would have gone to work in Kihei if there were such roads. At present I decline to work because I would have to spend almost 1/3 of my salary on gas (I have a Jeep Cherokee) and also I would spend 1 1/2 hrs on the road one way. I live in Keokea near the hospital. Whereas if we had a short road from Ulupalakua to Makena, my travelling time would be 35 mins only (one way). I could save much on gas money.
The people of Kula are really depriving themselves of this great opportunity by opposing this road project. I am saddened by their lack of foresight for the future of our children.

Aloha,
Mrs. Shim


Oct 18, 1999
WAO AVE
MAKA
Hwy 37
HWY 37 → TO KULA
Mr. Moore's Ace Hardware
winery
Store South
Unpaved
TO KAHPO →
Mr. Hayashida
this sketch is
if there is no
parallel interconnecting
link between Rd 1
Rd 2 and Rd 3
But it would be good to
at least connect
Roads 2 and 3
To Hale Pune St
Road #2 →
Kihei
OR PULEHU Rd which runs
exit is more feasible.
Budget-wise
Short ROAD from MAKena
ROAD #3
to Ulunalakua
WAILEA
MAKena
TO LAHAINA ← PILANI HWY → to MAKENA →
North Kihei
Kihei Town
Beaches
South Kihei

Ms. Julia Shin

There are only plans for one highway with termini each in Kihei and Upcountry. Projected travel demand does not justify constructing three highways between Kihei-Makena and Upcountry.

August 19, 1999

Mr Abraham Wong
Federal Highway Administration
P.O. Box 50206
Honolulu, HI 96850

Re: Kihei-Upcountry Road EIS

Dear Mr. Wong:

I have read the recently issued EIS for the proposed Kihei-Upcountry Road and have the following comments.

There were four listed justifications for the road. I believe that all four are false and misleading and none of them in any way justify building the road.

1 **Reduced travel time for scientists and technicians from the MRTC to the summit.** This is a trip of 48 miles using the current road infrastructure. The proposed new road would reduce this to 42 miles, a reduction of only 12%. Most of the time required for this trip is consumed in the upper section through Haleakala Ranch and the National Park, where the speeds are slower and there is considerable bicycle traffic to contend with. The new road will do nothing to reduce the travel time on this section and if it encourages more tourists and bicyclists to use the road the end result may well be a longer travel time. At best it will reduce a 2 hour trip by about 10 minutes. In any event very few scientists or technicians make the trip on a regular basis and the EIS did not make an estimate of the number of daily trips or an estimate of the 'cost saving' that would result from the construction of the road.

2 **Evacuation in the event of a Hurricane or Tsunami.** As the EIS states, hurricanes are rare on Maui and Tsunamis mostly effect the North shore areas. Both of these events have long lead times, at least 4-6 hours, which would allow for orderly evacuation. Many areas of the mainland which are notorious for hurricanes, such as the Florida Keys and the outer banks of North Carolina make due with a single 2 lane evacuation corridor. Of more concern might be a Tsunami generated on Hawaii, however, such events would much more likely propagate toward the mainland and the transit time is so short, just a few minutes, that evacuation would not be possible with any road system. There is certainly no justification here for the construction of a road.

3 **Reduced travel time by tourists going to the summit.** As stated above, the reduction in time is quite minimal, perhaps 10 minutes in a more than 2 hour trip. In addition, the assumptions on the increase in tourists over the next 10 years seems overly optimistic. Tourism is relatively unchanged from the 1990 levels used in the EIS. Where are the additional 28,000 tourists per day going to stay? No new hotel construction is anticipated. Since at least half of the travel time for a trip to the summit from Kihei is spent above Pukalani and since no improvements in that

section of road are anticipated, increasing the number of tourists will actually increase the total
3 trip time independent of whether or not the new road is built. This is hardly justification for the construction of the road.

Reduced travel time by upcountry residents commuting to jobs in Kihei and Lahina. This is the most complex and emotionally charged justification for the road. From the above arguments it stands as the only possible justification of the construction so I will examine it in greater detail.

The people who live up country have chosen to live here, those who commute daily to either Kihei or the West Side, do so because of the quality of life here is different from that in Kihei and the West Side. The construction of a road which can only encourage more people to live here and will inevitably cause a change in this bucolic style. We do not want to become more of a bedroom community to Kihei, we live here because we like it the way it is.

The EIS argues that upcountry development will be limited by lack of water. Water is not the
4 issue. There is plenty of water. The problem is lack of storage and/or wells in addition to a poor delivery system. We have already seen with the Kulamalu development that these problems can be solved when there is a commitment to developing the upcountry area. To what end? The people who live here now do not want Kula to look like Wailea or Kapalua. It is illuminating to note that the residents of Kihei have voted in favor of the road, but the residents of Kula have voted against the road.

The EIS argues that the road is needed to decrease congestion at the major intersections during the commuter hours. The worst intersection for commuter delay is the Hana Highway - Haleakala Highway traffic light in the morning commute while school is in session. The solution to this is to eliminate the traffic light by building an overpass/cloverleaf intersection.

The other major Kahalui area of congestion is the area from Costco to the Puunene Ave/Dairy Road intersection. This area has five unsynchronized traffic lights which often develop New York City style gridlock. The only solution to this problem is to separate the thru traffic streams from
5 the local, business generated traffic stream. This is essentially a Kahalui bypass/airport access road and will require an overpass/cloverleaf intersection with the Hana highway. Another way of thinking about this bypass is as a replacement for the accident plagued Hansen Road. The Kuihelani highway and the 4 lane version of the Mokulele highway should merge south of Puunene Ave (no access to Puunene Ave) and continue without any intersections to an overpass/cloverleaf over the Hana Highway continuing to the Airport. Traffic to and from Upcountry/Paia or Kahalui could enter or exit the Hana Highway without a traffic light. Pulehu road would cross underneath without access. Traffic could now proceed from Pukalani or Paia to North Kihei or Maalaea without any traffic lights or left turns. The time savings of such a plan significantly reduces the benefit from any of the Kihei/Upcounty road options.

The effect of the road on the upcountry traffic flow depends on where the road terminates.

6 If the road terminates at Haliimaile the result will be a terribly dangerous intersection unless either

a traffic light or an overpass/cloverleaf intersection is built. Neither of these options are discussed in the EIS. The traffic coming down the Haleakala Highway will have to cross the uphill traffic in order to access the new road. Presumably there will be left turn lanes on both sides of the (now 4 lane) Haleakala Highway with a grass median strip. Coming down the hill in the evening the sun is directly in you eyes for much of the year making it even more difficult to cross the two lanes of the 60 mph up hill traffic all in a hurry to get home. Now add the line of cars coming uphill on the new road trying to cross to the Haliimaile side to go toward Haiku, they have to cross 4 lanes of
6 60 mph traffic, plus the downhill turning lane plus merge with the uphill left turning lane of traffic. What a mess! Several people died before they put in the light at Makawao Ave, and that was a much simpler intersection. Will that have to happen here? A traffic light will increase the safety of the intersecting streams of cars but at the expense of smooth traffic flow. The only reasonable solution is an overpass/cloverleaf type of intersection; add $10 million to the cost of this option. There are other effects of this option. The existence of the intersection between the new road and Pulehu road will encourage more traffic to opt for this short cut putting even more traffic onto residential streets that were never designed for even the current traffic load.

If the road terminates at point U3, near Holopuni and Pulehu there will be little reason for traffic to use these streets however in will place a greatly increased traffic load onto the Kula Highway. The EIS assumes that the Kula Highway will be widened to 4 lanes, but that process has not started and will require land acquisition, new bridges over the gulches, a few traffic lights and presumably an EIS. It is almost as far from Rice Park to 5 Trees as it is from the Hana highway to Pukalani and look at how hard it has been to add just a 4th lane to the Haleakala highway. Where will the money come from for this construction? There will be increased traffic flow from the Makawao side (in the morning) intersecting with the traffic coming up and down the
7 Haleakala highway along with the increased traffic flow to the new Kamehameha school and the new highschool. It has already been pointed out by others that the traffic data used in the EIS was collected before the high school was a full capacity. This will result in a very congested complex of intersections and undoubtedly require several new traffic lights. Upper Pukalani is looking more and more like Kihei or Kahalui.
The EIS points out that many first timers will see Pulehuiki or Kimo drive as short cuts with predictably bad results, even more endangered will be the inexperienced and unskilled down hill bikers who venture on this obvious short cut. Clearly, the fact that this option is still being considered in a clear indication that improved travel to and from the summit is not relevant to the construction or siting of the proposed road.

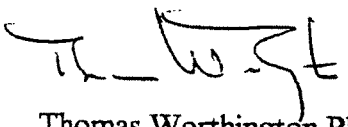
We are now left with the U2A and U2B options. Either of these options will result in competition between the thru traffic streams and the local business/school traffic, and both require that traffic from Pukalani travel uphill to 5 trees or beyond to enter the road. Option U2B is particularly bad since uphill bound traffic will have to make a left turn onto the Kula Highway, followed by right
8 turn at 5 trees, with the entrance to the High School in between. It seems clear that there will need to be traffic lights at the entrance to Kulamalu, the terminus of the proposed road if option U2B is used and the entrance to the High School. Within half a mile there are three left turns for the uphill bound traffic (Haleakala Highway, High School and Kula 200) and three left turns for the down hill bound traffic, (Kulamalu, the new road and Pukalani). This is looking more and more like Kihei or Lahaina. It is interesting to note that the High School is not even on the EIS

detail map of this area. If either option U2A or U2B is selected traffic will be encouraged to use Holopuni, Pulehu and Omaopio in order to avoid the inevitable traffic jams that will develop near 5 trees, the EIS makes only passing mention of this and no attempt to analyze the effect on the residents in these areas. 9

I have not tried to analyze the effect of the two proposed Kihei termini, however it is clear the selection of K2 significantly reduces the benefit for commuters from Upcountry to the West Side and even K1 will require widening of North Kihei road and the inevitable associated degradation of the sensitive dune and wetlands area it traverses to be have a real benefit for West Side commuters. It seems clear that an improvement of traffic flow thru Kahalui would be more of a benefit to them.

In summary, I have tried to argue that most of the people that the proposed road claims to benefit, i.e. the scientists, the tourists and the evacuees either will not be significantly benefitted or do not have a real need for the road, and that the only remaining potentially benefitted people, the residents of Upcountry have voted against the building of the road. I have also tried to analyze the effect of the various option on local traffic flow and found that this important area has for the most part been neglected or glossed over in the EIS. I also point out that the some obviously needed improvements to the intersections in the Kahalui area would eliminate much current traffic delays that the new road claims to alleviate. I think you should start again and look aggressively at the No Build option to see if it can be make to work because, we don't want Senator Inouye's road up here!

Sincerely,



Thomas Worthington Ph.D.
233 Naalae Road
Kula, Maui, HI 96790

cc: Kula Community Association

Mr. Thomas Worthington, Ph.D.
233 Naalae Road
Kula, HI 96790

1. The comment correctly notes that the travel distance addressed by the proposed project represents only a portion of the total trip distance between the Maui R&T Park and Science City, and that traffic volumes between the Maui R&T Park and Science City are relatively small. However, there are other project purposes and needs described in Chapter 1 of the EIS. Depending on the alternative, origin and destination travel time savings up to 25 minutes (saving over 11 miles of travel) can be achieved.

2. It is certainly possible to organize an orderly evacuation using the existing roadways out of Kihei. However, as many living in Kihei-Makena have communicated, the region would substantially benefit from additional evacuation capacity. Moreover, coastal hazards are not the only threats requiring evacuations. Large-scale brush fires could also require evacuation.

3. The tourism projections reported in the EIS were taken from reports prepared by the County of Maui and State Department of Business, Economic Development and Tourism. Depending on the alternative, origin and destination travel time savings up to 25 minutes (saving over 11 miles of travel) can be achieved.

4. Despite the recent development of a well in Haiku, which is partially being used for the Kulamalu development, Upcountry will continue to rely on surface water resources, sources that are highly vulnerable to drought conditions. In addition, the cost of providing water transmission lines and storage is comparatively higher in Upcountry because of its elevation. Therefore, the County is unlikely to allow substantial urban development in Upcountry despite the existence of Kihei-Upcountry Maui Highway.

5. Converting the Haleakala Highway and Hana Highway intersection to an interchange, and other transportation improvement suggestions in the Kahului area, would not address all of the purposes and needs of the project.

6. Section 2.1.2 of the EIS states that terminus intersections and will include turning, acceleration, and deceleration lanes. Since two of the terminus options already have traffic

signals (U2-A and K2), these intersections would be modified if one or both of these options were identified as the preferred alternative. Section 2.1.2 also states that for the other alternative termini, the decision to place traffic signals will be made during the design phase, and would will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1 terminus intersection, it is likely that it will warrant traffic signals. Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which costs substantially less.

7. The U3 alternatives were evaluated in the Draft EIS because they represent the least cost alternatives.

8. As described in Section 4.4.1 of the EIS, the U2-A and U2-B alternatives would cause the contra-flow of peak directional traffic in Upcountry. Since commuter traffic tend to peak during certain times of the day (i.e., early morning and late afternoon), arterial roadways tend to be over-utilized in one direction, and under-utilized in the other direction. The benefit of the U2-A and U2-B alternatives, and to a lesser extent the U3 alternatives, is that they would cause the directional splits of the highways in Upcountry to be more even.

9. Section 4.4.1 of the EIS discloses that some motorists from Kula would inappropriately use Pulehu (including Holopuni Road) and Omaopio Roads to access Kihei-Upcountry Maui Highway similar to how some motorists currently use these roads to drive to and from Kahului. This impact would be greatest under the U1 alternatives, and less so under either the U2-A or U2-B alternatives. This impact would not likely occur under the U3 alternatives. Section 4.4.1 discloses the potential impacts to residents along these roads from the inappropriate use of these roads.

October 11, 1999

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Blvd.
Honolulu, Hi 96850

Kihei Upcountry Maui Highway Project U2B

Dear Sirs,

The EIS for the Kihei to Kula Highway going through U2B Kulamula Subdivision does not address the connection to Pukalani Terrace Country Club Estates. The Kulamula Subdivision road starts off the Kula Highway and goes straight down to Aina Lani Street in Pukalani. **TMK (2-3-61) Aina Lani Street is not a through street now but the plans to open it are part of the Kulamalu Subdivision plan.** It is the last street in Pukalani Subdivision. Kulamual Subdivision's main residential housing is located near Aina Lani Street. The commercial part is off Kula highway.

Besides all the traffic from the new homes that are proposed in this new subdivision you would also have the highway traffic. Also, once you enter the Kulamalu road that will meet up with the state highway, you could turn left onto Aina Lani Street, (which is the last street in Pukalani Terrace), then travel through the neighborhoods of Pukalani
1 Terrace to get out. This would be used as a short cut for many local residents of Makawao, Haliimaile, Haiku, and the surrounding areas, directly impacting Pukalani.

Neither Aina Lani Street nor the effect on Pukalani Terrace Country Club Estate was addressed in the EIS report. The impact on Pukalani would be great and needs to be looked into immediately.

A state highway connection has to address the Limit Access Highway. From what I understand a state highway cannot just exit through a subdivision until a study of that area is made. Also if the Aina Lani Street entrance were not opened up then it would not impact Pūkalani. Which seems the best solution at this time. Kulalmalu Subdivision should not be connected to Pukalani Terrace, and that is by not connecting the end of Aina Lani Street. Nor any other streets in Pukalani Terrace Country Club Estates.

A study on the impact of Aina Lani Street, which will be so used if the Upcountry Highway is selected for this site was not part of the EIS, this is an immense concern of the residents of Puklalani.

cc: Bob Sariot
Mr. Hayashida
David Atkins

NO NAME

1. The Five Trees intersection (with the U2-A alternatives) would be the only direct connection between Kihei-Upcountry Maui Highway and Pukalani. If you are providing information that Pukalani Terrace will be directly connected to the Kulamalu development, it is possible that Pukalani Terrace could be indirectly affected by a U2-A or U2-B alternative depending on what kinds of connections, if any, there would be between the highway and Kulamalu. Since neither a U2-A nor U2-B alternative was identified as the preferred alternative, issues surrounding the connection between Pukalani Terrace and Kulamalu are beyond the scope of this project.

architect inc.

Federal Highway Administration
300 Ala Moana Boulevard
Honolulu, HI 96813
at. Mr. Abraham Wong

September 21, 1999

re. Kihei-Upcountry Maui Highway
Draft Environmental Impact Statement

Dear Mr. Wong:

I support the construction of the proposed Kihei-Upcountry highway because it will shorten the travel time and distance for the many people who travel between Kihei and Upcountry daily. I have concerns about the following issues:

1) It is important that aesthetic considerations be given the same weight as safety and other considerations. For the design of bridges, guard rails, signs and landscaping experienced architects and landscape architects should be engaged.

2) Opportunities for roadside stops and lookouts will present themselves during the design stage. Please incorporate as many of them as feasible.

3) The Upcountry terminus should be located as close to where Makawao Ave. ends as possible so that people living in Makawao and beyond will be served by the new highway. I would like to suggest that terminus U2-A be used.

4) Instead of only one terminus at the Kihei end I would like to suggest two (K-1 and K-2).The highway could split at a suitable location above Kihei so that a broader range of the Maalae/Kihei/Wailea area would be served.

Sincerely

Hans Riecke

Hans Riecke, FAIA
77 Apalapani Lane, Haiku, Maui, Hawaii 96708
Telephone (808)575-2520, Facsimile (808)575-2077

Mr. Hans Riecke, FAIA
77 Apalapani Lane
Haiku, Hawaii 96708

1. The Department of Transportation concurs that aesthetic considerations are important. The details mentioned are typically addressed during the design phase.

2. Scenic stops and lookouts along the alignment will be studied in more detail during the design phase.

3. Only one Kihei terminus is proposed at this time.

DIR 820

Kula Community Association
P.O.Box 417 - Kula, HI 96790
http://www.kulamaui.com

The vision of the Kula Community Association is to preserve open space, support agriculture, maintain a rural residential atmosphere, and to work together as a community.
The specific purpose of this association is to improve the quality of life for the residents of Kula, to promote civic welfare and generally to benefit the community of Kula.

July 26, 2000

Kazu Hayashida, Director
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Hayashida:

The recent announcement of the preferred route for the Kihei-Upcountry Highway culminates one phase of a lengthy process that has been a major concern of Kula residents for many years. On behalf of the Kula Community Association, thank you for including citizens in the decision making process and for being responsive to some of their concerns.

We appreciated your scheduling of a regular public hearing at the request of the community in addition to the "open house" meetings. In particular, we would like to recognize your staff members who have been helpful to us during our review of the draft environmental impact study. Pericles Manthos responded promptly to telephone and written inquiries and attended our community meetings to report on the highway plans. Bob Siarot is always available to listen to our community members' concerns and work with them to resolve problems.

Although the selection of the Haliimaile terminus did not satisfy the significant minority of our community who preferred the "no build" alternative, we realize that your decision must reconcile the competing needs and interests of all stakeholders. We anticipate a complete and satisfactory response to the many issues raised in the Kula Community Association's comments on the draft environmental impact statement (see attachment). We look forward to continuing to work with you and your staff as the environmental impact phase is completed and the design and construction phases begin.

Sincerely,

Elliott Krash, President

Attachment

cc: Pericles Manthos, Former Adminsitrator, Highways Division
Robert Siarot, Maui District Engineer, Highways Division

Kula Community Association
P.O.B. 417 - Kula, HI 96790
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Pericles Manthos, Administrator, Highways Division
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

October 13, 1999

Dear Mr. Manthos:

Subject: Kihei-Upcountry Highway Draft Environmental Impact Statement (EIS)

The Kula Community Association (KCA) Board of Directors wishes to place on the official Draft EIS record two general comments followed by specific comments. We expect that the Final EIS will address both our questions and our concerns.

GENERAL COMMENTS ABOUT THE EIS

1. We desire that the Final EIS reflect and respect the legally adopted (July, 1996) "Makawao-Pukalani-Kula Community Plan". Specifically, we urge you to note the following provisions:

Page 31 **"Transportation Objectives and Policies**

***"Give priority consideration to the "no-build" alternative** of the proposed Upcountry-Kihei connector highway, and give secondary consideration to the alternative routes with the least negative impact to the Upcountry lifestyle and character by locating the Upcountry terminus in the vicinity of the intersection of Hali'imaile Road and Haleakala Highway."*
Note: **Bold** is ours.

Page 13 **"Interregional Issues**

1 *"Kihei-Upcountry Highway: The proposed highway between Kihei and the Upcountry region is significant in terms of its land use and transportation impacts. **The "no-build" alternative is the preferred option**, but it is recognized that the selection of an alignment must consider the growth inducing impacts to the region's agriculture, rural character and open spaces. **The need to maintain the unique Upcountry ambience is an essential parameter in analyzing alternative routing schemes.** Recognizing that the evaluation of alternatives should weigh transportation costs and benefits as well as community and land use impacts, it is recommended that, if built the Highway's Upcountry terminus intersect Haleakala Highway in the vicinity of Hali'imaile Road."* Note: **Bold** is ours

Page 18 In the Land Use section, the Plan states in Objectives and Policies #4

"Encourage land use patterns which will maintain a separation of character between the Upcountry and the Kihei-Makena regions."

2. The Kula Community Association position on the proposed Upcountry-Kihei Highway clearly prefers the upgrading of the present highway/road network connecting upcountry Maui to Kihei. We support improvements to the existing highways as a means of solving present and future transportation problems. The exact wording of our position follows:

2 *The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board* ***supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway*** *- to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.*

SPECIFIC COMMENTS ABOUT THE Draft EIS

3. We are concerned with the manner in which the "enhanced widening" alternative (EWR) was dismissed during the Tier 1 screening. The Draft EIS indicated that "Non-satisfaction of project goals eliminated the enhanced widening of existing roadways"(on Page 2-28). The Draft EIS said "enhanced widening" had a "fatal flaw" because it "would not establish a roadway linkage between Kihei and the Upcountry area." Please note that "establish a roadway linkage" is NOT a purpose of the project (See Page 1-5). Rather, "improve roadway system linkage" is a listed purpose. This statement clearly means that the six proposed alternatives do NOT meet the project purpose because they would "establish" a new roadway linkage!! The "enhanced widening" is an improvement and meets the purpose.

3 Elimination at the Tier 1 stage is not merely an error, but it is a deceptive means of avoiding a closer look at the preferred option stated in Maui County's ordinance (See #1 above). We feel that as the many, proposed highway widening projects (Piilani, Mokulele, Haleakala highways) are completed, we will have a series of newly designed, signalized intersections and a four lane highway from/to Upcountry to/from Kihei. The "enhanced widening" alternative needs to be given consideration in the Tier 2 analysis because it will cost effectively solve the traffic problems that the Upcountry-Kihei Highway is supposed to solve.

After being rejected as a viable option, the "enhanced widening" (EWR) alternative subsequently seems to have been superficially evaluated as the base-case, "no build" position.

4. The Draft EIS is totally inadequate in indicating the number, origin, and direction of trips
4 being generated. This information must be included for each of the alternatives as well as for the completed "enhanced widening " alternative.

5. The Final EIS should present a complete benefit-cost analysis. The analysis should
5 include adequate information on the methodology, assumptions, and data used, so that others can determine the accuracy of the calculated benefit-cost ratios. The alternatives should be compared to the completed "enhanced widening" (EWR) alternative.

6. The Draft EIS references traffic only at the various highway termini. Because the design of these intersections has not been specified, the EIS seemingly lacks the ability to present the actual total cost of each alternative. We expect that the Final EIS will address the total cost of each alternative. The relative costs are needed to make a decision among the alternatives. 6

7. The Final EIS should correct an error in the route between Upcountry and Kihei. The Draft EIS mistakenly selected the busy Dairy Road as part of the route. Few traveling between the two areas would utilize that road. Instead, traffic goes via Hansen Road, a shorter and faster route. According to the Kahului Airport Improvement Final EIS, Hansen Road will be improved. 7

8. We note (on Page 3-30) the very high accident statistics in the Draft EIS for Mokulele Highway and Dairy Road. We ask that the Final EIS evaluate a divided highway with one lane on each side of the divide. We need not repeat the dangers of Mokulele & Dairy Road by considering or building two lanes with the provision for two additional future lanes on the other side of a divide. We need not repeat the dangers of Mokulele & Dairy Road. 8

If the Final EIS doesn't consider a divided highway from the beginning, then it must include the probable accidents on a two lane highway as compared to the safer, four lane, divided highway in the "no build" alternative. Those accident costs should be a part of the benefit-cost analysis.

9. The Final EIS needs to address the impact on traffic of the numerous intersections along the different routes: cane haul roads, Maui Ag Park, Omaopio Road, Pulehu Road, the Kamehameha School, the Kulamalu shopping center, proposed gas station, park, senior citizen housing, etc. The costs of traffic lights, potential grade separations, and other traffic control elements need to be added to the cost of the highway alternatives. 9

10. The Draft EIS describes the probability of the Haleakala bike tours utilizing a more direct route to Kihei. Unfortunately, the EIS makes no mention of the effect on local Kula road traffic if the bicyclists are diverted onto such totally inadequate residential streets such as Kimo Drive and Pulehuiki Road. The problem is particularly relevant because these bike tours pass through Kula during the hours when school busses are negotiating these narrow streets.

Compounding the problem and also not addressed in the Draft EIS is the fact that bike tours do NOT use a single lane of traffic. Rather, they have a wide van that trails the cyclists and intentionally blocks traffic for long periods. This problem needs to be addressed in the Final EIS: both for bike tours using the various highway alternatives; and for the bike tours passing through the residential streets of Kula. 10

Even if the bike tours do not use the streets mentioned above, they certainly will be passing King Kekaulike High School and interacting with hundreds of young drivers beginning the school day.

11. In a similar manner, many additional cars will be taking shortcuts up and down to/from crater using Pulehuiki RD., Kimo Dr., Lower Kula RD., Holupuni, Pulehu and Omaopio roads They will be descending on those narrow, winding and steep Kula residential streets after the brakes will have been overheated, having descended twenty-two miles down Crater Rd.

In particular, as drivers traverse Pulehuiki Rd. and/or Kimo Drive there is a likelihood of additional fatal accidents to drivers and or pedestrians because of the steep sharp turns that both of these roads provide; there is little warning for the uninitiated. Is the DOT willing to accept the responsibility for the lawsuits that will result from these accidents? 11

The discussed mitigation measure (i.e. utilizing signage) (See Page 4-32.) will not adequately deter local drivers, scientists, or even tourists. The Draft EIS fails to properly address this issue or to suggest meaningful mitigation measures. In fact, we believe that the dangerous situations that will occur on Kula's residential streets are a "fatal flaw" in the EIS consideration and eventual use of the U-3 terminus.

12. Since the proposed highway is being supported by the federal government with the justification that it is part of our "national security", there should be an accounting from the official Air Force Log at the summit of the number of actual daily trips between KRTP and the summit observatories. Does the volume of trips justify the expenditure of $50,000,000 of our tax dollars? 12

13. Very specific concerns that indicate "fatal flaws" with several alternatives:

U-3 cuts through: the Maui County Ag Park (See Page 4-12); Maui Land and Pine pineapple fields (See Page 4-13); and close enough to minority-owned, Kula vegetable farms (that have been farmed by local families for generations) to disrupt their travel patterns (See Page 4-21). See also #5. & #6. above.

U-2B has a severe 10% grade in the neighborhood of the recently opened Kamehameha School and the elderly housing project. There will be loud and disruptive noise from trucks and tour buses going up the mountain and from the application of (air) brakes as those same vehicles descend. Many of the tour buses will pass the elderly housing project between 3:30AM and 5AM on their way to the Haleakala summit sunrise. Furthermore, this 10% segment lies between Kamehameha School, the proposed park and the proposed large shopping center; we fear for the children who will be walking along the highway. 13

U-2A is in the immediate proximity to Kekaulike HS, resulting in a number of potential problems: a) many students now walk (without sidewalks) along the highway, since bus service is provided only for students living over one mile from the campus; b) many tourists as they descend from the sunrise will be meeting the high school's arriving students about 7:30AM; and c) there already have been a number of accidents at the "five trees" intersection.

As a matter of public safety, this highway has no place in the proximity of any of the upcountry schools.

14 14. According to the Draft EIS the danger of fires started along the highway and being spread uphill by ascending daytime winds is to be mitigated only by signs. There is no water in the area for fire-fighting or even for a landscaped green-belt on the mauka side of the highway. Because of the area's inaccessibility, a fire could develop a broad front as it moves uphill into the Kula residential community. This danger applies to all the alternatives and needs to be better addressed.

15 15. With regard to funding, we understand that the highway will be financed 80% - 20% by the Federal and State governments respectively. We suspect that the highway, the intersections, the mitigation measures, etc. will be much more expensive than the figures in the Draft EIS. Already the projected costs have risen from an earlier figure of about $35 million (during a time when the inflation rate was low and housing costs actually decreased on Maui). Consequently, if the "no build" scenario is adopted, we wish to know what highways could be built or improved with the State funds?. Also, who will be responsible for possible cost-overruns? State, Federal government, or 80%/20%? Finally, who will be responsible for the highway's maintenance?

Thank you for your consideration of these comments.

Sincerely,

John J. Wilson, President
Kula Community Association

cc: Senator Daniel K. Inouye
Governor Benjamin J. Cayetano
Director Kazu Hayashida, Hawaii DOT
District Engineer Robert Siarot, Hawaii DOT
Senator Avery Chumbley
Representative Chris Halford
Representative David Morihara
Mayor James "Kimo" Apana
Council member Charmaine Tavares

Mr. Elliot Krash, President
Kula Community Association
P.O. Box 417
Kula, Hawaii 96790

1. The Makawao-Pukalani-Kula Community Plan was given heavy weight in the identification of the U1,K1 alignment as the preferred alternative.

2. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to wide the Haleakala, Mokulele, Hana, and Piilani Highways. These recommended projects are included in No-Build scenario for the Kihei Upcountry Maui Highway project.

3. The system linkage purpose (see Section 1.2.1) pertains to the connectivity of the roadway system. In this case, the two areas suggested for enhanced connectivity are Kihei-Makena and Upcountry Maui. Therefore, an alternative has to address this purpose to warrant serious consideration. Improvements to an existing circumferential roadway would not satisfy connectivity as well as a direct link.

   Please note that the Enhanced Widening of Existing Roadways (EWR) alternative is not the same as the No Build alternative, which includes the expansion of Haleakala, Hana, Mokulele and Piilani Highways. By law, the No Build alternative is automatically retained throughout the environmental review process. The EWR alternative would provide one lane in each direction in addition to the expansions assumed under the No Build alternative. It was eliminated from further study because it would require 32-kilometers (20 miles) of construction at a cost estimated at $78 million. This could not be justified when a highway directly linking Upcountry and Kihei would only be 15 to 18 kilometers (9 to 11 miles) long and would be substantially better in addressing the system linkage and other purposes and needs.

4. An origin-destination study was conducted for the Maui Long Range Land Transportation Plan (Long Range Plan). The Long Range Plan led to the planning of Kihei-Upcountry Maui Highway. The traffic volume projections that served as the basis of the environmental review are provided in Section 4.4.1 of the EIS.

5. A benefit-cost analysis was used as early screening tool to compare the travel time savings between centroids in Kihei and Upcountry. The methodology and work tables used to calculate the B-C ratios are provided in the Alternatives Analysis report in Appendix E of the Final EIS.

6. Construction of terminus intersections is included in the construction cost estimates of the alternatives. Intersection costs include traffic signals (the intersections are likely to warrant traffic signals, but this will be determined during the design phase), lighting, and turning, acceleration, and deceleration lanes.

7. Motorists traveling between Kihei and Upcountry use both Dairy and Hansen Roads. The route will be described in the Final EIS to include both options. The proposed improvements to Hansen Road consist of a short extension associated with the realignment of Mokulele Highway and Puunene Avenue. This will allow the installation of traffic signals at its intersection with Puunene Avenue.

8. A two-lane highway is being proposed because projected traffic volumes do not justify a four-lane highway by the design year 2020. In its initial two-lane undivided configuration, the highway would be similar to Haleakala or Hana Highway, not Dairy Road or the present Mokulele Highway. (Mokulele Highway will be changed to a four-lane divided configuration, which would substantially reduce the number of incidents on this roadway.) The rate of incidents on Haleakala and Hana Highways is consistent with overall patterns (see Section 3.4.1.2). Kihei-Upcountry Maui Highway will be designed in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards.

9. Section 4.4.1 reports traffic conditions at the alternative termini. The U1,K1 alignment, which was identified as the preferred alternative, would cross cane haul roads and Omaopio and Pulehu Roads. Two underpasses will be constructed to accommodate the cane haul routes. The impact of the U1,K1 alignment crossing Omaopio and Pulehu Road is described in Section 4.4.1.1. The costs to mitigate traffic impacts are included in the estimated costs of the alternatives, such as the cost to construct the two underpasses for the cane haul roads.

10. Section 4.4.1.3 of the Final EIS has been modified to describe the potential for bike tour operators to use local Kula roads, should a U3 alternative be selected. Kihei-Upcountry

Maui Highway will have adequate shoulders for bicyclists. Bicycle tour operators will not be allowed to conduct their tours as described in the comment because the protective van would not be able to maintain the minimum speed requirement.

11. Since a U3 alternative was not identified as the preferred alternative, the inappropriate use of Pulehuiki Road, Kimo Drive, and Lower Kula Road will not occur. Signage could be provided that would be effective in deterring shortcuts. However, the EIS acknowledges that some motorists will use Holopuni, Pulehu, and Omaopio Roads as shortcuts because of the distance between Kula and the U1 terminus. Closing access between these roads and Kihei-Upcountry Maui Highway is not an option because of the burden this would cause on the area farmers.

12. The EIS acknowledges that the number of persons traveling between the Maui R&T Park and Science City using Kihei-Upcountry Maui Highway will be relatively small compared to other travel markets to be served by the roadway. However, there are other important purposes and needs of the project, as described in Chapter 1 of the EIS.

13. A U2-A, U2-B or U3 alignment was not identified as the preferred alternative. However, they were not eliminated for the reasons provided in the comment because the impacts noted would be mitigated had these alternatives been identified as the preferred alternative.

14. Kihei-Upcountry Maui Highway would increase human accessibility to the area, such that the risk of man-made hazards may increase. Section 4.8.4 of the Final EIS discusses the planning process that will continue to address regional fire concerns. Mitigation measures will include signage, which can help to increase driver awareness, and weed control along the shoulders. The highway will enhance emergency response and evacuation capacity, providing regional benefits for responding to a hazardous situation. The highway will also enhance the ability of water and fire-fighting resources to reach the dry forest areas. The preferred alternative traverses irrigated agricultural fields with access to water.

15. The current cost estimate is considered a planning level estimate, which will be improved as further information is developed. While there is always a possibility that the cost estimate could increase, based on the information presently available, the current cost estimate is valid and reasonable.

Regardless of whether the Kihei-Upcountry Maui Highway is constructed, the projects listed in Section 2.1.1 of the EIS are planned for implementation. Near-term projects include the widening of Kuihelani and Mokulele Highways.

The responsibility for overruns varies depending on the reason for the overrun.

The Department of Transportation will be responsible for maintenance of the highway.

Hwy 3971

Kula Community Association
P. O. Box 417
Kula, Maui, Hawaii 96790
http://kulamaui.com

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The vision of the Kula Community Association is to preserve open space, support agriculture, maintain a rural residential atmosphere, and to work together as a community.

October 28, 1999

Mr. Kazu Hayashida
Director
Department of Transportation
889 Punchbowl St.
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

The Kula Community Association (KCA) recently issued a news letter to the Kula Community which contained a statement of the KCA's Board of Directors position on the proposed Upcountry/Kihei Highway.

The statement was in a format that could be cut out and sent to you. However, twenty nine individuals returned the cutout directly to the KCA. For your information and review, enclosed are the originals of these individuals comments expressing their position, pro or con to the position statement.

Sincerely,

John J. Wilson
President, Kula Community Association

Enclosures

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

1 Comments: Kula Highway has nearly 100 private drives and small roads that intersect directly with it. There are many blind curves that compound the difficulty with entering 55 mph traffic. Very dangerous. Not practical to add stoplights at each spot. Please, think ahead on this. No one needs to get hurt if you think logically before doing this.

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ____ I disagree with the above statement

Comments: U 3 INTERUPTS TOO MANY SMALL FARMERS
U 2B IS TOO STEEP AND INCREASES TRAFFIC CONGESTION AT KING KSCH
U 2A IS TOO DANGEROUS TO PLACE AT THE SCHOOL AND
- WILL INCREASE TRAFFIC CONGESTION

2

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

RECEIVED STATE DEPARTMENT OF TRANSPORTATION Nov 4 3 44 PM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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HIGHWAYS DIVISION PLANNING BRANCH Oct 25 10 12 AM '99 DIRECTORS OFFICE DEPT OF TRANSPORTATION

X I agree with the above statement. ____ I disagree with the above statement

Comments: Five Trees is already a hazard for the two schools - an accident waiting to happen - a terrible risk to the children even now!!

2

KIHEI / UPCOUNTRY HIGHWAY

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State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

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HIGHWAYS DIVISION PLANNING BRANCH Oct 25 10 12 AM '99 DIRECTORS OFFICE DEPT OF TRANSPORTATION

X I agree with the above statement. ____ I disagree with the above statement

Comments:

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
Nov 4 3 44 PM '99
HIGHWAYS DIVISION PLANNING BRANCH

OCT 29 11 24 AM '99
DIRECTOR'S OFFICE DEPT OF TRANSPORTATION

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The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: Diana Sargent

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
Nov 4 3 44 PM '99
HIGHWAYS DIVISION PLANNING BRANCH

OCT 29 11 24 AM '99
DIRECTOR'S OFFICE DEPT OF TRANSPORTATION

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X I agree with the above statement. ____ I disagree with the above statement

Comments: I strongly agree with the above. I have grandchildren at King Kamehameha III School and feel more concession can be made by following the above recommend route. There are adequate routes (that can be improved) to feed traffic from such a route. Rhodene M. Belsmann, Elizabeth W. Behrmann

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 19 3 12 PM '00
DIRECTOR'S OFFICE
DEPT OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: Improvement should NOT include guard rails running for miles and miles, even bridges and intersections obstructed views of the ocean, traffic and making a dangerous + unsightly tunnel which also prohibits people from pulling over to quietly enjoy the spectacular views.

3

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 19 3 08 AM '95
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

__X__ I agree with the above statement. ____ I disagree with the above statement

Comments: Pulehu Kulamalu, Five Trees areas are already too
4 congested with traffic. Anymore would be hazardous. The
Haliimaile area possibly be best as stop lights would have to be
installed and therefore making that area a bit safer than it is now.

3663

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 2106

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: THIS WOULD ALSO HELP COMMUNITIES TO THE EAST OF US. (MAKAWAO, HAIKU, OLINDA). PEOPLE IN HALIIMAILE MIGHT GET A STOPLITE SO THEY CAN GET TO PUKALANI. COULD ALSO USE SIGNAL AT HANSEN RD & MOKULELE HWY.

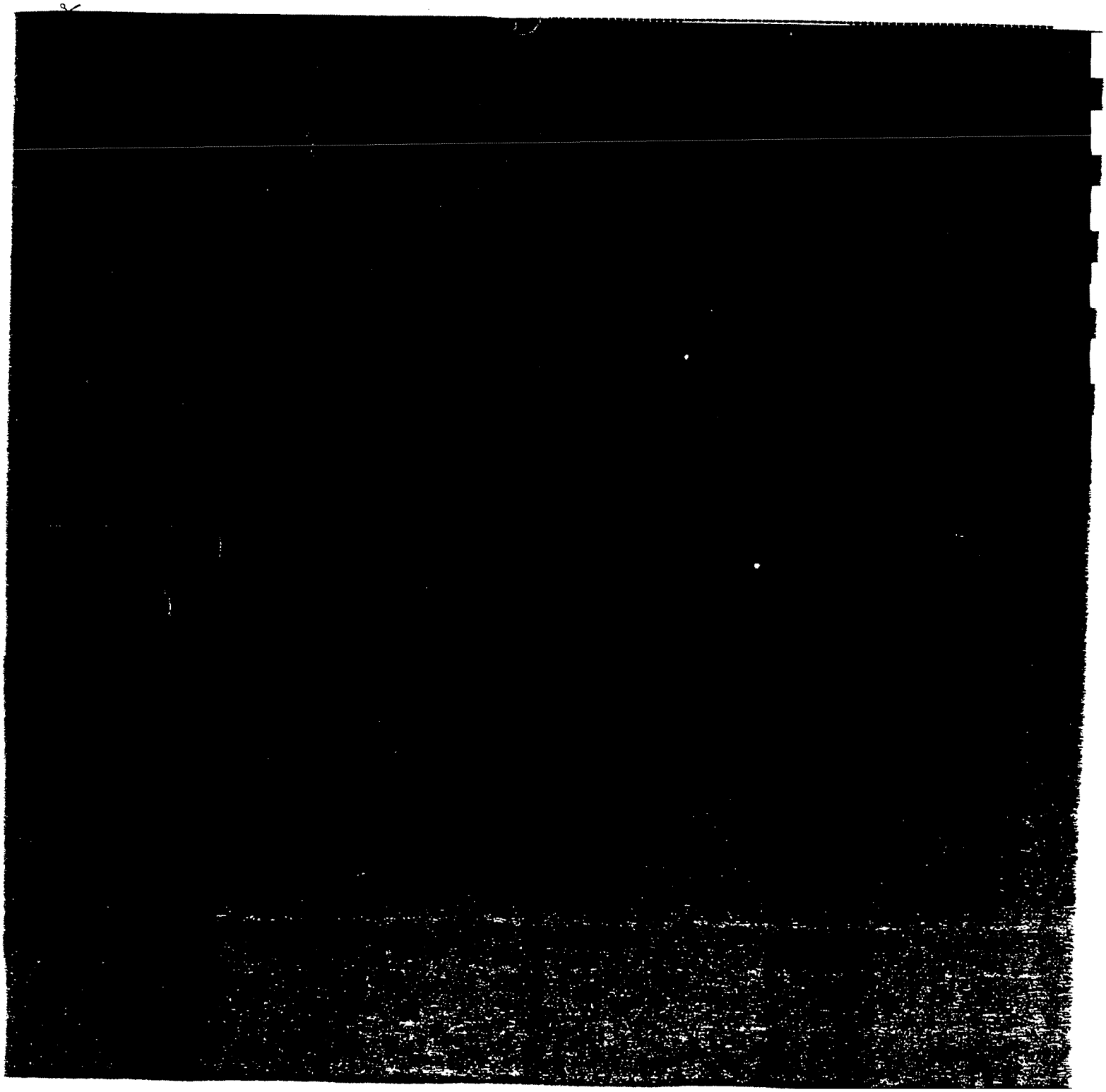
4

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

5 Comments: Four lane Haleakala Hwy below Pukalani, the way it should have been done originally. Also, please place a street light @ Copp Rd/Hwy intersection



HWY 3~~7~~5 38

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
OCT 25 10 58 AM '

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: I prefer that existing roads be upgraded (4 lanes for the Haleakala Hiway, Resurfacing Omaopio roads & Hansen roads). We also need a traffic light at the Omaopio rd. – Kula Hiway intersection.

5

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

STATE DEPARTMENT OF TRANSPORTATION
Nov 4 3 43 PM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Oct 29 11 23 AM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

5 ✓ I agree with the above statement. ____ I disagree with the above statement

Comments: 4th lane on Hkla highway, most important

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

STATE DEPARTMENT OF TRANSPORTATION
Nov 4 3 43 PM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Oct 29 11 23 AM '99

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✓ I agree with the above statement. ____ I disagree with the above statement

Comments:

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
99 OCT 20 11 21 AM

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. X I disagree with the above statement

Comments: I would like to see Haliimaile as the termini, with a feeder road by the Hawaiian Homelands

6

2 of 5

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

HW43701

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: The road To Lahaina should Take priority over all other Roads IF a 4 lane highway is impossible, Then a road Through Iao Valley or improved road around The NorTheast must be built. IT is Too late To say iT is not desireable.

7

3701

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: Hwy Only

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: Rather than spend the time & money on a Kihei/Upcountry Highway, it is more important to create another link between Lahaina & Central Maui. In the past few weeks we've seen several road closures which cost many people a lot of time & inconvenience.

7

X

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 30 11 25 AM '99
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: If the Haliimaile terminus is not chosen, motorists will not use Haleakala Hwy [#377] to continue up the mountain. They will "short cut" up via lower Kimo Drive. Lwr Kimo Drive cannot handle the additional traffic that will be created.

8

3 of 3

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 0114

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

Haliimaile is Best option

X I agree with the above statement. ____ I disagree with the above statement.

Comments: I most strongly oppose the Pulehu intersection-
it will feed drivers going up the CRATER onto LOWER KIMO
DRIVE. LOWER KIMO DR. will need speed bumps to slow all
the drivers down - you will create a HUGE NEW PROBLEM!

8

KIHEI / UPCOUNTRY HIGHWAY

Hwy 3105

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
Oct 20 25 '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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✓ I agree with the above statement. ____ I disagree with the above statement

Comments: For also this is financially the cheapest - But mainly my protest is - Leave the Kihei CRime in Kihei.

Also - work on Makena - Ranch ROAD - But only open for emergency - but the road will be physically IN SHAPE

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

4 drought relief	3 fire control	1 water quality	___ water pressure
2 water reservoirs	___ delivery systems	___ meter wait list	___ rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes ←

Comments: Yes Aloha

see back of envelope for name/no.

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We Know several people that would like to see a road connecting OVER →

____ I agree with the above statement. X I disagree with the above statement

Comments: Think Pulehu would best serve upcountry! If further down Kulamalu - just because Dowling has played the maui political game - no reason NOT to take this area as a Kihei connection! There are many people upcountry that do not belong to the Assoc - May be we should take a door to door survey??!

Kula Postal Patron

[redacted] Ulupalakua - to Makena would enhance the proposed road by alleviating the IAN A Tourist Traffic from entering upcountry Proper. Keep in mind for the future!

9

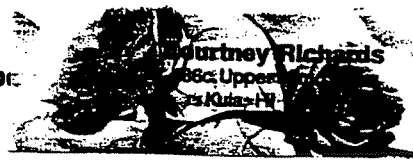
KULA COMMUNITY ASSOCIATION GENERAL MEETING

The next KCA General Meeting is Thursday, November 18, 1999, 7 p.m., at the Kula Community Center. All community members are welcome. Please come, meet your Kula neighbors, discuss our community's problems, and help develop solutions. Refreshments will be served. We look forward to seeing you there! For information, call 878-1342. The agenda includes the following:

Just to let you know — not all of us agree with the Assoc! — MANY in fact!

KIHEI / UPCOUNTRY HIGHWAY HWY3713

This is an important opportunity to comment on the proposed Upc
Haven't yet shared your opinion, complete the following and mail



Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

I commute from Kula to West Maui. The traffic is unbelievable! Help!

OCT 21 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. X I (disagree) with the above statement

Comments: I think the Kihei / Upcountry Road should start at Lipoa St in Kihei and come out at Makawao Ave. in Pukalani. Haliimaile is too far down the mountain to make much difference, and Kula Main in Keokea is a bad choice because that quiet farm community needs to be preserved from commuter traffic, Haliimaile is not a population center, neither is Keokea, but Pukalani is.

Courtney Richards MD 808 667 7676

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

When are we going to get a divider between lanes on Haleakala Hwy? Very unsafe Highway

---

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ____ I disagree with the above statement

Comments: Excellent position!

HWY 8729

If the Dept of Transportation cares about the well of the people then please pay attention here!

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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✓ I agree with the above statement. ____ I disagree with the above statement.

12

Comments: We need 4 lanes high ways! NOT new 2 lanes high ways!

Hwy 3735

DIRECTOR'S OFFICE
DEPT OF

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 2101

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees ~~termini~~ options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

___ I agree with the above statement. X I disagree with the above statement

Comments: I think it should be placed South of the Kula Post Office so that it takes some of the traffic away from Pukalani + King K Highschool

13

Helga Folkes, Kula Hi

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway, alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

HWY 7 170

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
'99 10 AM

X I agree with the above statement. ____ I disagree with the above statement

Comments: We are deeply concerned about Urban sprawl and creating Bedroom communities. The kind of "Planning" you are proposing is going to create the same problems felt throughout the U.S. closed freeways, Congestion and pollution. Let us do it the right way instead.

14

RR 2 Box 136
Kula Hi 96790

HONOLULU HI 960
PM
26 OCT
1999

33 USA

Mr Kazu Hayashida
State Dept - Director of Transportation
869 Punchbowl St.
Honolulu Hi 96813

3798

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 31

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - t alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

SEP 28 DEPT OF TRANSPORTATION

____ I agree with the above statement. X I disagree with the above statement

15 Comments: Please Fix and Existing roads ~~the~~ MAKE 4 lanes going to Pukalani. I ~~do~~ NOT support ~~any~~ new roads at this time

PO 9617
Kula Hi

Mr Kazu Hayshida
State Dept of Transpo
869 Punchbowl St.
Honolulu Hi 96813

96813/3036

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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Hwy 3/14

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

'96 JUL 11 PM 3:09

✓ I agree with the above statement. ____ I disagree with the above statement.

Comments: Improve our existing roads. There were so many ~~change~~ opportunities to make Haleakala Hwy a 4 lane hwy. Also, the Pukalani Bypass — what a waste of $. The will + fear on one can what our town engineer thinks?

15

x

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement.

OCT 25 10 AM '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

Comments: By building the new highway instead of improving current roadways, we would only be demonstrating a lack of appreciation for funds that have already been spent. The current roadways have great potential. The answers to problems cannot always be to start over. Let's finish what we have already begun.

15

269 Holomakani Place
Kula, HI. 96790

HONOLULU HI 960
PM
22 OCT
1999

Mr. Kazu Hayshida
Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, Hawaii 96813

96813/5036

KIHEI / UPCOUNTRY HIGHWAY

HWY 3871

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
OCT 28 PM 3:09

___ I agree with the above statement. ✓ I disagree with the above statement

Comments: There should be several connections from Kula to an Upcountry/Kihei road to evenly distribute traffic. at aprox Rt 200 & Hwy 133 to evenly disperse traffic flow. Have the highway ended Haliimaile. Hurry with the Pukalani & Hawaii Habitat Development Dept will be at least 5000 more

16

Mr. Stephen E. Smith
238 Holomakani Pl.
Kula, HI 96790-9412

HONOLULU HI 968
PM
27 OCT
1995

Mr. Kazu Hayshida
Director of Transportation
State Department of Transportation
Honolulu, Hi. 96813

96813/5134

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 38-1

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

BRIAN SWIFT 296 KEKAULIKE, KULA, HI

X I agree with the above statement. ____ I disagree with the above statement

Comments: ROUTING TRAFFIC ANYWHERE NEAR OR THROUGH FIVE TREES' INTERSECTION VIA A NEW HIGHWAY WOULD CAUSE INTOLERABLE CONGESTION IN THAT & PUKALANI, MAKAWAO AREA. DO NOT BUILD ANY HIGHWAY TERMINUS IN KULA, PUKALANI AREA! — PLEASE!!

17

Brian J. Swift
Yuri Imanishi
P.O.Box 331
Kula,HI 96790

HONOLULU HI 96813 PM 1995

MR. KAZU HAYA
DIRECTOR OF TRAN
STATE DEPT. OF TR
869 PUNCHBOW.
HONOLULU, HI
9

96813+5036

...Association's position on the proposed Upcountry/Kihei Highway is: HWY 3899

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: NO MORE LIGHT POLLUTION. COME ON!
18 WHAT IS THE POINT OF ALL THOSE OBSCENE
LIGHT POSTS BY THE NEW KAMEHAMEHA SCHOOL?
TOTALLY UNCALLED FOR! RUINS THE RURAL NIGHT.
x TAKE THEM DOWN!! NO MORE NO MORE.

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
'99 OCT 15 P1:50

Greenway
P.O. Box 218
Kula, Hi
96790

HONOLULU HI
PM
OCT
1999

Mr. Kazu Hayshida
Director of Transportation
869 Punchbowl St.
Honolulu, Hi 96813

96813+5036

KIHEI / UPCOUNTRY HIGHWAY

HWY 3916

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

OCT 26 '99 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

X I agree with the above statement. ____ I disagree with the above statement

Comments: The street lights in front of the newly built Kamehameha School are too much for our rural area to bear. Light polution to da max! Here is a cry to preserve our upcountry night sky; No more lights, take down the new light posts. Back to the darkness!

18

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: Hwy 7115

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

OCT 26 11 09
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

X I agree with the above statement. ____ I disagree with the above statement

19 Comments: Any Kula terminus would create traffic hazards at proposed sites. Haliimaile is a central terminus for All of upCountry - Kula to Haiku.

478 Upper Kula Dr
Kula HI
96790

* HONOLULU P&D

Mr. Kazu Hayshida, Dir. of Tr.
State Dept. of Transportat
869 Punchbowl St.
Honolulu, HI
96813

HONOLULU P&D CTR * 2 * 10/25/99 * 21:15 *

Mr. Elliot Krash, President, for Mr. John J. Wilson
Kula Community Association
P.O. Box 417
Kula, Hawaii 96790

Thank you for forwarding the comments that you received regarding the KCA's Board of Directors' position on the proposed Kihei Upcountry Maui Highway.

Enclosed are copies of the forms with comments in which the Department would like to respond. The individual comments have been numbered, with the number of the response below corresponding to the number of the comment.

1. Kihei-Upcountry Maui Highway will be a limited-access roadway, unlike Kula Highway. Access to the highway will be allowed only at intersections designed to accepted design standards. It will not be possible to access the Highway from driveways.

2. If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

3. For safety reasons, Kihei-Upcountry Maui Highway will include guardrails at certain locations. Even with guardrails, it will be possible to enjoy views from the highway.

4. The decision to place traffic signals at the terminus intersections will be made during the design phase, and would be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. The U1 terminus intersection will likely warrant traffic signals.

5. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway.

6. The Kihei-Upcountry Maui Highway will not include a feeder road to the Department of Hawaiian Homelands (DHHL) development in Keokea. Such access can be provided in the future, if and when needed. However, the connection to DHHL lands would have to undergo a separate environmental review process

7. Providing a link between central and west Maui is not the purpose of this project. However, regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning projects to improve transportation between central and west Maui.

8. U1 was selected as the preferred Upcountry terminus. Therefore, the inappropriate use (i.e., shortcuts to and from Haleakala Crater) of Pulehuiki Road, Kimo Drive, and Lower Kula Road will not occur.

9. The alternative suggested appears to be similar to Alternative 7, which was eliminated early in the preparation of the Draft Environmental Impact Statement (EIS) because it had a very low benefit-cost ratio. The provision of an emergency access route for Kihei-Makena is just one purpose of the project. The alternatives studied in the EIS address all the project's purposes and needs.

10. All the alternatives with a Kihei terminus at the Piilani Highway / Lipoa Street intersection were eliminated prior to release of the Draft EIS because the Maui R&T Park requested that the highway not traverse the facility. The avoidance of existing communities was a key design guideline in developing alternative alignments. It appears that the suggestion to have the Upcountry terminus at Makawao Avenue would violate this principle.

11. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway to a four-lane divided roadway.

12. If the comment is about Kihei-Upcountry Maui Highway, a two-lane roadway is proposed because traffic projections do not justify a four-lane highway by the design year, 2020. However, the right-of-way for future expansion to four lanes will be reserved.

13. The U3 alternatives would have established the Upcountry terminus in Kula. These alternatives were not selected as the preferred alternative because they would not serve travel markets as well as the other Upcountry terminus options. Alternatives 6A and 6B had an Upcountry terminus in Keokea, and Alternative 7 had an Upcountry terminus in Ulupalakua. These alternatives were eliminated prior to release of the Draft EIS because they had very low benefit-cost ratios.

14. Kihei-Upcountry Maui Highway will not cause development in Kula. The amount and pace of residential development in Upcountry will continue to be controlled by planning and water availability, not transportation infrastructure. Urban growth in Upcountry will be limited to the Pukalani, Makawao, and Haliimaile areas.

15. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway, and Piilani Highway.

16. There will be only one Upcountry terminus. The Upcountry terminus of the U1,K1 alignment, which was selected as the preferred alternative, will be located at the Haleakala Highway / Haliimaile intersection. Traffic projections do not justify several connections between Upcountry and Kihei-Makena at this time.

17. If a U2-A alternative had been selected as the preferred alternative, projections show that traffic conditions at the U2-A terminus (the Five Trees intersection) would have operated at a level of service B (delays in the range of 5 to 15 seconds per vehicle) during the morning and afternoon peak hours. Therefore, traffic congestion in this area is not anticipated.

18. Kihei-Upcountry Maui Highway will not have street lighting, except at the termini. The Kulamalu developer installed the lamps fronting Kamehameha School.

19. None of the Upcountry terminus options would cause traffic hazards.

Public Comment Form

HWY 3484

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Dan Goodfellow
Address: 165 W. Ikea Moku Pl
Kihei HI

Telephone (day): 808 283-6311
Telephone (eve): 808 879-9021

Please make any comments below:

I Believe the best Route is U2B, K1. The estimates to do the construction do not reflect that Kulumalu has purchased & built a large portion of the highway. - Bringing the costs of const. down significantly. Also:

1

U3 - too far South
U1 - too low
U2A, too congested

Mr. Dan Goodfellow
165 W. Ikea Moku Pl.
Kihei, HI 96753

1. The cost estimates for the U2-B alternatives were revised to reflect the 3000 feet roadway already constructed in Kulamalu.

HW43592

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: RICHARD KANADA

Address: 2868 IWALANI ST
PUKALANI MAUI 96768

Telephone (day): 242-4666

Telephone (eve): 572-0069

Please make any comments below:

1. I STRONGLY WANT TO HAVE THE PROPOSED KIHEI-UPCOUNTRY MAUI HIGHWAY BUILT BETWEEN TERMINUS K1/U2-A.

2. I FEEL THE HIGHWAY NOT TO BE BUILT BETWEEN TERMINUS K1-K2/U1 BECAUSE OF TRAFFIC CONGESTION ON THE PUKALANI BYPASS AND THE PUKALANI TRAFFIC ON HALEAKALA HIGHWAY WILL BE CONGESTED AT THE BYPASS INTERSECTION.

Mr. Richard Kanada
2868 Iwalani Street
Pukalani, HI 96768

Comment: Concerned about operations and traffic conditions at the U1 terminus (Haliimaile Road / Haleakala Highway intersection).

Response: The U1 terminus would include left turn, acceleration, and deceleration lanes, and would likely warrant traffic signals. Morning peak hour traffic conditions are projected to operate at a level-of-service C, on a scale of A to F.

HWY 3604

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: KENNETH HOFMAN
Address: 345 LOKELANI PLACE
PUKALANI, MAUI 96768
Telephone (day): 572-4801
Telephone (eve): " "

Please make any comments below:

COMMENT #1 — THIS SHOULD BE POSPONED UNTIL ALL 4-LANES ARE COMPLETED ON HALEAKALA HWY, PUUNENE and MOKULELE Hwy. also PIILANI HWYS. FIRST!

COMMENT #2 HAILIMAILE U-1 to K-1 at KEALIIALANI - SHOULD HAVE THE LEAST IMPACT ON RESIDENTIAL AREAS. ALSO A SIX-WAY LIGHT INTERSECTION AT U-1 HAILIMAILE FOR SAFETY & TRAFFIC FLOWS, EACH COMPUTER TIMED FOR MAX. TRAFFIC FLOW!!

COMMENT #3 NO FEEDER ROADS OFF OF the BY-PASS HWY OTHER THAN EXISTING PULEHU-OMAPIO Roads TO KULA from KAHULUI

"MAHALO"

Mr. Kenneth Hofman
345 Lokelani Place
Pukalani, HI 96768

Comment: Does not want direct access onto Kihei-Upcountry Maui Highway from lower Pukalani.

Response: There would be no direct access between any alternative and the lower Pukalani neighborhood. Access to Kihei-Upcountry Maui Highway would be from Haleakala or Kula Highway.

Comment: Kihei-Upcountry Maui Highway will cause development in lower Pukalani.

Response: The Makawao-Pukalani-Kula Community Plan focused much of the future development in lower Pukalani. Therefore, such development would likely occur regardless of whether Kihei-Upcountry Maui Highway is constructed because the Maui Board of Water Supply has indicated it would supply water to this area.. The EIS did evaluate the U1 alternatives as potentially having the greatest development inducement impacts, because they best serve lower Pukalani and Haliimaile, areas designated for growth and improvements to the water supply.

Comment: Does not believe the statement in the EIS that highway noise from the U2-A and U2-B alternatives would not be heard in Pukalani.

Response: The EIS does not state that highway noise would not be heard in Pukalani. It says that predicted noise levels in Pukalani under worst case noise conditions (traffic conditions where many vehicles move fast) does not rise to the threshold of a "noise impact" as defined by the Federal Highway Administration Noise Abatement Criteria. This means that, while there may be an increase in noise, the increase would not be sufficient to trigger consideration of noise mitigation measures. If predicted noise levels generated a "noise impact," as that term is defined, sound barriers or berms would probably need to be constructed to mitigate the impact.

Comment: Suggests widening existing roads and to eliminate the bottleneck in Puunene.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen the existing Haleakala, Hana, Mokulele, and Piilani Highways.

Comment: Existing highways in Haleakala and Puunene should be widened.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, and Mokulele Highway. In addition, the County is planning a Puunene bypass road.

Comment: Does not want highway, feeder roads, or bridges to cut through Pukalani.

Response: None of the alternative alignments cut through Pukalani. In addition, there will be no direct access to Kihei-Upcountry Maui Highway from Pukalani. Access to all of the alternatives under study would be via Haleakala or Kula Highways.

Comment: Two lanes for Kihei-Upcountry Maui Highway will not be enough.

Response: A two-lane highway is proposed because traffic projections indicate that two lanes will be sufficient to accommodate travel demand in 2020. However, right-of-way for a four-lane highway will be reserved. The expansion to four lanes may be accomplished without substantially affecting the original two lanes.

Hwy 3622

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Roger Eugenio
Address: 921 Keala Pl
Kihei HI 96753

Telephone (day): 879 1679
Telephone (eve): _____

Please make any comments below:

Lipoa to Polepele Road

1

Mr. Roger Eugenio
92 Keala Place
Kihei, HI 96753

1. The alternative suggested is similar to Alternative 6A. Alternative 6A was eliminated from further consideration because it would cross through the Maui R&T Park, and had a very low benefit-cost ratio.

HWY 3628

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: DAVID GERARD

Address: P.O BOX 1777 MAKAWAO

LIPOA to POLE POLE ROAD 1

Telephone (day): 2831742

Telephone (eve): SAME

Please make any comments below:

Mr. Arnold Gerard
P.O. Box 1777
Makawao, HI 96768

1. The alternative suggested is similar to Alternative 6A. Alternative 6A was eliminated from further consideration because it would cross through the Maui R&T Park, and had a very low benefit-cost ratio.

HWY 3639

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Tracy Takamine
Address: 83-C Polipoli Rd
Kula, HI 96790

Telephone (day): 270-7424
Telephone (eve): 878-3219

Please make any comments below:

1. As an upcountry resident I feel that the new road **SHOULD NOT** be built. The amount of time saved in construction of the new road will only be approximately 15 minutes. This is not worth the money nor the aesthetic disruption of Haleakala.

2. However, if it should be built I would favor the U2-B route.

1 3. I would also favor the U-1 route, however, my concern would be the traffic impact to traffic coming down Haleakala whenever traffic crosses the road. Will there be a stop light at that intersection. If so then I can see a huge back up as soon as the light turns red every morning!!!! And if there is no light planned then I can see a lot of major traffic accidents occurring as there are now.

4. **IMPORTANT COMMENT!!**

2 **Considering the impact this road will have on all upcountry residents I feel that the DOT needs to make every effort to get the vote of ALL residents, upcountry in particular. The public hearings are good, however, the average resident does not attend this type of meeting. With todays computer environment, I strongly request that a WEB site be made to address all the issues (ie. Routes) positive and negative and then have the ability to vote. Almost everyone has a computer and you will get a the most feedback. Once the WEB site is made then advertise in radio, paper and TV so that everyone knows it is there.**

Ms. Tracy Takamine
83-C Polipoli Road
Kula, HI 96790

1. The decision to place traffic signals will be made during the design phase, and will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1 terminus intersection, it is likely that it will warrant traffic signals.

2. The Department of Transportation website, <www.state.hi.us/dot>, contains information on how to contact the Department. You may provide comments at any time about any of our projects. This project does not have its own website.

HWY 3648

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Henry T.S. Lau
Address: RR 2 Box 83
Kula, Maui, HI 96790

Telephone (day): (808) 878-6410
Telephone (eve): —

Please make any comments below:

1 A new multi million dollar Kula-Kihei highway is not needed. Do not build! Our existing highways now serve us well — but could, and should be improved. Make existing highways safer, and enlarge to 4-lanes where needed.

For Maui, building another major highway to upcountry would be a big, big mistake as well as a waste of taxpayers money, my money. Please listen to us — DO NOT BUILD!

Mr. Henry T.S. Lau
RR 2 Box 83
Kula, HI 96790

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway.

Hwy 3924

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Henry T-S. Lau
Address: RR 2 Box 83
Kula, Maui, HI 96790

Telephone (day): 878-6410
Telephone (eve): Same as above < 9:00 pm

Please make any comments below:

Please see my notes, annotated in red, on "why is the project needed and "what's is the cost of alternative"

To repeat my position:

1 | 1. The project is NOT needed. where is your cost-benefit analysis?

2 | 2. Your cost table is biasly presented. You left ~~out~~ the cost to "NO BUILD!"

Why is this Project Needed?

Improve Maui's Roadway System

The circuitous route between Kihei and Upcountry is 16 to 24 miles long, even though the straight-line distance between the regions is only 9 to 12 miles. A highway directly linking these regions could cut travel time and distance up to 50%. *50% time savings equates (for me) to only ½ hour; do not feel spending millions to save ½ hr is justified.*

Relieve Congested Conditions on Other Roadways

Many major intersections along the route between Kihei and Upcountry currently operate at or near capacity during peak travel periods. A Kihei to Upcountry highway would divert some of this traffic onto an alternative route, reducing overall congestion. *Existing highways connecting Kula + Kihei are already planned for more lane improvements, and some funding already earmarked!!?)*

Address Increasing Travel Demand

Travel demand (Maui Long-Range Land Transportation Plan, February 1996), is projected to increase 70% from 1990 to 2020. Many of these trips would be generated by the visitor industry, including industry workers and visitors. Many of these trips would occur between Kihei and Upcountry.

Coastal Evacuation

Kihei-Makena is vulnerable to hazards such as tsunami, tropical storms and fire. The limited number of evacuation routes and their close proximity to one another suggests there could be substantial congestion in north Kihei during an evacuation emergency. Therefore, another evacuation route is needed. *This is an excessively expense route for "evacuation" Many alternatives, less costly + practical routes are available for evacuation if needed!*

Research Activities at the Maui R&T Park and Science City

Activities at the Maui R & T Park and Science City are helping to diversify Maui's economy by attracting high-tech industries and creating attractive jobs. The proximity of the R & T Park and Science City produces interesting synergies, which are being used by some enterprises and help attract new endeavors. The road would facilitate transportation between these two high-tech centers. *This road "facilitation" is extravagantly out of proportion for the cost involved, and for the results intended! This is decadent opulence for "high tech" activities especially!*

Support Maui's Visitor Industry

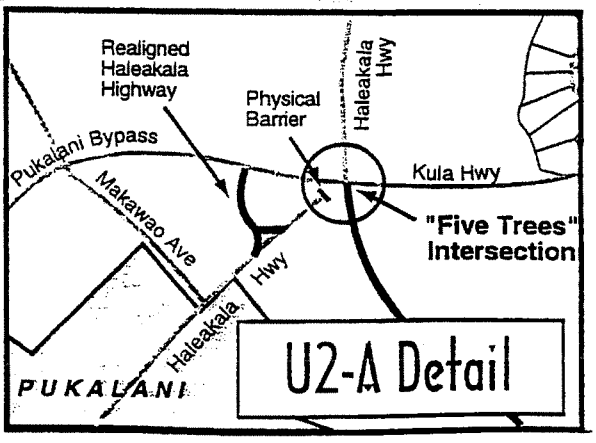
Kihei-Makena is one of Maui's principal visitor attractions. This area has an economic relationship with Upcountry Maui because of Upcountry's tourist attractions, such as Haleakala National Park, and is a popular residential area. *Let the tourist drive or ride the long way + see Maui leisurely! Tourist are not clamoring for a shorter route to Haleakala!*

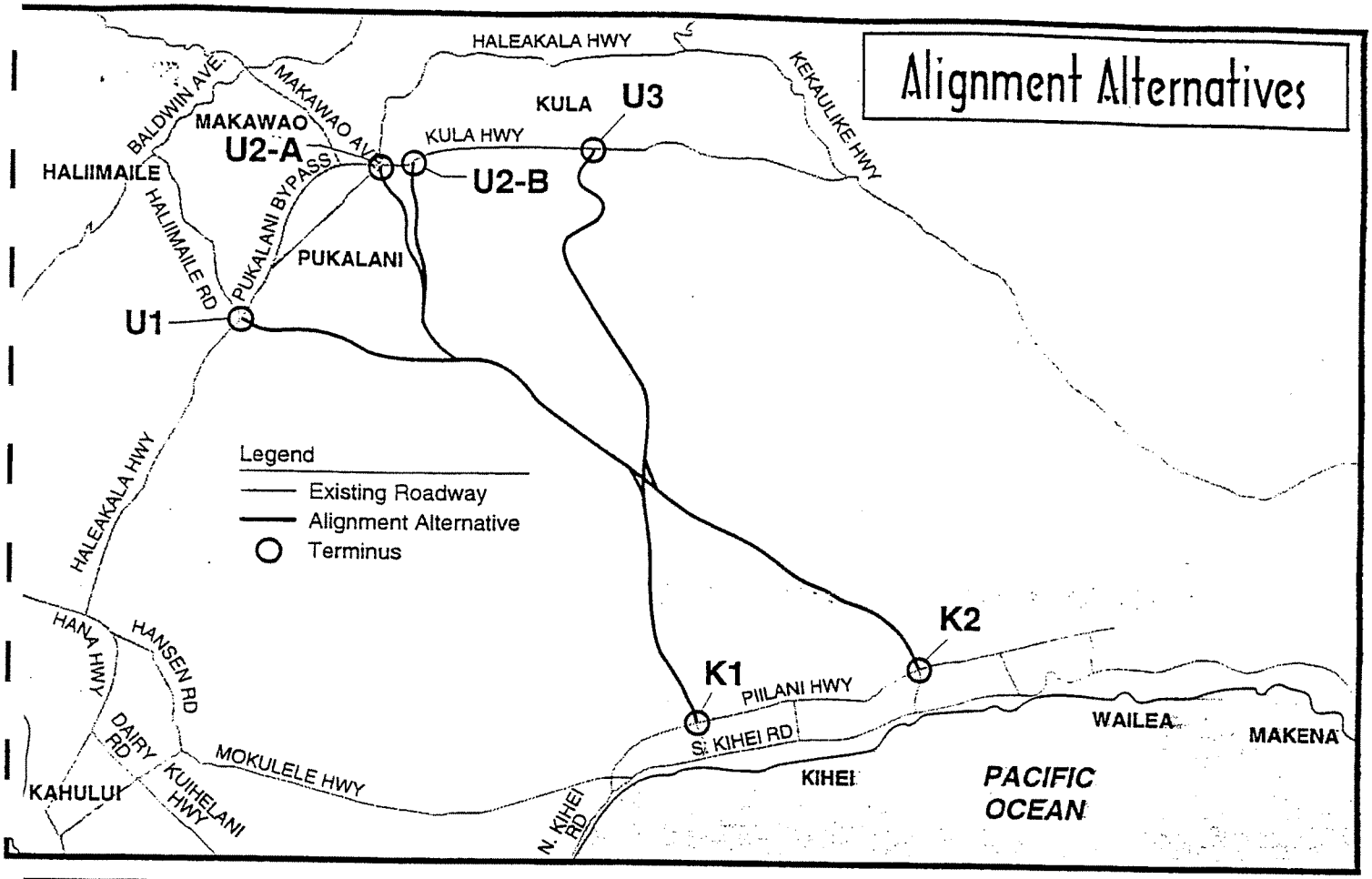
What are the Alternatives?

In addition to the "No-Build," eight alternative alignments are being considered that consist of all possible combinations of two Kihei and four Upcountry terminus options (see map). The Kihei termini are named K1 and K2. K1 is located at the Piilani Highway / Kaonoulu Street intersection; K2 is located at the Piilani Highway / Ke Alii Alanui Street intersection. The Upcountry termini are named U1, U2-A, U2-B and U3. U1 is located at the Haleakala Highway / Haliimaile Road intersection; U2-A is located at the Haleakala Highway / Pukalani Bypass / Kula Highway ("Five Trees") intersection; U2-B is located on Kula Highway almost one-half mile south of the Five Trees intersection; and U3 is located on Kula Highway just south of Pulehu Gulch. The names of the alternatives correspond to the termini names, and are listed to the right.

1. NO-BUILD
2. U1,K1
3. U1,K2
4. U2-A,K1
5. U2-A,K2
6. U2-B,K1
7. U2-B,K2
8. U3,K1
9. U3,K2

The U2-A alternatives (U2-A,K1 and U2-A,K2) would require the modification of the "Five Trees" intersection (see sketch). Kihei-Upcountry Maui Highway would replace the Haleakala Highway leg (Pukalani side) and Haleakala Highway would be re-aligned to link and form a T-intersection with Pukalani Bypass approximately 1200 feet north of the "Five Trees" intersection.





What is the Cost of Each Alternative?

The total estimated cost of each alternative is provided below. These costs include construction and right-of-way acquisition.

Estimated 1997 Dollar Cost (millions)

Alternative	Total
U1,K1	$64.8
U1,K2	$78.8
U2-A,K1	$69.1
U2-A,K2	$82.8
U2-B,K1	$72.0
U2-B,K2	$86.3
U3,K1	$53.1
U3,K2	$66.4

When Will the Project be Constructed? How Long Will it Last?

If this project proceeds, construction is expected to begin in 2001 and would last about three years.

What are the Benefits of the Project?

The project would result in substantial travel time savings for motorists traveling between Kihei and Upcountry Maui. Depending on the origin and destination, the new highway could reduce trip length up to 50%. If a K1 alignment is selected, motorists traveling between Upcountry and West Maui would also benefit. As people spend less time traveling, quality of life improves.

The Maui highway system would operate better as whole because a large portion of trips would be diverted onto the new highway, thereby improving traffic operations on other roadways, such as Mokulele Highway, Dairy Road, Hana Highway and Haleakala Highway. A K1 alternative would divert more traffic because it serves the West Maui region better than K2 alternative.

Kihei-Makena would get another coastal evacuation route. A K2 alternative, with its more southerly terminus, would be better than a K1 alternative with regards to evacuation efficiency.

Kihei-Upcountry Maui Highway would offer motorists spectacular scenic vistas.

What Will Happen After the Public Hearings?

HDOT and FHWA will select a Preferred Alternative which will be announced and identified in the Final EIS. If the Final EIS is accepted by the Governor of the State of Hawaii and the Division Administrator of the FHWA, a Record of Decision (ROD) will be prepared that will specify all mitigation commitments. The issuance of the ROD by the FHWA marks the completion of the project's planning phase. Next, design and right-of-way acquisition would begin, which is expected to last approximately two years.

How Can I Comment?

You can provide comments at this public hearing. You can either write your own comments (a comment sheet is available from the sign-in attendant), or you can provide oral comments to a court reporter stationed at this hearing. If you write your own comments, you may drop them in the comment box or send them later to:

Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
Highways Division
869 Punchbowl St.
Honolulu, Hawaii 96813

Written comments will be accepted through October 28, 1999.

Where Can I Get More Information About this Project? Who Can I Contact If I Have Questions?

The Draft EIS for this project, which is available at Wailuku Regional Library, Kihei Public Library, Lahaina Public Library, Makawao Public Library, Kahului Public Library and the Maui District Office of the State Department of Transportation, contains more information about the project. You may also contact Mr. Kenneth Au, HDOT Advance Planning Engineer, at (808) 587-1843 (or Maui's toll-free voice access number 984-2400, ext. 71843), if you have any questions.

Mr. Henry T.S. Lau
RR 2 Box 83
Kula, HI 96790

1. A benefit-cost analysis (BCA) is not used in the environmental evaluation of alternatives (*i.e.*, Chapter 4, Environmental Consequences, of the EIS) because of the difficulty of assigning monetary values to many of the benefits, and some of the costs, of the project. However, a simple BCA was used to screen alternatives before their detailed evaluation in the EIS. This early screening eliminated the alternatives that would clearly not be worthwhile. The project's BCA used direct costs (design, construction, and maintenance), and a benefit of only travel time savings. Because this BCA was so simple, an alternative would have needed a very low BC ratio not to pass this simple screening criterion.

2. The No Build alternative was not included on the cost table because it is automatically retained and moves forward to the Final EIS. As such, it was not open to evaluation at that time.

HWY 3657

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: John W. McDonald
Address: RR 2, Box 230C Kula Hwy.
Kula, HI 96790

Telephone (day): (808) 878-6906
Telephone (eve): Same

Please make any comments below:

October 16, 1999

First, I compliment all of the people involved in producing this Draft EIS -- a monumental task. The quantity of information presented is impressive as is the effort this required. As you are no doubt aware, however, critic's detection of flaws in the Draft, particularly specious "flaws", seem to come quite easily.

In an effort to be a constructively critical critic, and believing that a highway is needed, I urge your attention to two flaws which I see as serious omissions:

1 (1) Most importantly, the lack of a complete set of benefit/cost ratios by which to compare the alternative routes.

2 (2) Inadequate assessment of the impact of traffic destined beyond the Upcountry termini.

(more)

Benefit/cost ratios should be the basic criterion for route comparison and selection. Without these ratios -- 1 quantifiable, objective, essential data -- the selection process becomes too dependent on more subjective, and sometimes nebulous, factors. (The Draft does, however, show good effort toward quantifying some of the secondary factors.)

If lack of sufficient O&D information is the problem here, I urge you to obtain that information.

The second flaw relates primarily to termini U2-B and U3 since U1 can feed traffic destined northward onto Haliimaile Road (How do Haliimaile residents feel about this?); and since U2-A meets existing Haleakala Highway.

The Draft notes that U3 would encourage motorists to use local residential roads mauka of the terminus; but it fails to 2 mention that these roads are totally inadequate to handle any significant increase in traffic, and that steep grades plus existing development make extension of the route impractical.

The suggested U3 mitigation, signage, might influence a first-time driver, but experienced drivers would be aware of the very long out-of-direction travel required to follow the "proper route".

With regard to U2-B, the Draft should note that a mauka 3 extension of this route is possible impacting pineapple only. The extension could bypass the high school and avoid direct impact on Kula 200.

At both U2-A and U2-B grade separation should be seriously 4 considered.

In summary, the EIS should:

1. Provide benefit/cost ratios.
2. Give additional attention to traffic handling needs mauka of Kula highway.

Respectfully submitted,

John W. McDonald
R.R. 2, Box 230C
Kula, HI 96790

(808) 878 6906

Mr. John W. McDonald
RR 2, Box 230C Kula Hwy.
Kula, HI 96790

1. A benefit-cost analysis (BCA) is not used in the environmental evaluation of alternatives (i.e., Chapter 4, Environmental Consequences, of the EIS) because of the difficulty of assigning monetary values to many of the benefits, and some of the costs, of the project. However, a simple BCA was used to screen alternatives before their detailed evaluation in the EIS. This early screening eliminated the alternatives that would clearly not be worthwhile. The project's BCA used direct costs (design, construction, and maintenance), and a benefit of only travel time savings. Because this BCA was so simple, an alternative would have needed a very low BC ratio not to pass this simple screening criterion.

   An origin-destination study was completed for the Maui Long Range Land Transportation Plan. The results of this study were used to estimate the volumes that would use Kihei-Upcountry Maui Highway (see Section 4.4.1.2 in the DEIS).

2. U2-B alternatives were evaluated in the Draft EIS because this alignment is most consistent with the Kulamalu master plan. The U3 alternatives were evaluated in the Draft EIS because they are the least cost alternatives, while still addressing the project's purposes and needs (Alternative U3,K1 has the lowest cost, and Alternative U3,K2 has the third lowest cost).

   Section 4.4.1 of the Final EIS will be revised to mention that roads mauka of the Upcountry terminus are residential collectors, and are not able to handle substantial through traffic. If a U3 alternative had been identified as the preferred alternative, the only possible mitigation to prevent the inappropriate use of the Kula residential roads would be signage because these roads are public.

3. The suggested extension of the U2-B alignment mauka of Kula Highway would require the displacement of residences in Kula 200. Such an extension would not be necessary if a U2-B alternative were identified as the preferred alternative.

4. If either a U2-A or U2-B alternative were identified as the preferred alternative, its Upcountry terminus would probably be a signalized intersection (the U2-A terminus would

Hwy 3722

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CYNTHIA S. TAKAMINE

Address: 93C POLI POLI RD
KULA, MAUI HI 96790

Telephone (day): (808)878-3219

Telephone (eve): _____

Please make any comments below:

NO ROAD!!! NO ROAD!!! NO ROAD!!!

1 If you insist on building a new road, you must not even open it until a traffic light (at terminus) is in place... Please learn from past mistakes (Pukalani bypass) and don't wait until people are maimed, killed before doing a "traffic study" and realizing the road is creating a safety hazard!!!!

2 Connect at Kaonohaile, if you insist on this folly.

Ms. Cynthia S. Takamine
83C Polipoli Road
Kula, HI 96790

1. The decision to place traffic signals will be made during the design phase, and will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1 terminus intersection, it is likely that it will warrant traffic signals.

2. Kihei-Upcountry Maui Highway will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards. The highway will have adequate sight distances (*i.e.*, no blind curves), wide shoulders, crosswalks and sidewalks at appropriate locations, and signalized intersections if warranted.

HW43764

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Elliott Krash

Address: [redacted]
Elliott M. Krash
331-9 Waiakoa Rd.
Kula, HI 96790-9477

Telephone (day): 808/878-1342

Telephone (eve): same

Please make any comments below:

At the Upcountry "Open House" I provided oral testimony to the stenographer on the road and my preference for the Upcountry terminus. The purpose of this note is to thank you for responding to Upcountry residents' concerns about the date and format of the hearing by providing another opportunity in the "traditional hearing" format for citizens to express their concerns, questions, and support. Thank you for listening, working with us, and reinforcing confidence in the process.

Mr. Elliott Krash
331-9 Waiakoa Road
Kula, HI 96790

Comment: The U1 terminus should be an interchange.

Response: Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized at-grade intersection, which would cost substantially less.

due by: Oct 28, 99
HW-3580

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: SHARON M. CHAR

Address: P O BOX 880484

Pukalani, HI 96788

Telephone (day): (808) 984-2072

Telephone (eve): (808) 572-5818

OCT 20 11 29 AM '99 DEPT OF TRANSPORTATION

Please make any comments below:

Per the many comments & concerns at the public hearing held on October 13, 1999 at Kahului school I came to a conclusion that may satisfy all parties for animal & environment as well as for safety and development. Development is evident in areas of Paia, Pukalani, Haiku, Kula, & Kihei and to facilitate all areas current roads need to be improved by either adding one lane both ways which include the following:

1 | 1) Omaopio needs to be improved for safety by adding a few directional signs. Also fences in certain areas can be erected to preserve and prevent the deer from going on to the roads(vinelike plants can be used to cover the fence)so it will not be a sore eye. This road will mostly facilitate the Kula residents that work in Kihei and should be intersect with the UI - K1 choice.

2 roaas on each side)

2 | 2) Haleakala Highway should expand on both sides by an additional road for each side. As mentioned growth is evident and travelers/drivers should have a choice when driving to/from work or to tourist sites. As the road does now, it facilitates the immediate communities of Hali'imaile, Pukalani, Makawao, & Maui Uplands. Traffic tones down after these communities.

2 roads too cand not limit to one road in certain areas.

3) Hana Highway should be set up the way Haleakala Highway is now with by-pass routes during busy hours of travel. If the U1-K1 choice is selected it will probably eliminate some of the heavy traffic flow. This would accomodate Paia & Haiku residents.

It's obivious the UI-K1 choice is the one to be built but funds should be provided to fix the current roads mentioned above and if that proposal can be implemented than I think everyone will be pleased. As the population of Maui increases year after year it's more than ever that more roads will need to be built. So, planning ahead of what the traffic might be like in ten years or so and based on the current and future communities that are to built, I believe your next road improvement will be for residents in Waihee & Waiehu. Please make a wise choice so everyone can benefit the freedom of traveling. Thank you for your attention in this matter.

UI-K1 also should have two roads.

Ms. Sharon M. Char
P.O. Box 880484
Pukalani, HI 96788

1. Kihei-Upcountry Maui Highway will include measures to minimize the chance of vehicle-deer collisions, such as frequent signage warning motorists of this danger, and stock-proof fencing along the highway.

2. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway.

Public Comment Form

HW 3881

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Carol Wilson & Peter Wilson
Address: RR3, Box 609B Kahala Place
Kula, HI 96790

Telephone (day): 808 876 1176
Telephone (eve): Same

Please make any comments below:

Carol Wilson:

1 I would like to see the present highway 4 lanes instead of 3 so it can handle the traffic.

I do NOT feel a new highway is a good ~~thing~~ for Maui. Keep the integrity of upcountry Maui intact! If a highway is a must the logical location is Haleakala Interstice where all upcountry - Makawao, Haiku, Olinda & Kula can have access. I hope the will of the people will supercede politics as usual being brought by Big Contractors, i.e. Dowling.

Peter Wilson

No highway or if you MUST —
HALEMAILE connect

CW

Ms. Carol Wilson and Mr. Peter Wilson
RR3, Box 609B
Kahala Pl.
Kula, HI 96790

1. If the comment is about Haleakala Highway, this roadway is planned to be widened to four lanes regardless of whether Kihei-Upcountry Maui Highway is constructed.

Public Comment Form

HWY 3118
DIRECTOR'S OFFICE
DEPT OF
TRANSP
OCT 26 1 08 PM '99

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Skippy Hau

Address: 40 Kapi Lane #104
Wailuku, HI 96793

Telephone (day): (808) 243-5834

Telephone (eve): (808) 244-3894

Please make any comments below:

The U1, K1 alternative appear to be the best. If connected to existing roads like Pulehu, improvements need to be made at intersections, on + off ramps.

1 | Would like to see better landscaping (vegetation) and road (+ bikeway) maintenance. Drainage runoff should be directed to landscaped areas.

2 | The possibility of more accidents with deer is extremely high. Turning lanes and

3 | U-turns should be included for smoother traffic flow.

Mr. Skippy Hau
40 Kapi Lane, #104
Wailuku, HI 96793

1. Landscaping adaptable to local growing conditions will be provided. Road runoff would drain onto these landscaped areas.

2. Kihei-Upcountry Maui Highway will include measures to minimize the chance of vehicle-deer collisions, such as frequent signage warning motorists of this danger, and stock-proof fencing along the highway.

3. Turning lanes will be provided at the termini intersections.

Public Comment Form

HWY 3972

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

OCT 29 11 58 AM '99

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Judy O Bisgard [Bisgard]

Address: RR 1 Box 682
Kula Hi 96790

Telephone (day): 808 878-1007

Telephone (eve):

STATE DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH
NOV 1 3 1999
HWY-PM 99

Please make any comments below:

Kihei to Haliimaile would be preferable - even though you have to deal with Kailalnui gulch — Otherwise I prefer not to have a road —

We definitely need to widen the Kihei Puunene area and

1 we should have 4 lanes going up the Kahului to Haliimaile area — I had always wondered why we didn't prep the ground for the 4 lanes even if we ~~do~~ couldn afford to do 4 lanes -

Ms. Judy Bisgard
RR 1 Box 682
Kula, HI 96790

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Lexi Baldisseri

Address: PO Box 1132 Haiku HI 96708 or King Kekaulike H.S. 121 Kula Hwy. Pukalani, HI 96708

Telephone (day): 575-2771

Telephone (eve): same

Please make any comments below:

1 I am completely shocked that our school system and County failed to acknowledge the fact that children will be greatly affected. Can you imagine Haleakala Highway being put in between Maui High and Kahului Elementary? No, it's completely unacceptable. I'm appalled to think that children walking home from school should be subjected to a roaring highway and speeding motorist. If I was a parent of a high-schooler or an elementary child, I wouldn't want my child to be near a congested intersection. However, there is logic in building it at Hali'imaile. Here, there are no schools, no houses and there is a need for a traffic light. You could benefit commuters without endangering the safety of students or community members.

Ms. Lexie Baldisseri
P.O. Box 1132
Haiku, HI 96708

1. If a U2-A or U2-B alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Comment: Concerned that an Upcountry terminus near King Kekaulike High School would jeopardize the safety of students.

Response: Had a U2-A or U2-B terminus been identified as part of the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would have included crosswalks and sidewalks to the high school (see Section 4.4.4 of the Final EIS). Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Comment: Widening existing highways would solve the transportation problem.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen the existing Haleakala, Hana, Mokulele, and Piilani Highways. However, improving these roadways will not address all the purposes and needs that have been identified for this project.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ELIZABETH BILDT

Address: 2771 Oulani St,
Pukalani HI 96768

Telephone (day): 573-0026 / 250-4646

Telephone (eve): SAME

Please make any comments below:

1 (1) Improve existing roads — make Haleakala Hiway and Mokulele Hiway 4 lanes instead of the existing 2 or 3 lane

2 (2) Haliimaile alternative probably least intrusive to neighborhoods, farmland etc. — but intersection @ Haleakala Hiway a concern — ? STOP light ? overpass

Ms. Elizabeth Burt
2771 Olulani Street
Pukalani, HI 96768

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala and Mokulele Highways.

2. The decision to place traffic signals at the terminus intersections will be made during the design phase, and would be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1,K1 Alternative, which was selected as the preferred alternative, both termini intersections will likely warrant traffic signals.

Ms. Elizabeth Burt
2771 Olulani Street
Pukalani, HI 96768

Comment: Existing roads should be improved instead of constructing a Kihei-Upcountry Maui Highway.

Response: Please see response to Comment 1.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Mrs. Wilbert DeMello

Address: 218 Pukalani St. Pukalani Hi. 96768

Telephone (day): 572-6272

Telephone (eve): _____

Please make any comments below:

1 If there is a choice I would prefer the KI-UI route to Haliimaile. I feel from there you can go to Paia, Haiku, Makawao or Kula. If there is too much controversy over any route then just build Holoholo Highway to Hansen, Mokulele Highway & Kuikahi Highway — Way too much controversy about what to do!!

Also, there should be something done for another way in and out of Lahaina — like maybe a tunnel thru the Mikaepae section of the mountain!

Mrs. Mildred DeMello
218 Pukalani Street
Pukalani, HI 96768

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala and Mokulele Highways.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: KRISTIN ENGEL

Address: 3310 WAIAEA ALANUI #4D
KIHEI
HI 96753

Telephone (day): 808 875-9545

Telephone (eve): S/a

Please make any comments below:

I believe the Haikumaili connection is most practical and K-1 best entry in to Kihei, This route will save time for more people as well as gasoline, from Upcountry to Kihei as well as West Maui.

1 Upgrade of N. Kihei Rd., Mokulele H'way connection as well as Piilani needs to be done. It will make safer the congested area around schools and give Kula residents their valued privacy.

Ms. Kristin Engel
3310 Wailea Alanui, #4D
Kihei, HI 96753

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Mokulele and Piilani Highways.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Walter S. Enomoto

Address: 515 Lihoiho St, #7
Wailuku, HI 96793

Telephone (day): (808)-871-6886

Telephone (eve): (808)-243-9734

Please make any comments below:

Subject: Air Quality analysis Tech memorandum by Parsons-Brinckerhoff-Quade+Douglas Inc

- Many urban pollutants such as oil, fluids, and other chemicals used by automobiles that leak onto roadways included as possible pollutants and impacts (non-source, point pollution) from such leaks?
- 1 *Many roadways and intersection have evidence of these chemicals (look at intersections on Kaahumanu Ave.) on the roadways. Rain or street cleaning washes these pollutants into storm drains creating pollution problems
- Can these impacts be addressed somewhere in the possible environmental section of the draft EIS?
- Can you respond to me in writing if this issue has a place in this draft EIS?

Mahalo.

Walter S. Enomoto

Mr. Walter S. Enomoto
515 Liholiho St., #7
Wailuku, HI 96793

1. The subject discussed in the Air Quality Analysis Technical Memorandum is air pollutants. The pollutants you mention are equally important, and are usually considered with water pollutants, which are addressed in Section 4.7.1 of the EIS. This section describes the potential impacts of roadway-related non-point source pollutants, such as petroleum products, rubber, and other materials that wash off of roads during heavy rain. The amount of pollutants from roads is related to the total amount of vehicle travel, usually measured in vehicle-miles traveled. Since Kihei-Upcountry Maui Highway will reduce the total regional vehicle-miles traveled by shortening the travel distance between Upcountry and Kihei-Makena, there would be an overall decrease in non-point source pollution (e.g., environmental improvement), when compared with not constructing the highway.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Joan E. Evonuk

Address: RR3 Box 634 (Omaopio Road)
Kula, HI
96790-9717

Telephone (day): 808 878 6251

Telephone (eve): same

Please make any comments below: JMJ

1 Discussion of any of the alternatives appears to be a mute point and the whole public hearing of proposals strikes me as a sham in light of the fact that extensive preparations have been made at the U2-B terminus site to accomodate the new road. The lights on the Kula Highway, the road cut into the plantation fields below the new Kamehameha School and the disposition of the presentation team for a terminus at or very near Five Trees suggests that the decision has already been made.

My first choice for a terminus south of U3 to avoid infringing upon the Agricultural Park on Pulehu Road would avoid dangerously increasing traffic on Omaopio and Pulehu Roads which already have an abnormally high incidence of traffic accidents due to sharp turns and unexpected conditions of our rural residential neighborhoods. A U1 terminus makes the second best choice, enabling people to move from one population cluster to another, and could be linked with an extension toward Haiku bypassing Makawao, reducing the existing congestion on Makawao Avenue and preserving what is left of this rural community.

2 Much as I am opposed to the unchecked development we residents have had to accept as a cost of living on Maui in the present political climate, additional road cuts appear to be inevitable. In the most likely event that the powers that be will prevail, a road will be built and terminate at or near Five Trees, I urge you to consider construction of a branch that terminates closer to Kekaulike Highway to enable those living in upper Kula to access the new road more directly (such a branch would provide more direct access to Haleakala National Park for research activity and tourism) and reduce increasingly hazardous conditions on the Omaopio and Pulehu

3 Roads. Guard rails and/or sturdy reflector markers need to be installed <u>now</u> on sharp turns on Omaopio and Pulehu Roads where accidents frequently occur.

Ms. Joan E. Evonuk
RR3 Box 634 (Omaopio Road)
Kula, HI 96790-9717

1. The Department of Transportation approached the planning process in a very open manner. In fact, U1,K1 has been identified as the preferred alternative, and not any of the U2-B alternatives. The roadway segment at the U2-B terminus was constructed by the Kulamalu development to provide access to the Kamehameha School site. It has a separate purpose apart from being a portion of the Kihei-Upcountry Maui Highway. During the Draft EIS comment period, no decision had been made regarding the preferred alternative. Consideration of the U2-B alternatives in the Draft EIS is understandable because these alternatives are the most consistent with the Kulamalu master plan.

2. A U2-A or U2-B alternative was not identified as the preferred alternative.

3. Omaopio and Pulehu Roads are County facilities. Additionally, construction of the U1,K1 alternative will likely further increase use of these roads. Maui County is aware of the situation, and you may wish to follow up with them.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: BRUCE FAULKNER

Address: P.O. Box 54
MAKAWAO, HI 96768

Telephone (day): 572-7274

Telephone (eve): 572-7926

Please make any comments below:

1 | WHY NOT IMPROVE THE EXISTING ROADS TO AN UPGRADED 4 LANE HIGHWAY.

(10)

Mr. Bruce Faulkner
P.O. Box 54
Makawao, HI 96768

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen the Haleakala, Hana, Mokulele, and Piilani Highways.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Will Flammer

Address: 2102 Naalae Rd
Kula HI 96790

Telephone (day): 876 6284

Telephone (eve):

Please make any comments below:

1 The highway needs to be divided for safety! Also U-2 A or B is by far the best option!

Mr. William Flammer
2102 Naalae Rd
Kula, HI 96790

1. When initially constructed, Kihei-Upcountry Maui Highway will not include a median that divides the opposing lanes. When the highway is widened to four lanes, a wide median will be provided. The highway will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards, and will have adequate sight distances and wide shoulders.

Comment: Kihei-Upcountry Maui Highway should be four lanes.

Response: Traffic projections indicate that two lanes will be sufficient for Kihei-Upcountry Maui Highway in the foreseeable future. However, right-of-way sufficient for four lanes will be acquired. In its two-lane configuration, Kihei Upcountry Highway will be more like Haleakala or Hana Highways than Mokulele Highway.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Kimo GALBRAITH

Address: BOX 1728 KIHEI

Telephone (day): 879611

Telephone (eve): 8746900

Please make any comments below:

Kihei is growing way too fast. Some roads are in terrible condition and haven't been repaved in 30 years (some not at all) Future growth is headed toward Wailea & Makena and Piilani Hiway is already congested so why put the upcountry road from Lipoa to Pukalani where we need to reduce congestion, not make it? The farther toward Makena the road could go and up to Kula will help future growth and traffic. Most tourists and many locals want to go to Kula and around the South side of the island or up to Haleakala that way. Piilani Hiway is there, the cheapest and

Mr. Kimo Galbraith
P.O. Box 1728
Kihei, HI 96753

Comment: A Kihei terminus in Wailea should have been considered.

Response: The requested roadway is similar to Alternative 7, which was eliminated prior to the Draft EIS because it had a very low benefit-cost ratio because of its distance from population centers.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Heather Gomes

Address: 639 Omaopio Road
Kula, Hawaii 96790

Telephone (day): 871-6283

Telephone (eve): 876-1253

Please make any comments below:

1 According to some of the "Experts" the ~~Consultants~~ State dept. of trans. are almost willing to ~~do~~ do anything to make the proposed Highway safe. A Line we have heard before, and once the Highway is Made Suddenly there will be no more funds to Correct any Hazards that exist.

Ms. Heather Gomes
639 Omaopio Road
Kula, HI 96790

1. Kihei-Upcountry Maui Highway will be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards. For the U1,K1 Alternative, which was identified as the preferred alternative, the U1 terminus will likely warrant traffic signals. Should construction funding be directed to this project, there will be in additional funds to improve other roads.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: SHAWN GOMES

Address: 639 OMAO RD KULA HI 96790

Telephone (day): 877-5052

Telephone (eve): 876-1253

Please make any comments below: THE STATE HIGHWAYS SHOULD FIX THE PROBLEMS THEY HAVE NOW BEFORE THEY MAKE NEW ONES. THE NEW ROAD WILL BE AN INVITATION FOR MORE GROWTH OF UPCOUNTRY MAUI.

1

Mr. Shawn Gomes
639 Omaopio Road
Kula, HI 96790

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen the Haleakala, Hana, Mokulele, and Piilani Highways. The Department is also considering other roadway improvements.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Debra Greene

Address: 550-A Kupulau Dr.
Kihei HI 96753

Telephone (day): 874-6441

Telephone (eve): 874-6441

Please make any comments below:

I oppose the new roadway any options.

I oppose the assumptions of progress unquestioningly.

I like the fact that Kihei + Makena + Wailea are relatively isolated from rep country. This is not Oahu + this is not the mainland. If people want those conveniences they can live elsewhere. Please look into mass transit

1 options. It will be much less expensive, have much less impact and will make better use of existing resources. Also

2 please look into leasing the existing private road on the ranch property.

(12)

Ms. Debra Greene
550-A Kupulau Dr.
Kihei, HI 96753

1. The Department of Transportation supports public transit on Maui because it would provide residents with other transportation options. Implementing public transit is typically the responsibility of the County. A public transit solution would not satisfy the purposes and needs that have been identified for this project.

2. Leasing an existing private road would not address the purposes and needs that have been identified for the project, such as addressing future travel demand.

Comment: Mass transit options should be considered, such as a light rail system, or buses. Also, the project should establish a bike route.

Response: See response to Comment 1. Kihei-Upcountry Maui Highway could accommodate buses if public transit is provided in the future. The highway would also provide six feet wide shoulders that could be used for cycling.

Comment: Consider leasing existing private roads on ranch property instead of constructing a new highway.

Response: See response to Comment 2.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Carla Hart

Address: 467 Kalalau Pl.
Kihei HI 96753

Telephone (day): 875-6836

Telephone (eve): 874-3692

Please make any comments below:

As a Kihei resident I am in favor of the K2 end of the alignment - if chosen I would like to see some care in the traffic alignment and contour at Kamalii School. Despite the problems this would cause at Kamalii School I think the benefit to Kihei in general makes this choice the best. 1

(8)

Ms. Carla Hart
467 Kalalau Pl.
Kihei, HI 96753

1. If a K2 alternative were identified as the preferred alternative, the K2 terminus intersection would be designed to not affect the safety of Kamalii School students.

Public Comment Form

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Name: Linda Javier

Address: 3088 Liholani St
Pukalani, Hi 96768

Telephone (day): Wk:

Telephone (eve): Hm: 572-9965

Please make any comments below:

I feel that the Haliimaile intersection is the most favorable spot. The worst is 5 trees.

Halii — has the space, is the least costly yet very effective. Developing Haliimaile intersection will not only cut down time to Kihei by 30% but it will also improve the safety conditions at such a dangerous intersection. There have been ~~fatalities~~ accidents in that area. The traffic lights there will control the speed flow from Up Country & pace the traffic better; the people coming UpCountry will encounter less congestion & will past more businesses along the way up the Haleakala Hwy.

5 Trees is congested as is. We don't need anymore traffic in that area. There are kids walking, many cars driven by students

Ms. Linda Javier
3088 Liholani St.
Pukalani, HI 96768

1. If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection would have included crosswalks and sidewalks to the high school, and the Pukalani leg of Haleakala Highway would be converted to a pedestrian walkway. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

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County of Maui, Hawaii
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Name: ALAN KOUFMAN

Address: POB 297
KULA 96790

Telephone (day): 878 6682

Telephone (eve):

Please make any comments below:

1 U-3 WILL COUSE GREATEST DISRUPTION TO THE SMALL FARMERS UPCOUNTRY. THIS IS REASON ENOUGH TO REJECT THIS LOCATION.

2 U-2 A/B WILL PLACE TOO MUCH TRAFFIC AT KING KEKAULIKE. WE WILL HAVE FATALITIES IF THIS SITE IS CHOSEN.

3 U-1 is PREFERRED BUT IT IS NECESSARY THAT AN INTERCHANGE (NOT A STOP LIGHT) BE CONSTRUCTED AT THE HALI'IMAILE/HALEAKALA HWY. INTERSECTION SO THAT (12)

Mr. Alan Kaufman
P.O. Box 297
Kula, HI 96790

1. The agricultural impacts of the U3 alternatives include displacing active pineapple fields and a portion of the Kula Agricultural Park. These impacts would be mitigated if a U3 alternative was identified as the preferred alternative.

2. If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection would have included crosswalks and sidewalks to the high school, and the Pukalani leg of Haleakala Highway would be converted to a pedestrian walkway. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

3. The U1 terminus intersection will likely warrant traffic signals. However, the final decision to place traffic signals at this intersection will be made during the design phase, and will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. Several grade-separated intersections (*i.e.*, interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which would cost substantially less.

Mr. Alan Kaufman
P.O. Box 297
Kula, HI 96790

Comment: Concerned that Kihei-Upcountry Maui Highway would increase the number of vehicular collisions with axis deer.

Response: Section 4.8.4 of the Final EIS includes measures to minimize the chance of vehicle-deer collisions. Of all the alternatives, the preferred alternative (U1,K1) is furthest from the centers of population of the axis deer.

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Kihei-Upcountry Maui Highway
County of Maui, Hawaii
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Name: Gretchen Ladley

Address: 2634 Iolani St
Pukalani Hi 96768

Telephone (day): 572-5550

Telephone (eve): " "

Please make any comments below: Very thorough presentation.

I support the connector road.

1 Want to be sure any intersections would have signal lights at the beginning of project rather than after the quota of accidents would eventually be met.

2 A rest area WITH REST ROOMS ~~rest area~~ 1/2 way up (or down!) would be nice. ← maps & trees shown

3 Need to avoid 5 Trees (U2A) route because of high school.

Ms. Gretchen Ladley
2634 Iolani Street
Pukalani, HI 96768

1. The final decision to place traffic signals at intersections along the project will be made during the design phase, and will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1,K1 Alternative, which was identified as the preferred alternative, both termini intersections will likely warrant traffic signals.

2. Restrooms will not be provided along Kihei-Upcountry Maui Highway because of the substantial increase in roadway maintenance that would be required, in addition to the difficulty of providing water to the site. The possibility of constructing scenic lookouts will be considered in the design phase.

3. If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection would have included crosswalks and sidewalks to the high school, and the Pukalani leg of Haleakala Highway would be converted to a pedestrian walkway. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Rosalyn Loomis

Address: 240 Hoopalua Drive
Makawao Hi 96768

Telephone (day): 871-8351

Telephone (eve): 572 6677

Please make any comments below:

I strongly oppose all highway options except for K1 – U1. This bypass will impact the least number of residences. It will alleviate safety concerns for the 1400 students at King Kekaulike High School. As it is, there are students who cross the Kula Highway & walk along it both to and from school which is already extremely dangerous. Imagine the additional safety concerns with another highway intersecting the Kula Highway anywhere near the vicinity of the school.

Any connection to any point in Kula will also draw commuters from Makawao → (77)

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Ralph Loomis

Address: 240 Hoopaka Dr.
Makawao 96768

Telephone (day): 8718351

Telephone (eve): 572-6677

-p-2.

Please make any comments below:

1 Haiku, Olinda and even Paia - ~~past~~ to & past 5 to 6 pm and the high~~s~~ school creating a traffic nightmare. ~~[illegible]~~ Tourists are drawn to upcountry because of its beauty and serenity. I don't object to easier access to this asset of ours, but please let's not destroy it with highways, shopping centers and the like.

The community plan reflects the desire of the upcountry population who chose the Hulimalu intersection.

Last but not least is the cost. This is an opportunity for the state to ~~[illegible]~~ show Hawaii that it is [illegible]

Ms. Rosalyn Loomis
240 Hoopalua Drive
Makawao, HI 96768

1. None of alternatives considered in the Draft EIS would displace any residence. If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection would have included crosswalks and sidewalks to the high school, and the Pukalani leg of Haleakala Highway would be converted to a pedestrian walkway. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Public Comment Form

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The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JACK McGOWAN

Address: 2495 S. Kihei Rd #376 Kihei

Telephone (day): 8795680

Telephone (eve): SAME

Please make any comments below:

1 ROAD should come from Tedeschi Winery (area) to Wailea.

Short.

Cheap.

No bridges

Very functional.

escape route for Kihei residents.

etc.

etc.

etc.

Mr. Jack McGowan
2495 S. Kihei Road, #336
Kihei, HI 96753

1. The alternatives similar to an alignment from the area near Tedechi Winery to Wailea are Alternatives 6A, 6B, and 7. These alternatives were eliminated in the screening evaluation discussed in Chapter 2 of the EIS. They had very low benefit-cost ratios because relatively little traffic was projected for these alignments. The low traffic results from the placement of these alignments away from the major travel markets.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: EDWARD H. MORIOKA

Address: 384 S. MOKAPU ST.
KAH. HI. 96782

Telephone (day): 877-3773 244-5315

Telephone (eve): 877-3773

Please make any comments below:

1 Old Military Route
Omaopio Road to Thomas to Old Kihei
Camp 3 Road to Piilani by Susa
Stone.

Route U2-B to K-2

Mr. Edward H. Morioka
384 S. Mokapu Street
Kahului, HI 96732

1. The suggested alternative is similar to Alternative 8, which was eliminated in the alternatives screening evaluation because it would not meet current design standards.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CLIFFORD N. MUKAI

Address: P.O. BOX 974
WAILUKU, HI 96793-0974

Telephone (day): 242-4403

Telephone (eve): _____

Please make any comments below:

1
- PREFER U2A·K1 OR U2A-K2.
- SHOULD WE ALSO SHOW (SOMEWHERE) THE BENEFIT/COST RATIOS FOR THE FINAL SELECTION SET SINCE BENEFIT/COST ~~THOSE~~ ARE SHOWN FOR THE INITIAL TWO-TIERED SCREENING? PEOPLE WANT TO KNOW HOW ~~WELL~~ EFFICIENTLY THEIR TAX PAYING DOLLARS ARE BEING SPENT (NOT ONLY HOW EXPENSIVE OR CHEAP A PARTICULAR ALIGN'T. IS).

2
- THE FORMAT IS BRAND NEW ~~BEF~~ TO MAUI BUT OF THE PUBLIC HEARING THE RESPONSE IS POSITIVE. GREAT IMPROVEMENT. OVER OLDER APPROACH. WELL ORGANIZED.
- PUT A SIGN ON VIDEO AREA THAT SAYS "THIS VIDEO IS ~ 12 MIN. LONG & IS LOOPING."
- MAKE EXHIBITS EASIER TO SEE WHERE ALL THE FAMILIAR LANDMARKS ARE (MORE SUBDIV. NAMES, STORES, TOURIST ATTRACTIONS, ETC).

Mr. Clifford N. Mukai
P.O. Box 974
Wailuku, HI 96793-0974

1. A benefit-cost analysis (BCA) is not used in the environmental evaluation of alternatives (*i.e.*, Chapter 4, Environmental Consequences, of the EIS) because of the difficulty of assigning monetary values to many of the benefits, and some of the costs, of the project. However, a simple BCA was used to screen alternatives before their detailed evaluation in the EIS. This early screening eliminated the alternatives that would clearly not be worthwhile. The project's BCA used direct costs (design, construction, and maintenance), and a benefit of only travel time savings. Because this BCA was so simple, an alternative would have needed a very low BC ratio not to pass this simple screening criterion.

2. Thank you for your good suggestions.

Public Comment Form

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County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Gayle Ohta

Address: 382 Hiolani St.
Pukalani, HI 96768

Telephone (day): (808) 879-4471

Telephone (eve): (808) 572-5007

Please make any comments below:

1) The best alternative is U1 to K1.

1 2) Keep away from King Kekaulike High School and residential/farm areas in Kula. Haliimaile intersection is still very much "upcountry".

3) In Kihei, would rather stay away from Kamalii Elementary School.

Ms. Gayle Ohta
382 Kiolani Street
Pukalani, HI 96768

1. If a U2-A, U2-B or K2 alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. Similar pedestrian facilities would be constructed at the K2 terminus if necessary. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ED ORSZULA

Address: 85 PI'IMAUNA ST.

Telephone (day): 573-9028

Telephone (eve): 573-9028

Please make any comments below:

1) MAKE HALIMAILE RD/HALEAKALA RD AN INTERCHANGE WITH UNDER PASS TO SMOOTH OUT TRAFFIC FLOW, OTHERWISE, Bottleneck at HANSEN/HALEAKALA RDS INTERSECTION IS ONLY MOVED UPHILL.

2) FROM K1 OR K2 END POINT, BOTH U2-A & U1 pts SHOULD BE BUILT TO BETTER DISTRIBUTE TRAFFIC FLOW, OTHERWISE ALL TRAFFIC WILL FLOW ALONG HALEAKALA RD TO HALIMAILE INTERSECTION.

(12)

Mr. Ed Orszula
85 Pi`imauna Street
Pukalani, HI 96768

1. The decision to place traffic signals will be made during the design phase, and will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1 terminus intersection, it is likely that it will warrant traffic signals. However, the phasing of the signals will be determined during the design phase. Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which would cost substantially less.

2. Two Upcountry termini are not proposed at this time.

Mr. Edward Orszula
83 Pi`imauna Street
Pukalani, HI 96768

Comment: The intersection of Haliimaile Road and Haleakala Highway should be an interchange.

Response: Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized at-grade intersection, which cost substantially less.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: RUDY RAMIREZ

Address: P.O. BOX 1513

MAKAWAO, HAWAII 96768

Telephone (day): 572-1295

Telephone (eve): 572-1295

Please make any comments below: REMEMBER WHO YOU WORK FOR!

STOP, LOOK & LISTEN

WHO IS BENEFITING BY CHOICE OF ROADS? WHO OWNS THE LAND?

FUNDS CAN BE DIRECTED TO BETTER SERVE THE PEOPLE OF MAUI — NO HIGHWAY NO AIRPORT

Mr. Rudy Ramirez
P.O. Box 1513
Makawao, HI 96768

Comment: Can other alternatives apart from those considered in the Draft EIS be considered?

Response: Yes. If a reasonable alternative is suggested, the Department of Transportation is required to consider it. The Department considered a wide range of alternatives, with active input from the public. The evaluation of alternatives is described in Chapter 2 of the EIS.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: DARLENE SZLAMP, AICP

Address: 3091 MAPU PL.
KIHEI, HI 96753

Telephone (day): 808-874-9317

Telephone (eve): _____

Please make any comments below:

I favor the Kaonoulu terminus at the Kihei end of the route. I do not favor the Ke Alii Alanui terminus because of the location of the Kamali'i School at the Pilani intersection.

1 I do not believe a major throughfare is compatible with the existing land use of the elementary school. I am a certified planner, and have worked in transportation planning in Texas and California.

Ms. Darlene Szlama, AICP
3091 Mapu Place
Kihei, HI 96753

1. If a K2 alternative were identified as the preferred alternative, this intersection would be designed to provide safe pedestrian access to Kamalii Elementary School.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Deborah von Tempsky

Address: 209 A Mauna Pl.
Kula Hi 96790

Telephone (day): (808) 878-2683

Telephone (eve): _____

Please make any comments below:

1 As landowners in the proposed alternatives for the Kihei-Upcountry Road, we oppose the road altogether. Money should go towards upgrading the highways we use now. We are opposed mainly to K1/U3 route which goes thru our property. We are prepared for a condemnation, our attorney Hod Greeley will help us if indeed this route is choosen. This route would not service the majority of the upcountry population and would be a waste. Hailemaile would be the best route, if any, as a direct link - Part of this road could be funded by a parcial toll road that would pay for added cost for an over pass in connecting the highways.

2

3

We want to keep Kula a farming and rural area the road thru U3/K1 would distroy it.

Ms. Deborah von Tempsky
209 A Mauna Pl.
Kula, HI 96790

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala, Hana, Mokulele, and Piilani Highways.

2. A U3 alternative was not identified as the preferred alternative because, as you point out, it would not serve travel markets as well as the other alternatives. Therefore, discussion of real estate issues is not needed.

3. A toll road is not planned. Also, several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which would cost substantially less while still achieving safety.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Morgan Lee Woolley — King Kekaulike H.S.
Address: 455 Ulumalu Rd. OR 121 Kula Hwy
Haiku, HI 96708 — Pukalani, HI 96708

Telephone (day): 572-5913
Telephone (eve): _____

Please make any comments below:

1 | I am surprised that the county failed to recognize the impacts that these highways will have on the Upcountry schools - most specifically King Kekaulike High School and Kamehameha Schools. The U2-B proposal is directly connected to the entrance of the former school and that small intersection, better known as 5 trees, cannot handle what it goes through it now - let alone more traffic. The congestion will cause severe accidents and significant harm to the teenagers & Kamehameha's elementary children who will be walking across the streets. Would you want your 7 year old crossing a 2-lane highway during heavy morning traffic?? Of all the options, U2-B has no advantages and must NOT be even remotely considered!

Ms. Morgan Lee Woolley
455 Ulumalu Road
Haiku, HI 96708

1. The potential impacts of the highway on the Upcountry area schools were considered in comparing the proposed alternatives. However, it was deemed that even if a U2-A alternative were identified as the preferred alternative, the Five Trees intersection would be modified to include crosswalks and sidewalks to the high school, and the Pukalani leg of Haleakala Highway would be converted into a pedestrian walkway.

   If a U2-B alternative were identified as the preferred alternative, an urban design that includes sidewalks would be used in the section of the highway adjacent to Kamehameha School.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Donald S. Yoshihara

Address: 230 Pukalani St
Pukalani Hawaii

Telephone (day): (808) 572-3981

Telephone (eve): " " "

Please make any comments below:

If the highway is to be built, I prefer the U1+K1 Route, least impact other than Sugar & pineapple even though the route is the expensive of the 4 routes. The State must built the 4th lane on Haleakala Hiway before the U1+K1 route is built, Traffic intersection at the Haimaile Junction needs vast improvement

1

2

Mr. Donald S. Yoshihara
230 Pukalani Street
Pukalani, HI 96768

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway.

2. The decision to place traffic signals will be made during the design phase, and will be based on traffic signal warrants specified in the Manual on Uniform Traffic Control Devices. For the U1 terminus intersection, it is likely that it will warrant traffic signals. However, the phasing of the signals will be determined during the design phase.

HWY 3634

RECEIVED
OCT 15 3 45 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
OCT 15 10 32 AM '99

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Erin Starr Phone: 5728682

Address: PO Box 33
Makawao
HI
96768

RECEIVED
OCT 19 10 54 AM '99
STATE DEPARTMENT
OF TRANSPORTATION
Hwy
HIGHWAYS DIVISION
PLANNING BRANCH

Please write any comments below:

1 (1) I'd like to be sure that native plant populations aren't disrupted by the road — or are replanted as landscaping along the road if they're disrupted.

(2) I vote for the intersection @ Haliimaile (up-country) + the road @ the point on the Lahaina-side of the R+D parks (for the Kihei bypass.)

Ms. Erin Starr
P.O. Box 33
Makawao, HI 96768

1. The vegetation along the U1,K1 alignment, the preferred alternative, consists of actively cultivated crops, uncultivated lands covered primarily by kiawe trees, buffelgrass, and other introduced species. Native plant populations would not be affected. Landscaping would consist of native trees and shrubs adapted to local conditions.

HWY 3652

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Mike Maberry **Phone:** 5720242 day
same eve

Address: 310 Kaupea St
Makawao, HI
96768

Please write any comments below:

1 The most logical and cost effective route is U3-K1. The most useless routes involve U1. U2A or U2B will increase traffic congestion in the Five Trees area. I base this statement on fifteen years of personal experience making the drive from Makawao to Kula during peak drive times.

Mr. Abraham Wong, Division Administrator
Federal Highway Administration
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850
(808) 541-2700

Mr. Kazu Hayashida, Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
(808) 587-2150

Mr. Mike Maberry
310 Kaupea Street
Makawao, HI 96768

1. Traffic conditions at the Upcountry terminus are projected to operate at a level of service B (delays in the range of 5 to 15 seconds per vehicle) during the morning and afternoon peak hours under either a U2-A and U2-B alternative.

HWY 393

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Marshall Mainaga Phone: 572-8413 day
SAME eve

Address: 200 Alohilani St.
Pukalani, HI 96768

Please write any comments below:

YES, we do need this new highway because ① Maui is an growing island. ② Maui has a shortage of roads ③ This new highway will alleviate a lot of traffic on the other roads and will be a convenience to the majority who live in Kihei and Upcountry.

1 * The route most deemed logical and practical is from the Halii made Junction to the Kihei Technology Park because it keeps the traffic away from ~~below~~ the residential areas, schools, and businesses. Plus the fact that Hali Junction will need a traffic signal anyway

Mr. Marshall Mainaga
200 Alohilani Street
Pukalani, HI 96768

1. Alternatives that would cross the Maui Research and Technology (R&T) Park on Lipoa Street were eliminated early because the R&T Park did not favor this alignment.

Hwy 3940

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
OCT 22 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Gwen Leong Phone: 874-2225 day
_____ _____ eve

Address: 3900 Wailea Alanui) work 15 Kulanihakoi
Kihei HI 96753) Kihei - home

Please write any comments below:

As it is now, there is quite long right after Kulanihakoi travelling to ~~Wailea~~ Lipoa.

It is difficult for people to turn right onto the highway from Kulanihakoi — & impossible to turn left.

a bypass from Kihei to Upcountry would alleviate this for upcountry as well as Kihei people (going to Wailea)

Additionally — I would like to move to Kula — but the drive deters me from doing so.

1 During prime time the traffic is bumper to bumper from Kulanihakoi — all the way to Ke Alii Alanui — why not make the bypass ~~the~~ to that pt?

RECEIVED
OCT 15 1999

Ms. Gwen Leong
15 Kulanihakoi St.
Kihei, HI 96753

1. The alternatives with the more southern Kihei terminus were eliminated in the alternatives screening evaluation, or in the case with the K2 alternatives, not identified as the preferred alternative after the Draft EIS because they would not serve travel markets as well as the alternatives with the more northern Kihei terminus, such as the K1 alternatives.

HWY 3944

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: LORRAINE STEAR Phone: 874-2272 day
_____ _____ eve

Address: P. O. BOX 703
KIHEI, HI
96753

Please write any comments below:

WE NEED A ROUTE UPCOUNTRY AS SOON AS POSSIBLE.

1 WE ALSO NEED PILANI TO BE FOUR LANES.

HIGHWAYS DIVISION
PLANNING BRANCH
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 22 11 35 AM '99

RECEIVED
OCT 15 1999
HAWAII DIVISION

Ms. Lorraine Stear
P.O. Box 703
Kihei, HI 96753

1. Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Piilani Highway to four lanes.

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: George Freeland Phone: 661-3262 day
573-0532 eve

Address: 49 Lea Lea Pl
Pukalani, Hi 96768

Please write any comments below:

I am a resident living at KULA 200 OHANA. I also work in Lahaina from Monday through Friday each week. I am in favor of the Kihei-Upcountry Maui Highway by way of alignment U1-K1. My reasons for this choice is as follows:

1. It provides a second exit for the Kihei-Wailea residents
2. It meets the Federal requirements for scientists traveling between Kihei and Haleakala.
3. It provides easy access to all in the Kula area. (Kula residents can also access the Highway by way of Omapio Road)
4. It provides reasonable access from Upcountry to Lahaina.
5. Makawao and Haiku residents have to travel "backwards" to access the Highway by way of U2-A,U2-B & U-3.
6. The intersections at U2-A & U2-B have limited space available for improvements. like installing a clover type intersection in these areas.
7. This route is not the most expensive to build.
8. Archeological site interference seems to be minimal.
9. U1 intersection is less intrusive to the Upcountry area.
10. A clover type intersection needs to be installed at intersection U1 to minimize accidents from occurring. Traffic lights cause congestion and accidents. If this is not possible, I am against the installation of the Kihei-Upcountry Maui Highway.

1

Mr. George Freeland
49 Lea Lea Place
Pukalani, HI 96768

1. Several grade-separated intersections (*i.e.*, interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which would cost substantially less.

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Tyson Kubo Phone: ~~871-2227~~ 573-0539

Address: 935 Hiilani St.
~~Haliimaile~~, Hi.
96768

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
OCT 22 11 36 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Please write any comments below:

The bypass road between Piilani Highway and upcountry is too good of an idea to pass up. There are many benefits to this plan and no negatives that I am aware of. This plan would ease congestion to the already congested Haleakala Highway in the mornings and evenings at peak traffic times. The state might even save money in the long run by not having to hire those guys who drop the divider cones every morning. Personally, this plan would cut about an hour a day off of my commute to work. It would also make more of the island accessible to tourists as well as locals. From my point of view, even if you had to charge a toll or fee to help incur the cost of the highway for a few years, the public would be more than happy to take the trade-off.

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OCT 15 1999
HAWAII DIVISION

P.S. This plan would have as much influence on the community as a tunnel through the west Maui Mountains, from Wailuku to Lahaina, but at a fraction of the cost.

Mr. Tyson Kubo
935 Hiilani Street
Haliimaile, HI 96768

1. A toll is not part of the financing package currently contemplated for the Kihei-Upcountry Maui Highway.

Mr. Roger D. Hawley
P.O. Box 756
Kula, HI 96790

Comment: Kihei-Upcountry Maui Highway should not be a two-lane road because of safety concerns. It should be a four-lane divided roadway.

Response: A two-lane highway is proposed because projections indicate that two lanes would be sufficient to accommodate travel demand in the design year 2020. In its initial two-lane undivided configuration, the highway would be similar to Haleakala or Hana Highway. Kihei-Upcountry Maui Highway will be designed in accordance with accepted standards.

Comment: Concerned about vehicle accidents involving the deer in the project area.

Response: Section 4.8.4 of the Final EIS includes measures to minimize the chance of vehicle-deer collisions, such as stock-proof fencing and signage warning motorists. The preferred alternative, the U1,K1 alignment, would be farthest from the center of the deer population.

Comment: None of the proposed alternatives should be considered until a good four-lane highway from Pukalani down to Kahului and a four-lane highway from the middle of Haleakala Highway down to Kihei are built.

Response: Regardless of whether the Kihei Upcountry Maui Highway is constructed, the Department of Transportation plans to widen Haleakala Highway to four lanes. A highway from the middle of Haleakala Highway down to Kihei would be similar to the U1 alternatives, which would start Upcountry at Haliimaile Road.

Mr. Herb Squires
P.O. Box 644
Kula, HI 96790

Comment: Widening Mokulele Highway would solve the transportation problem.

Response: Widening Mokulele Highway alone will not address the purposes and needs that have been identified for this project.

Comment: The proposed road would spur military development on Haleakala.

Response: The amount of military or other development on Haleakala is not dependent on whether Kihei-Upcountry Maui Highway is built or not.

Comment: Construction of Kihei-Upcountry Maui Highway would encourage development.

Response: The potential for urban growth inducement in Upcountry was analyzed in Section 4.1.1 of the EIS. It was determined that the amount and pace of residential development in Upcountry will continue to be controlled by water availability, not transportation infrastructure. Since Kihei does not have the same constraints as Upcountry, including zoning restrictions, some development is expected.

Mr. Rob Parsons
579A Kawelo Rd.
Haiku, HI 96708

Comment: Concerned that an Upcountry terminus near King Kekaulike High School would create an unsafe situation for students and motorists.

Response: Had a U2-A or U2-B terminus been identified as part of the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would have included crosswalks and sidewalks to the high school (see Section 4.4.4 of the Final EIS). Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Comment: Public transportation and requiring hotels to pick up visitors at the airport should have been considered as alternatives.

Response: The Department of Transportation supports public transit, paratransit, ride-sharing, and other ways of increasing vehicle occupancy. However, transit alone would not address all the purposes and needs that have been identified for the proposed project. Kihei-Upcountry Maui Highway will be usable by transit vehicles.

The Department of Transportation does not have the authority to require hotels to pick up visitors at the airport.

Comment: How is Kulamalu related to the development of the U2-B alternative?

Response: The U2-B alternative is the alignment in the Kulamalu master plan. The developer has already constructed a portion of this roadway. The costs of the U2-B alternatives have been revised to reflect this construction. The developer stated that the existing road segment would be donated to the State if a U2-B alternative were selected as the preferred.

Comment: Believes that at the time of the public hearings, a decision on the preferred alternative had already been made.

Response: At the time of the Draft EIS comment period, no decision had been made regarding the preferred alternative. Since then, the U1,K1 alignment has been identified as the preferred alternative.

Comment: Existing roads should be widened first.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, and Mokulele Highway. In addition, the County is planning a Puunene bypass road.

Comment: The Draft EIS overlooks or dismisses the preference of the Makawao-Pukalani-Kula Community Plan.

Response: Section 3.1.4.2d of the EIS describes the Makawao-Pukalani-Kula Community Plan. The Department of Transportation views community plans as important expressions of community opinion, but is not required to follow them. In this case, the Makawao-Pukalani-Kula Community Plan was highly influential in the decision to identify the U1,K1 alignment as the preferred alternative.

Comment: Haiku, Makawao, and Pukalani motorists who would travel mauka to access a U2-A, U2-B, or U3 terminus would cause congestion.

Response: The traffic pattern resulting from U2-A, U2-B, or U3 is viewed as beneficial for traffic operations. Since commuter traffic tends to peak during certain times of the day, arterial roadways tend to be over-utilized in the peak direction and under-utilized in the non-peak direction. The benefit of the U2-A and U2-B alternatives, and to a lesser extent the U3 alternatives, is that they would cause the directional splits of the highways in Upcountry to be more even

Comment: Mass transit alternatives should be considered.

Response: The Department of Transportation supports public transit because it provides transportation options. However, public transit would not meet the purposes and needs that have been identified for this project. However, Kihei-Upcountry Maui Highway will accommodate buses if public transit is provided in the future.

Comment: The costs of the U2-B alternatives do not reflect the private donation of the recently completed roadway segment through the Kulamalu project.

Response: The cost estimates of the U2-B alternatives have been revised in the Final EIS to reflect this donation.

Comment: The "open-style" public hearing may be a Chapter 91 violation.

Response: The conduct of the public hearings is not in violation of any State or federal law.

Comment: Believes a final decision on the preferred alternative was previously made.

Response: The preferred alternative had not been identified at the time of the Draft EIS comment period. Since then, the U1,K1 alignment was identified as the preferred alternative.

Comment: Unusable remnant parcels would be created if the U2-A alternative were identified as the preferred alternative.

Response: Remnant parcels were not anticipated with a U2-A alternative. If a U2-A alternative were identified as the preferred alternative, and if an affected landowner believes that unusable remnant parcels will be created, and if investigation confirms the creation of unusable remnant parcels, those parcels would be purchased from the landowner.

Comment: A reliever road to replace Hansen Road should be considered.

Response: All the alternatives considered in the Draft EIS are essentially "reliever" roads for Hansen Road.

Mr. Sam Hironaka
99 Naniluna
Wailuku, HI 96793

Comment: Favors reestablishing the roadway that linked Makena and Ulupalakua, which was closed by the County.

Response: The requested roadway is similar to Alternative 7, which was eliminated prior to the Draft EIS because it had a very low benefit-cost ratio because of its distance from population centers. However, as the commentor pointed out, such a roadway would have other benefits not considered in the project's purposes and needs. If achieving the benefits identified by the commentor is determined to be important, then the suggested roadway may be considered as another project. Construction of Kihei-Upcountry Maui Highway does not preclude a Makena to Ulupalakua roadway in the future.

Comment: Suggested a road linking Ulupalakua and Makena should be constructed in addition to Kihei-Upcountry Maui Highway.

Response: The requested roadway is similar to Alternative 7, which was eliminated prior to the Draft EIS because it had a very low benefit-cost ratio because of its distance from population centers. However, as the commentor pointed out, such a roadway would have other benefits not considered in the project's purposes and needs. If achieving these benefits is determined to be important, then the suggested roadway may be considered as another project. Construction of Kihei-Upcountry Maui Highway does not preclude a Makena to Ulupalakua roadway in the future.

Comment: The impacts to agriculture should be considered in selecting the preferred alternative.

Response: Potential agricultural impacts of each alternative measures to mitigate adverse impacts are addressed in Section 4.2 of the EIS. The preferred alternative, the U1,K1 alignment, will bisect sugarcane and pineapple fields. These impacts cannot be avoided. Therefore, construction of this alternative will include measures to lessen the agricultural impact.

Ms. Cindy Lawrence
Maui County Farm Bureau
P.O. Box 148
Kula, HI 96790

Comment: Highly concerned about the agricultural impacts of the project.

Response: Agricultural land could not be completed avoided under any of the build alternatives that were considered in the Draft EIS. The preferred alternative, the U1,K1 alignment, will cross sugarcane and pineapple fields. The Department of Transportation acknowledges that mitigation measures (see Section 4.2.4 of the EIS) will be needed to maintain the productivity of fields next to the new highway. Details of the mitigation measures will be coordinated with the landowners.

Mr. Anselm Pauls
P.O. Box 1211
Paia, HI 96779

Comment: Kihei-Upcountry Maui Highway would cause urban development in Upcountry, causing the loss of the Upcountry character.

Response: The amount and pace of residential development in Upcountry is controlled by water availability. Maui County will not allow substantial new urban development in Upcountry as long as water supply constraints persist, even though Upcountry is a popular residential area. Therefore, it is not expected that the project would induce urban growth in Upcountry in addition to growth that would occur without the project.

Comment: Other alternatives should be considered.

Response: The Department considered a wide range of alternatives, with active input from the public. The evaluation of alternatives is described in Chapter 2 of the EIS.

Comment: Providing public transportation should have been considered.

Response: The Department of Transportation supports public transit because it provides transportation options. Kihei-Upcountry Maui Highway can be used for public transportation if the County or other organization were to start public transit service. Transit alone would not address the purposes and needs that have been addressed for this project.

Comment: The alternatives in upper Pukalani (U2-A and U2-B) would cause congestion because motorists from Haiku, Makawao, Pukalani, and Haliimaile would drive mauka to this area.

Response: Contrary to the comment, the U2-A and U2-B alternatives would actually lessen congestion. As described in Section 4.4.1 of the EIS, the U2-A and U2-B alternatives would cause the contra-flow of peak directional traffic in Upcountry. Since commuter traffic tend to peak during certain times of the day (i.e., early morning and late afternoon), arterial roadways tend to be over-utilized in one direction, and under-utilized in the other direction. The benefit of the U2-A and U2-B alternatives, and to a lesser extent the U3 alternatives, is that they would cause the directional splits of the highways in Upcountry to be more even.

Mr. Jack Esker
2531 South Kihei Road, Apt C502
Kihei, HI 96753

Comment: Because one of the purposes of the project is to enhance travel between the Maui R&T Park and Science City, what route is favored by those traveling between the Maui Research & Technology Park and Science City?

Response: The Maui Research & Technology Park only asked that the alignment not pass through the technology park. Those who work at Science City have not communicated a preference to the alignment.

Ms. Kathryn Maloney
300 Lakau Place
Kihei, HI 96753

Comment: The U1 terminus at the Haliimaile Road / Haleakala Highway intersection would cause unacceptable traffic conditions.

Response: The level-of-service (LOS) D at the U1 terminus during the morning peak hour, as reported in the Draft EIS, was revised to LOS C after closer examination of this future intersection. In the afternoon peak hour, an LOS C is predicted. An LOS C condition is considered to be acceptable.

Mr. Herbert Gries
P.O. Box 695
Puunene, HI 96784

Comment: Consider the intersection of Mokulele and Piilani Highways for the makai terminus of the road.

Response: The Mokulele Highway and Piilani Highway intersection was not considered for the makai terminus because Kihei-Upcountry Maui Highway would become the fifth leg of an existing four-legged intersection. This configuration would not be ideal in managing traffic operations, especially since the K1 terminus located at the intersection of Piilani Highway and Kaonoulu Street is only about a mile and a half from this location.

Comment: The roadway projects in this area appear to be uncoordinated and conflicting. The proposed highway should be coordinated with a future bypass road around Kealia Pond.

Response: The Department of Transportation and the County of Maui use the Maui Long Range Land Transportation Plan to program investments in the island's roadway system. The Long Range Plan is prepared using a comprehensive public involvement process. The coordination and compatibility of roadway projects in this area were addressed in the Long Range Plan. A bypass road around Kealia Pond is not in the Long Range Plan.

Mr. and Mrs. Russ and Lora Yanagawa
2823 Puuhoolai Street
Kihei, HI 96753

Comment: Recommends that that the public hearings be publicized on the radio.

Response: The Department of Transportation does not normally advertise public hearings on the radio. Public hearings are advertised in the "Hawaii State & County Public Notices" publication, and in a local newspaper with general circulation. Also, notices are mailed to those on the project mailing list, which include those who have attended earlier project meetings or who have indicated an interest in the project. In this case, because the local media covered the hearings, the Department does not think that attendance would have been substantially higher if radio advertisements were used.

Comment: Concern about development along the highway.

Response: Section 4.1.1 of the EIS addresses the potential for land use development due to the construction of Kihei-Upcountry Maui Highway. The highway is not expected to have much of an impact on development in much of Upcountry, particularly in Kula, due to water supply constraints. In Kihei, the highway could facilitate in-fill development between Piilani Highway and Kihei Road.

Ms. Christine Moschetti
P.O. Box 741
Kihei, HI 96753

Comment: Kihei-Upcountry Maui Highway should be a four-lane highway, and include a bike path.

Response: A two-lane highway is being proposed because traffic projections for the year 2020 indicate that a two-lane highway would be sufficient. However, right-of-way for a divided four-lane highway would be reserved. Kihei-Upcountry Maui Highway would provide six feet wide shoulders that could be used for cycling.

Mr. Ron Sturtz
874 Kumulani Drive
Kihei, HI 96753

Comment: Could the federal government pay for the whole cost of the project?

Response: That will not be possible. The cost sharing for this project would be 80 federal and 20 percent State.

Mr. Jeff Marsh
2387 South Kihei Road
Kihei, HI 96753

Comment: Various forms of public transit, including having Kihei-Upcountry Maui Highway operate as a closed busway system, should have been considered. Bicycle transportation should also be encouraged.

Response: The Department of Transportation does not operate public transit, although the Department will support public transit because it leads to a more efficient use of roadways. Since no organization in the near future is proposing to operate a public transit system large enough to justify a busway between Upcountry and Kihei, such an option was not considered. If a bus transit system were started, it would serve a relatively small number of riders in comparison to automobile riders, and would not change the purpose and need for the proposed project. Nevertheless, Kihei-Upcountry Maui Highway will have plenty of capacity to accommodate buses if public transit is provided in the future. Kihei-Upcountry Maui Highway would provide six feet wide shoulders that could be used for cycling.

Comment: A private transportation system operating on existing roadways in Ulupalakua Ranch should be considered.

Response: The Department of Transportation has not received any interest from the private sector to operate a transportation system between Kihei and Upcountry.

Ms. Lucy Feinberg
483 South Kihei Road
Kihei, HI 96753

Comment: Kihei-Upcountry Maui Highway should be a four-lane roadway, and include bike lanes.

Response: A two-lane highway is being proposed because traffic projections for the year 2020 indicate that a two-lane highway would be sufficient. However, right-of-way for a divided four-lane highway would be reserved. Kihei-Upcountry Maui Highway would provide six feet wide shoulders that could be used for cycling.

Mr. Kaoru Muraoka
388 Aliiolani Street
Pukalani, HI 96768

Comment: Concerned about operations and traffic conditions at the U1 terminus (Haliimaile Road / Haleakala Highway intersection).

Response: The U1 terminus would include left turn, acceleration, and deceleration lanes, and would likely warrant traffic signals. Morning peak hour traffic conditions are projected to operate at a level-of-service C, on a scale of A to F.

Comment: Mokulele and Haleakala Highways should be widened to four lanes.

Response: Regardless of whether or not the Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala and Mokulele Highways.

Mr. Clifford Green
160 Alohilani Street
Pukalani, HI 96768

Comment: Concerned that the level of traffic generated by a U2-A alternative would endanger King Kekaulike High School students

Response: If a U2-A alternative were identified as the preferred alternative, the modified Five Trees intersection would include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Comment: Concerned that the level of traffic from a U2-B alternative would endanger Kamehameha School students.

Response: If a U2-B alternative were identified as the preferred alternative, an urban design that includes sidewalks would have be used in the section of the highway adjacent to Kamehameha School.

Comment: Concerned about the highway cutting through active agricultural fields.

Response: As described in Section 4.2.4 of the EIS, mitigation measures will be implemented to lessen the impact on agricultural practices that would be affected by Kihei-Upcountry Maui Highway. Construction of the highway will be coordinated with Hawaiian Commercial and Sugar Company and Maui Land and Pineapple Company.

Mr. Tony Paresa
27 Aeloa Road
Pukalani, HI 96768

Comment: Who is liable for damage from vehicle-deer collisions, other than the operator of the vehicle?

Response: Payment for damage from vehicle-deer collisions should come from the insurer of the vehicle.

Ms. Cyrina Brogoitti
P.O. Box 1276
Kula, HI 96790

Comment: Widen existing roads first to see what happens to traffic flow.

Response: Regardless of whether or not the Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway, and Piilani Highway.

Mr. Patrick Constantino
3188 Kilani Place
Pukalani, HI 96768

Comment: The alternatives with the terminus in the upper section of Pukalani (U2-A and U2-B) would be like Dairy Road, resulting in potential safety concerns.

Response: The U2-A and U2-B alternatives would not be like Dairy Road. They would be similar to Haleakala and Hana Highways. Their terminus intersections would be signalized with adequate left turn, acceleration and deceleration lanes.

Mr. Steve Harman
826 Alamoku Street
Haliimaile, HI 96768

Comment: Because the U1 terminus will attract traffic from Haiku, something has to be done about Kaluanui Road, which connects to Haliimaile Road.

Response: Thank you for pointing out this issue. The Department of Transportation will ask the County of Maui to monitor traffic conditions on Kaluanui Road when Kihei-Upcountry Maui Highway is completed.

Ms. Emily Agusti
361 Nalani Street
Pukalani, HI 96768

Comment: The U1 terminus should be designed as an interchange.

Response: Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized at-grade intersection, which would cost substantially less.

Comment: Underpasses should be constructed where the new highway crosses cane haul roads.

Response: The U1,K1 alignment, which was identified as the preferred alternative, includes two underpasses for cane haul roads.

Mr. Hari Ajmani
102-17 Kaui Place
Kula, HI 96790

Comment: How much traffic is Kihei-Upcountry Maui Highway intending to serve, and what role would this have in selecting the preferred alternative?

Response: As stated in Section 4.4.1 of the EIS, Kihei-Upcountry Maui Highway is projected to serve 7,000 to 13,000 vehicles per day in the design year, 2020. In general, the U3 and K2 alternatives would generate the lower traffic volumes, and the U1, U2-A, U2-B, and K1 alternatives would generate the higher volumes. The differences were due in large measure on how well each alternative serves different travel markets. For example, the K1 alternatives serve the Upcountry-West Maui travel market, whereas the K2 alternatives do not. This was an important factor in selecting the U1,K1 alignment as the preferred alternative.

Comment: Improvement to Hansen Road should be considered as an alternative.

Response: Although improving Hansen Road has the potential to improve the safety of this roadway, it would not address the project's purpose of establishing a direct highway link between Upcountry and Kihei.

Comment: The U2-A and U2-B alternatives would jeopardize the safety of King Kekaulike High School students.

Response: If a U2-A or U2-B alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Comment: Project does not enhance evacuation capacity in response to brush fires.

Response: The proposed Highway will create a new evacuation route from South Maui. K2 alternatives would be somewhat more effective than K1 alternatives because the alignment is further from the existing escape routes. In addition to providing evacuation capacity, the proposed highway would assist in fire fighting.

Ms. Gina Flammer
2102 Naalae Road
Kula, HI 96790

Comment: Concerned about the risk of head-on collisions with a two-lane highway.

Response: Kihei-Upcountry Maui Highway, in its initial two-lane undivided configuration, would be similar to Haleakala or Hana Highway. Kihei-Upcountry Maui Highway will be designed in accordance with current standards.

Comment: Concerned about certain alternatives being near King Kekaulike High School or Kamehameha School.

Response: If a U2-A or U2-B alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Mr. Perry Margolin
183A Pukalani Street
Pukalani, HI 96768

Comment: Two Upcountry termini should be considered, one at Haliimaile Road and the other at Five Trees intersection.

Response: The Kihei-Upcountry Maui Highway will have only one Upcountry terminus because of cost and the volume of projected traffic.

Mr. Sandy Ryan
1071 Ulele Street
Makawao, HI 96768

Comment: Please mitigate any damage to Hawaiian archaeological sites.

Response: Section 4.10 of the EIS addresses the potential archaeological impacts of the project, and the proposed mitigation for such impacts. Specifically for the preferred alternative (U1,K1), the mitigation measures will include data recovery of three temporary habitation sites and buffer zones during construction around two petroglyph sites found near the alignment. This mitigation plan was approved by the State Historic Preservation Division.

Comment: Would Kihei-Upcountry Maui Highway eliminate the morning contra-flow lane?

Response: The Department of Transportation (DOT) is planning to widen Haleakala Highway, which would eliminate the need for the contra-flow lane. If Kihei-Upcountry Maui Highway were built first, traffic conditions would be monitored to determine whether maintenance of the contra-flow lane is necessary.

Mr. Dan Evert
2760 Palalani Street
Pukalani, HI 96768

Comment: The analysis of alternatives should have ended once the Maui County Mayor approved the Makawao-Pukalani-Kula Community Plan, with either the U1 alternatives (Upcountry terminus at Haliimaile Road / Haleakala Highway intersection) or widening of existing roads moving forward.

Response: The Department of Transportation views community plans as helpful statements of community opinions. Since the project would use federal and State funds, both the National Environmental Policy Act and the Hawaii EIS Law apply. Both laws require the project to consider all reasonable alternatives that would address the project's purposes and needs. Therefore, the project's EIS had to address all reasonable alternative alignments. Adoption of a community plan does not eliminate this obligation to study alternatives. However, in this case, the wishes of the community, as stated in the Makawao-Pukalani-Kula Community Plan, were highly influential in the identification of the preferred alternative.

Comment: Improvement to Hansen Road should have been considered as an alternative.

Response: Improving Hansen Road would not address the project purpose of establishing a direct highway link between Upcountry and Kihei.

Comment: Concerned about certain alternatives being near King Kekaulike High School.

Response: If a U2-A or U2-B alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections.

Comment: What is the cost to prepare the EIS for this project?

Response: The EIS is only one part of the planning process for this roadway. Other work performed included preparing conceptual plans and cost estimates of alternatives, preparing technical studies to evaluate the social and environmental impacts of the project, conducting public meetings and hearings, consulting with environmental resources agencies and the

public, and preparing environmental review documents, such as the EIS. The cost to date of all the work performed on all these activities is $1,665,300.

Ms. Janine Carroll
217 Pukalani Street
Pukalani, HI 96768

Comment: Believes that the U2-A and U2-B alternatives would cause unnecessary traffic through Pukalani.

Response: If a U2-A or U2-B alternative were identified as the preferred alternative, there would be no direct connection between Pukalani and the new highway. Access onto the highway from Pukalani would be via Haleakala Highway, and Kula Highway under the U2-B alternatives.

Mr. Jeffrey James
P.O. Box 182
Paia, HI 96779

Comment: Requests two Upcountry termini, one at the Haliimaile Road / Haleakala Highway intersection and the other at the Five Trees intersection, and two Kihei termini at either K1 or K2, or K2 and at Lipoa Street.

Response: Only one Upcountry and Kihei terminus each will be provided under this project at this time. However, the project does not preclude the construction of additional connections in the event that they are needed in the future.

Mr. Jonathan Starr
3150 Wailea Alanui
Kihei, HI 96753

Comment: Does not want Kihei-Upcountry Maui Highway to have street lighting at its intersections, or at least the type used at the U2-B terminus.

Response: Kihei-Upcountry Maui Highway will not have street lighting, except at the termini, for safety purposes. The type of lighting will be determined in the design phase of the project. There are options to minimize stray light.

Comment: Suggests an alternative similar to the old Ulupalakua-Makena Road.

Response: The suggestion is similar Alternative 7, which was dropped from consideration during the early screening evaluation because of its poor benefit-cost ratio resulting from its location far from major urban areas.

Mr. John Wilson
Kula Community Association
121 Holopuni Road
Kula, HI 96790

Comment: The selection of the preferred alternative should fully conform to the legally adopted Makawao-Pukalani-Kula Community Plan. Existing roads should be improved before this highway is built.

Response: State highway projects are not required to conform to locations set forth in community plans. The Department of Transportation considers community plans to be important expressions of public sentiment, not regulatory documents. Nevertheless, the Makawao-Pukalani-Kula Community Plan was given substantial weight in the identification of the preferred alternative, the U1,K1 alignment.

Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway, Hana Highway, Mokulele Highway and Piilani Highway.

Comment: Disagrees with analysis of the EIS that water availability controls development in Kula, not transportation infrastructure.

Response: Despite the recent development of a well in Haiku, which is partially being used for the Kulamalu development, Kula will continue to rely on surface water sources that are highly vulnerable to drought conditions. In addition, the cost of providing water transmission lines and storage is comparatively high in Kula because of its elevation. Therefore, the County is unlikely to allow substantial urban development in Kula, despite the existence of Kihei-Upcountry Maui Highway. The Department of Transportation stands by its assessment that water supply will be more of limiting factor on Kula development than constraints in transportation infrastructure.

Comment: Alexander & Baldwin has proposed a residential development near the intersection of Haliimaile Road / Haleakala Highway. This proposal appears to be logical in-fill development.

Response: Alexander & Baldwin is planning a 200-unit residential subdivision in Haliimaile. The EIS acknowledges that additional highway capacity, such as a new roadway, can influence urban development. Therefore, the EIS concluded that the U1 alternatives would have the greatest growth–creating impacts because it would directly serve lower Pukalani and Haliimaile, areas that have been designated for development in the Community Plan. Further, the Maui Board of Water Supply has indicated it would supply water to this area for these planned developments.

Comment: The EIS did not identify a park in the Kulamalu development.

Response: Thank you. The park has been identified in the Final EIS.

Comment: Requested grade separation of the highway's intersections with Omaopio and Pulehu Roads.

Response: The Omaopio and Pulehu Road intersections with Kihei Upcountry Maui Highway are not proposed for grade separation. The projected cross-traffic volumes do not warrant the additional cost and the environmental impacts associated with grade separating these intersections.

Comment: Does not want Kihei-Upcountry Maui Highway to have street lighting.

Response: Kihei-Upcountry Maui Highway will not have street lighting, except at the termini, for safety purposes. The details of the lighting will be determined in the next phase of project planning. There are options to minimize stray light.

Comment: The U1 terminus should be an interchange.

Response: Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which cost substantially less. An appropriately designed, at-grade, signalized U1 terminus at Haliimaile Road is projected to operate well.

Comment: Concerned that there would be additional connections to Kihei-Upcountry Maui Highway, or another Upcountry-Kihei highway would be built.

Response: The Kihei-Upcountry Maui Highway is projected to operate well in the design year 2020. Given Upcountry's land use and population projections, the Department of Transportation does not anticipate additional connections or another Kihei-Upcountry highway, at least until 2020.

Mr. Skip St. John
113 Pekelo Place
Kula, HI 96790

Comment: Prefers an Upcountry terminus in the vicinity of Rice Park.

Response: The suggestion is similar to Alternatives 6A and 6B. Both alternatives were eliminated because they had poor benefit-cost ratios because of their distance from Upcountry's population center, the Pukalani-Makawao area.

Mr. Erwin DepBonde
RR4, Box 66-A
Kula, HI 96790

Comment: The U1 terminus should be an interchange.

Response: Several grade-separated intersections (i.e., interchanges) were considered for the U1 terminus. However, the costs of these options were not justifiable considering their marginal benefits in comparison to a signalized intersection, which cost substantially less. An at-grade, signalized U1 terminus intersection is projected to operate well.

Mr. Mark Brogoitti
P.O. Box 1276
Kula, HI 96790

Comment: Believes that the State has already made the decision to construct Kihei-Upcountry Maui Highway.

Response: The State has not has not dedicated any construction funding for the Kihei-Upcountry Maui Highway, and therefore, has not made the decision to move ahead. The legislature must approve the construction budget. The Final EIS identifies the preferred alternative (the U1,K1 alignment) but this does not constitute a decision to construct the highway.

Comment: Haleakala Highway, Mokulele Highway, Piilani Highway and Hansen Road should be widened to four lanes.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala, Mokulele and Piilani Highways. There are no plans to widen Hansen Road.

Comment: The travel time savings provided in the Draft EIS will not materialize because the slow drivers would delay motorists on the proposed two-lane highway.

Response: Travel time savings estimates were based on an assumed average speed. However, even with slow drivers, Kihei-Upcountry Maui Highway would provide substantial travel time savings because of the distance savings for many trips.

Ms. Leslie Gise

Comment: Kihei-Upcountry Maui Highway would encourage development in Upcountry because the water shortage has not been shown to control development.

Response: County officials believe that reliance on surface water resources, and the limited storage and transmission capacity of the water delivery system Upcountry, has curbed urban development in Upcountry, especially Kula. The Board of Water Supply believes that water supply constraints Upcountry will persist because of the high cost of developing water sources and delivering it the higher elevations of Upcountry.

Comment: The U1 terminus will be a "death trap."

Response: The U1 terminus at the Haliimaile Road / Haleakala Highway intersection will likely warrant traffic signals, which is indicated in the EIS. In addition, left turn, acceleration, and deceleration lanes will be provided.

Comment: The U1 terminus will increase traffic on Holopuni and Pulehu Roads.

Response: Under the U1,K1 Alternative, which was identified as the preferred alternative, the EIS acknowledges that some motorists will use Holopuni, Pulehu and Omaopio Roads inappropriately as shortcuts because of the distance between Kula and the U1 terminus, similar to what presently occurs.

Comment: The traffic impact analysis did not take into account traffic generated at King Kekaulike High School and Kamehameha School.

Response: The traffic impact analysis is based on traffic volume projections used to develop the Maui Long Range Land Transportation Plan. The traffic projections are based on assumptions of future land use, including development projects which are known to the County, State, and planners who prepared the long-range plan. The schools you mention were factored in to the long-range traffic projections used in the Long-Range Plan.

Comment: The highways between Pukalani and the U3 terminus would have to be widened to four lanes if a U3 alternative is identified as the preferred.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala and Kula Highways. Nevertheless, a U3 alignment was not identified as the preferred alternative.

Comment: The intersection of Hana Highway and Haleakala Highway needs to be improved.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, both Hana and Haleakala Highways are planned for improvement. However, an interchange at this location is not proposed.

Comment: Hansen Road should be fixed or realigned to direct traffic away from the Hana Highway/ Dairy Road intersection.

Response: The Long-Range Plan did not include widening or realigning Hansen Road.

Mr. Hugh Starr
P.O. Box 33
Makawao, HI 96768

Comment: The project area should be expanded to include Haiku, Kokomo, and Kaupakalua.

Response: Depending on the alignment selected, some of these communities would benefit from Kihei-Upcountry Maui Highway. Other projects are also being planned that would serve the communities mentioned, such as the widening of Hana Highway and a project to improve transportation through Paia.

Mr. Thomas Burt
2771 Olulani Street
Pukalani, HI 96768

Comment: Haleakala Highway should be widened to four lanes instead of constructing a Kihei-Upcountry Maui Highway.

Response: Regardless of whether Kihei-Upcountry Maui Highway is constructed, the Department of Transportation is planning to widen Haleakala Highway to four lanes.

Mr. David M. Ohta
2678 Akalani Loop
Pukalani, HI 96768

Comment: Concerned about U2-A and U2-B being near King Kekaulike High School or Kamehameha School.

Response: If a U2-A or U2-B alternative were identified as the preferred alternative, the modified Five Trees intersection or the new intersection on Kula Highway would include crosswalks and sidewalks to the high school. In addition, if a U2-B alternative were identified as the preferred alternative, an urban design would be used, which includes sidewalks, adjacent to Kamehameha School. Similar situations are encountered elsewhere in the State, and it is possible to accommodate both vehicles and pedestrians at intersections and along roadways.

Ms. Helen Nielsen
3150 Wailea Alanui
Kihei, HI 96753

Comment: Does not want the highway to have excessive lighting.

Response: Kihei-Upcountry Maui Highway will not have street lighting, except at the termini, for safety purposes.

Comment: The entire Kihei-Upcountry Maui Highway should provide shoulders wide enough for bicyclists, not just the urban sections where bike lanes would be provided.

Response: In the rural sections of the highway, shoulders would be six to eight feet wide, which is wide enough for bicyclists to use.

DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS THAT DO NOT REQUIRE RESPONSES

Transmittal Letter from the Department of Transportation

Letters and Comment Forms

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
JEAN L. OSHITA
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

HWY-PA
2.5470

JAN 2 8 2002

Aloha,

Subject: Kihei-Upcountry Maui Highway

Thank you for your comments on the Draft Environmental Impact Statement (EIS) for the proposed Kihei-Upcountry Maui Highway project.

For your information, we have identified the "U1, K1" alignment as the preferred alternative for this project. For the "U1, K1" alignment, the Upcountry terminus would be at the Haleakala Highway/Haliimaile Road intersection, and the Kihei terminus would be at the Piilani Highway/Kaonoulu Street intersection. The selection of the "U1, K1" alignment is based on our evaluation of transportation benefits (e.g., travel time savings, travel market served), prior community planning studies, environmental and social impacts, construction costs, and comments generated through an extensive public involvement process.

The project's Final EIS has been approved, and consequently, we anticipate that its design stage will soon be initiated.

Again, we deeply appreciate your interest and participation in this project. If you have any questions, please contact Wayne Kawahara, Highways Division, Planning Branch, at (808) 587-6357, or you can contact him using Maui's toll-free voice access number 984-2400, extension 7-6357.

Very truly yours,

Brian K. Minaai

BRIAN K. MINAAI
Director of Transportation

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

September 15, 1999

Civil Works Technical Branch

Mr. Abraham Wong
Federal Highway Administration
P.O. Box 50206
Honolulu Hawaii 96850

Dear Mr. Wong:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the Kihei Upcountry Maui Highway, Kihei, Maui (TMK 2-2-2: 1, 3, 4, 15-17, 54, 114; 2-3-2: 7, 8, 16-18, 75, 113; 2-3-7: 8; 2-3-8: 3-5, 28; 2-3-9: 15, 28-32; 2-3-11: 1; 2-3-32: 16; 2-5-1: 1-3,9; 2-5-2: 1, 2, 5; and, 3-9-1: 16). We do not have any additional comments to offer beyond those previously provided in our letter dated April 1, 1998.

Sincerely,

Steven Yamamoto

Steve Yamamoto, P.E.
Acting Chief, Civil Works
Technical Branch

Copy Furnished:

Mr. Warren Unemori
Warren S. Unemori Engineering
2145 Wells Street, Suite 403
Wailuku, Maui, Hawaii 96793

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AUG 30 1999
HAWAII DIVISION

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

LETTER NO. (P)1604.9

AUG 27 1999

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Wong:

Subject: Kihei-Upcountry Maui Highway
Draft Environmental Impact Statement

Thank you for the opportunity to review the subject document. The proposed project will have no impact on our facilities. Therefore, we have no comments to offer.

Should you have any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

GORDON MATSUOKA
Public Works Administrator

RY:mo
c: Governor's Office
Warren S. Unemori

UG 61 Au

BENJAMIN J. CAYETANO
GOVERNOR

PAUL G. LeMAHIEU, Ph.D.
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

August 25, 1999

Mr. Abraham Wong
Federal Highway Administration
300 Ala Moana Boulevard
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Wong:

Subject: Kihei-Upcountry Highway Draft EIS

The Department of Education has no comment on the subject draft environmental impact statement.

Thank you for the opportunity to respond.

Very truly yours,

Paul G. LeMahieu, Ph.D.
Superintendent of Education

PLeM:hy

cc: A. Suga, OBS
G. Gill, OEQC
W. Unemori, Warren S. Unemori Engineering, Inc.

HWY/ 3434

September 17,1999

Dear Sir;

I am writing to you to express my approval and support of your planned Kihei-Upcpuontry Highway Project. It seems to me the best route would be K-2 / U-3.

Thank you for your kind consideration.

Sincerely,

Mark Peterson

Mark C. Peterson
2737 S. kihei Rd. #201
Kihei, HI 96753
(808)879-8988

Hwy 3435

DIRECTOR'S OFFICE
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HIGHWAYS DIVISION

MAUI HOTEL ASSOCIATION

September 15, 1999

1727 Wili Pa Loop, Suite B • Wailuku, Maui, Hawai'i 96793 • Phone (808) 244-8625 • Fax (808) 244-3094

SEP 21 11 05 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH
STATE DEPARTMENT
OF TRANSPORTATION

Mr. Kazu Hayashida
Director, Department of Transportation
State of Hawaii
Punchbowl Street
Honolulu, HI 96813

RE: Upcountry Highway....Position is for support

Aloha Mr. Hayashida,

The Maui Hotel Association represents approximately 37 properties and 120 businesses on the island of Maui. That translates to some 12,000 plus employees. Those employees use Maui's roads everyday to travel from their place of residence to their place of work. As you might conclude improvements are always looked upon as a blessing to those who spend time on our roads.

Due to the planning and geography of our island, resorts reside in and around the ocean areas and our employees live inland. Consequently, we have a large cluster of employees living in the "upcountry", Paia, Makawao & Pukalani areas who work down in the resort areas of Kihei, Wailea, Kaanapali and Kapalua. Therefore as you would imagine any additional roadway to split the flow of traffic would meet with a great deal of support from our organization.

While we are totally supportive of "a" new roadway to assist in the flow of traffic, we have not determined a preference for any particular site or corridor. We believe there are pros and cons to all suggested routes and our belief is that a roadway from upcountry to Kihei is definitely needed. We believe the site should benefit as many people as possible and split the traffic as much as possible. If the new roadway could be expected to handle half of the current traffic, the burden on the Haleakala Highway would be reduced and thus each roadway would be better, safer and beneficial.

Thank you for the opportunity to comment.

Sincerely,

Terryl Venci
Executive Director

Hwy 3436
9-16-99

Dear Sirs -

Regards ~~SEP 20 10 33 AM '99~~ the upcountry highway. I was on the 60 member committee formed at the beginning of this. After much thought and study of the routes - (I live upcountry between Haliimaile & Jaws trees) - I think we should consider one of two things Improve Haleakala Hwy as it should have been done originally - develop & improve Hansen road as a connector to Mokulele Kehei Hwy, (since that highway is already slated for 4 lane improvement) or put it at Haliimaile. This would make sense to funnel what will be another 1400 cars coming from the developments planned at Haliimaile and Spreckelsville. Basing this on 2 1/2 cars per family. (Husband wife, grown children) The most expensive route and hardest to build will be the two at Jaws the terrain is steep and rocky with deep gulches - Thank you for your consideration. & add traffic too close to the high school.

Respectfully,
Carol Thuro.

Carol Thuro
3134 Iolani St.
Pukalani, Hi 96768
572-7400

HWY-3400

9-27-99

Sir:

as residents of So. Kihei, we feel an upcountry highway is extremely necessary. Hurricane Lloyd proved the necessity of a second route of evacuation. Now, we have none.

As for a particular route I believe you, the experts, are able to choose the best & most cost efficient

Thanks -
David & Donna Osmond

[redacted]

DIRECTOR'S OFFICE
DEPT OF TRANSPORTATION
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Norman Rockwell – "Triple Self-Portrait"
© 1995 The Curtis Publishing Company

[redacted]

HONOLULU HI 968
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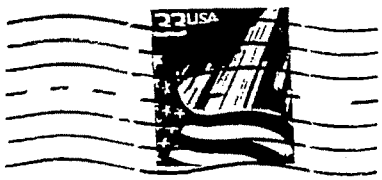
27 SEP
1999



Wayne Haraoka
Dir. of Transportation
Rm 9 Punchbowl St.

HWY-3459

745 Mililani Place
Kihei HI 96753
September 27, 1999

Kazu Hayashida
Director of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Dear Sir:

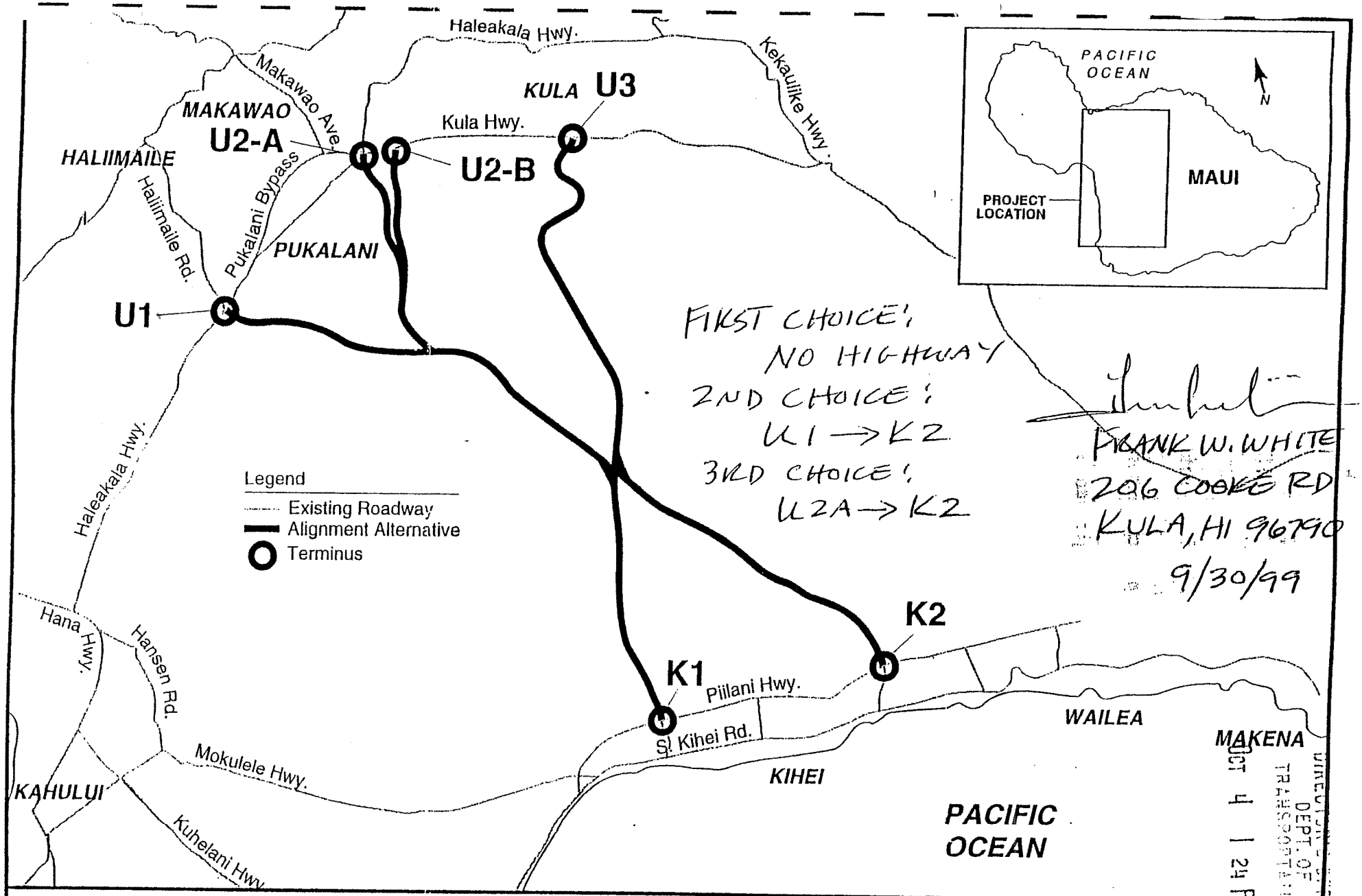
Yes we need a road linking directly Kihei to upcountry. The best route would be from K2 in south Kihei to U2 in Pukalani.

My reasons are;
1. Our community needs more alternative routes. When one goes down for some reason there is no alternative out of Kihei. South Maui becomes stranded without any exit when the North Kihei route is blocked.

2. Business and commerce and tourism will be facilitated by this route.

3. It would remove some of the congestion through Kahului for the South Maui to Upcountry traffic.

Al Williams, Kihei, Maui 879-4453



Location Map
Alternatives for Proposed Kihei-Upcountry Maui Highway
State of Hawaii - Department of Transportation - Highways Division
U.S. Department of Transportation - Federal Highway Administration

HWY 3480

HWY-3481

Charles St. Sure
575 South Kihei Road
Kihei, Maui, Hawaii 96753

30 September 1999

Kazu Hayshida
Director of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: The proposed Kihei-Upcountry Road

The following is my recommendation for which route to connect Kihei with Upcountry Maui and my reasons which are based primarily on traffic flow considerations:

The Kihei origin should be at the Ke Alii Alanui intersection (K-2)

1. The road connects to the center of the population base. The population of Kihei can get to the intersection faster - utilizing both lanes of Pi'ilani Highway to get to the intersection - saving gas, pollution, etc.

2. It would also be easier and closer for tourists staying in hotels/condos in the Kihei/Wailea area to get to the intersection.

The Upcountry origin should be at the Five Trees intersection (U-2A)

1. Traffic into/out of the Pukalani/Makawao area is bad now. The Five Trees location would be bypassing/going above this area of traffic congestion. The Haili'imaile intersection would just add to traffic congestion in the area.

2. I assume there would be turn offs from the proposed highway into Pukalani which would also alleviate traffic congestion for Pukalani area motorists.

3. The Five Trees intersection connects directly to the Upper Kula road which connects to Crater Road. This would give tourists coming from the Kihei/Wailea area, who would likely not be familiar with the roads, a straight shot directly to Haleakala.

4. Again, as with the Kihei location, motorists would be moving in three directions - Upper Kula, Lower Kula and Pukalani/Makawao - from the Five Trees intersection. From the proposed Haili'imaile intersection all traffic would be turning up to the Upper Kula, Lower Kula and Pukalani/Makawao areas.

Charles St. Sure

HWY-3508

Shepherd Veterinary Clinic
300 Ohukai Road, C-108 Kihei, HI 96753 (808) 874-9372

October 2, 1999

Kazu Hayashida
Director of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Dear Sir:

I write to comment on the proposed Kihei-Upcountry Maui Highway. I strongly support the highway and would like to see it built as soon as possible. I have no strong preferences as to the route, although as a Maui Meadows resident, K2 to U3 would be the most convenient. The factors which I think are most important are cost and the preservation of agricultural land.

Sincerely,

Diane E. Shepherd DVM

Diane E. Shepherd, DVM

MASONS UNION

Local #1 of Hawaii, IUBAC • Local #630, OP & CMIA, AFL-CIO
2251 North School Street • Honolulu, Hawaii 96819
Ph: (808) 841-0491 • Fax: (808) 847-4782

October 12, 1999

Department of Transportation Committe

Members of the Department of Transportation Committee

TESTIMONY IN SUPPORT OF THE KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT

My name is Daniel Tamura and I am here on behalf of Mr. Nolan G. Moriwaki, Business Manager/Financial Secretary, of the Hawaii Masons Unions Local #1 and Local #630, and its 3500 members and their families throughout the State.

We are in **support of the Kihei-Upcountry Maui Highway Project.**

This project plays a role in the future of Maui, its people and its economy.

For now this project will provide the much needed **JOBS** for Hawaii's workers. All of our members work, live and pay taxes in Hawaii.

The present economy is very dismal. This project will provide a **BOOST IN THE ECONOMY** through the jobs and tax revenues generated. Now is also the time to build since it is a buyers' market. The cost of building now is more advantageous for the owners. Do you remember H-3? It had an original price tag of $38 million about 30 years ago. The delays because of litigation and political banterings caused the H-3 to be one of the highest costing highways in the nation. The final price tag is over $1 billion.

Please get this project on line.

Respectfully,

Daniel Tamura
Promotional Specialist

Attn.
Kazu Hayashida

HWY 3637

NAPILI KAI BEACH RESORT

Discover The Unhurried Way of Life

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October 18, 1999

Department of Transportation
Mr. Kazu Hayashida, Director
State Department of Transportation, Highways
869 Punchbowl Street
Honolulu, Hi. 96813

Dear Mr. Hayashida:

Although I am not a resident of Kihei or the Kula here on Maui, I have lived in Lahaina for more than thirty years and have more than average appreciation of how things have changed and grown on the Island. I think that a connecting road between Kihei and Kula is essential to the continuation of smooth traffic flow on that side of the Island. Without it the growing congestion on the Kihei roads and the area of Dairy Road and Hana Highway will increase beyond their capacity to handle the load.

If you need my vote to make it happen it is yours.

Sincerely,

Jim Shefte
Vice president and
General Manager

Js

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5900 Honoapiilani Road, Lahaina, Hawaii 96761 • Telephone: (808) 669-6271 • Fax: (808) 669-5740
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HWY 3640

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300 Ohukai Rd.# C-325
Kihei, HI. 96753

Mailing Address:
2495 South Kihei Road #321
Kihei, HI 96753–8625

Donald E.(Swanie) Swanson
Broker/ Owner- R, ABR

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10-15-99

Mr. Kazu Hayashida-Dir. Transportation
DOT,Hwy. Div.
869 Punchbowl St.
Honolulu, HI. 96813

Dear Mr. Hayashida:

As you can see I am a real estate Broker in Kihei and a 20 year property owner here as well. I am writing to you to OPPOSE ANY road linking upcountry with Kihei. We will live to regret ANY such link as we would add yet another nail in Maui's tourist base economy. Visitors and new residents DO NOT relocate to Maui because of the road system.

Let's do as much as we can to SAVE what is left. To spend millions for an unwanted and un needed road would be a huge waste of taxpayers money. On the same subject forget about lengthening the runway as well. The State should listen to the people paying the bills and get the message before it's too late.

Very truly yours, Don Swanson

cc: Maui News

HWY 3654

Kazu Hayashida, Director of Transportation
DOT, Highways Division
869 Punchbowl Street
Honolulu 96813

SUBJECT: Kihei-Upcountry highway, Maui

Please add our names to your register of citizens who support approval of this highway. Our preference is for the Upcountry route to be to Omaopia.

We believe this highway will service local people who work in one part of the island and reside in another. Also, we see it as a important to the local economy by benefiting the development of our high-tech industry and encouraging tourism.

This additional route will help create safer driving conditions for all travelers on our island.

Aloha,

Bessie + David Krause

Bessie & David Krause
284 Waipoli Road
Kula, HI 96790-9430

October 16, 1999

HWY 36 55

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 19 3 09 PM '99

Malcolm Lee Dodson
1608 North Alaniu Place
Kihei, Hawaii 96753

Phone (808) 879-2675 • Email: ldodson@aloha.net

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OCT 19 3 48 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

October 14, 1999

Mr. Kazu Hayashida
Director of Transportation
DOT, Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Testimony Regarding the Draft EIS for the Upcountry/Kihei Maui Highway Project

I am submitting this testimony in support of the Draft EIS relating to the construction of the Upcountry/Kihei Highway Project and the proposed routing designated as U3-K1. This option takes the highway from Kula Highway, at a location known as Pulehu Gulch, a short distance from the Pulehu Road/Kula Highway intersection to Kaonoulu Street in Kihei.

I believe that the Draft EIS adequately addresses the environment impacts of the U3-K1 proposed routing and provides for all necessary mitigating measures to reduce any negative impacts caused by the project. The U3-K1 routing imposes the lowest degree of environmental impact and is the most economical alternative of the various proposed routing alternatives.

There is an increasing need in the Kihei-Makena area for an alternate coastal evacuation route in the event of hazards such as tsunami, tropical storms, and fire. The U3-K1 route would also improve Maui's roadway system and reduce travel time up to 50 percent. The Upcountry/Kihei Highway would also support Maui's visitor industry and result in a positive economic impact for the people of Maui County.

The environmental review process should move forward to a positive conclusion and acceptance by federal, state and county authorities. Efforts to secure funding appropriations for this project should be expedited and construction of the U3-K1 route should commence as soon as possible. The alternative of not constructing the Upcountry/Kihei Highway Project will result in far greater environmental, social, and economic impacts to the people of this County.

Thank you,

Malcolm L. Dodson

MALCOLM L. DODSON

HIGHWAYS DIVISION
PLANNING BRANCH

OCT 21 11 41 AM '99

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STATE DEPARTMENT
OF TRANSPORTATION

HWY 3656

Dear Mr.Kazu Hayshida,

I, Jennifer Cappe, a resident of Kula, Maui oppose the Upcountry/Kihei Highway. If an Upcountry/Kihei road is to be built, I would like to make the Haliimaile terminus as the best option available.

Sincerely,
Jennifer K. Cappe

Jennifer K. Cappe 10/18/90

Dear Mr.Kazu Hayshida,

I, Leonard Cappe, a resident of Kula, Maui oppose the Upcountry/Kihei Highway. If an Upcountry/Kihei road is to be built, I would like to make the Haliimaile terminus as the best option available.

Sincerely,
Leonard S. Cappe

10/17/99

Dear Mr.Kazu Hayshida,

I, Katharine Cappe, a resident of Kula, Maui oppose the Upcountry/Kihei Highway. If an Upcountry/Kihei road is to be built, I would like to make the Haliimaile terminus as the best option available.

Sincerely,
Katharine G. Cappe

Katharine G. Cappe 10/18/99

HWY 3657

October 18, 1999

Mr. Kazu Hayashida, Director of Transportation
State Department of Transportation - Highways Division
869 Punchbowl St.
Honolulu, Hawaii 96813

Mr. Hayashida,

I submit the following as written testimony in regard to the subject Kihei-Upcountry Highway. My name is Steven P. Newhouse, I live in Keokea, Maui, at the Keokea Farm Lots Phase I, (DHHL) and have done so for the last five plus years. I also lived in Makawao for the previous 15 years. I have witnessed the changes in traffic patterns, the increase in fatal as well as non fatal auto accidents, and the changes in attitudes of the driving public.

In 1978 when I first moved to Maui from Oahu, I worked at the Kahului Airport for Air Cargo Enterprises. My shift started at 5 p.m. and ended at 6 a.m., when I left for work from Makawao, I would count the vehicles going up the "Hill" on less than 2 hands. Likewise, in the morning I could see from the airport, and while driving home, count the vehicles coming down the "Hill". I imagine that if ADT counts exist, they would indicate that the daily traffic count has been multiplied, several times over. Haleakala Highway needs 4 lanes, with jersey barriers protecting a median strip.

Every year without fail, lives are lost on Haleakala Highway. The causes vary, but when it happens every year, at what point does something have to be done? Those in the community who oppose even the widening of Haleakala Highway with a inclusion of a median undoublably are not bothered by this. I wonder what do they think, maybe addition lanes or a new highway might be the answer. My question is how long must it continue, how many more lives?

In the last 4 years I have noticed a marked increase in ;the "road rage" incidents, and the growing trend of drivers who do not pay attention to pavement markings, signs, signals, and various traffic laws. Courtesy is all but fogotten on Maui's Highways.

All of these subjects directly relate to a new highway linking Kihei with the upcountry area. The proposed new highway would definitely reduce the ADT on Haleakala Hwy., more than likely also reduce fatalities. I believe that the road rage, which is a growing trend, can attributed to in part to the high volume of traffic encountered at peak travel times.

At public meeting last year I remember a resident of Kula, who explained that he worked in Wailea at a resort, and didn't mind the drive through Central Maui. This does not make economic, or ecological sense. Not to mention the time involved. When my daughter has to dance at the resorts in Wailea for a luau show, we have to drive through central Maui to Wailea, which is less than 7 miles away, and can be seen clearly from our home. If we want to go to the beach, or fishing again drive through central. Any road option which would result in lowering my costs of commuting any where I travel, has my endorsement. I can save gasoline, tires, maintenance, repairs, and most of all time. This would allow for more time to do the things I want to do.

I understand that many people don't want a new "highway", I wonder how many of them have economic ties to the monies which would be infused into the economy of Maui? I have worked in the heavy construction industry on the contracting side, and now with Maui County DPWWW-Engineering Division. While working for several general contractors we had to endure "bad times", when construction was slow, and enjoyed the prosperity of "good times". If asked which proposal I would like, my answer is simple, the one that brings more money into the economy, and if possible has a spur which terminates in our ag subdivision.

I have also noticed it seems as if some individuals who "have a piece of the rock" want to keep it status quo. While reading the Maui News last week, I noticed a comment made by a business owner in Kula. He stated that he bought his property in Kula because it was rural and didn't want to see a new highway. While he may have his piece of the rock, most other average people do not, and are working very hard to buy their piece of the rock. Any reduction in costs effects not only myself and my family, but a great number of the members of our community.

I can remember when I was an apprentice operating engineer, if I had worked in anything but construction, my family would not have been able to enjoy vacations, off island trips, Disney Land, and I would have to worry about keeping my vehicle's running, and not being able to afford a home of our own. Construction allowed me to build a home in Keokea, on Hawaiian Homelands. We cannot continue to burn what seems to be unlimited amounts of fuel, oil, rubber, and money when the issue can be solved with a new highway.

Progress is inevitable, but with planning, and good design work, it can offer the community many assets which would not be derived if the highway were not built. This not only about me and my "piece of the rock", but about the pieces of the rock for the generations to come. I hope to see this highway built, a new bypass of Honoapiilani Hwy, (Lahaina), and continuation of Piilani Hwy. (Wailea) to Ulupalakua.

As I see it, you can't beat the price. Build it, build it now, prices in general never go down, instead they go up. Let's not waste any more time, or taxpayer dollars.

sincerely,

Steven P. Newhouse

Steven P. Newhouse
P.O. Box 748
Kula, Hawaii 96790

res: (808) 876-0067
office: (808) 270-7438

HW1-

Aloha Kaya Hayashida, 10/14/99

I have lived in Kula for twenty five years. I do not want the Kihei-Upcountry road built. We don't need it and the negative impact on upcountry will be dramatic.

Sincerely,

Lalla Crowell
P.O. Box 653
Kula, HI 96790

HWY 3743

HAWAII'S
PREMIERE
MORTGAGE COMPANY
Maui Research & Technology Center • 535 Lipoa Parkway, Suite 101 Kihei, Hawaii 96753

October 19, 1999

Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

I am writing this letter to state that I am opposed to the construction of the proposed Kihei-Upcountry Maui Highway.

I have reviewed each alternative route and evaluated the pros and cons each choice would entail.

Considering the agricultural, environmental and archaeological impact this project would create, compared with the benefits it would offer, I feel the costs are too great.

After much deliberation, I must state my opinion as follows:

"No Build."

Sincerely,

Tricia Morris

Tricia Morris
President

Tel: (808)874-8800 Fax: (808)874-1188
E-mail: premiere@aloha.net

HWY3744

HAWAII'S
PREMIERE
MORTGAGE COMPANY
Maui Research & Technology Center • 535 Lipoa Parkway, Suite 101 Kihei, Hawaii 96753

October 19, 1999

Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Mr. Hayashida,

This letter is regarding the proposed Highway construction project.

I have reviewed each alternative route and evaluated the pros and cons each choice would entail. Considering the agricultural, environmental and archaeological impact this project would create, compared with the benefits offered.

I am opposed to the construction of an Kihei-Upcountry Maui Highway.

Sincerely,

Duffy Herman
Chairman

Tel: (808)874-8800 Fax: (808)874-1188
E-mail: premiere@aloha.net

HWY 3920

1299 Uluniu Rd. B201
Kihei, Hi. 96753
October 24, 1999

Kazu Hayashida
Director
State Department of Transportation Highways Division

Dear Mr. Hayashida,

I am very interested in having another means of exiting from this area. When I first came to visit my friends who lived in Makena in either '75 or '76 I remember talking about an article thet had appeared in the Maui News. It mentioned the desire expressed by the Intercontinental and Stoufers to have a road that would cut across the cane fields to the airport. Years later Piilani Highway was built.

I think a road from KIhei to up-country is wrong. It will not serve the greatest need. If the road were to go to the Haleakala Highway somewhere near Haliimaile it would serve several functions. The people wanting to go up-country could turn right, and those wanting to go to the airport or Kahalui could turn left. Perhaps the road could biscect closer to the Hana Highway. We need another exit out of this area. Those people years ago had the right idea. Go with it.

I understand that the money for this road has been allocated. Why not use it. Make it two lane with some passing lanes as they have on many of the road in California where cost does not permit a divided four lane road.

Mahalo,

Hildegard Abramson

Hildegard Abramson

HWY 3923

Maui Economic Development Board, Inc.

KIHEI-UPCOUNTRY MAUI HIGHWAY SURVEY

The Maui Economic Development Board, Inc. is collecting information on your perspective on the proposed Kihei-Upcountry Maui Highway. Please assist us by providing the information requested below. Comments and/or suggestions may be submitted on the lines provided below:

I LIVE IN:

☑ Makawao	☐ Pukalani	☐ Lower Kula	☐ Upper Kula
☐ Paia	☐ Haiku	☐ Maalaea	☐ Olinda
☐ Kihei	☐ Makena	☐ Wailea	
☐ West Maui	☐ Central Maui	☐ Other _____	

I WORK IN:

☑ Makawao	☐ Pukalani	☐ Lower Kula	☐ Upper Kula
☐ Paia	☐ Haiku	☐ Maalaea	☐ Olinda
☐ Kihei	☐ Makena	☐ Wailea	
☐ West Maui	☐ Central Maui	☐ Other _____	

PLEASE CHECK ONE: SINCE THE STATE HAS ALREADY PLANNED TO 4 LANE HALEAKALA HWY) MOKULELE/PUUNENE) + PIILANI HWY ALL YOU NEED IS A NEW BYPASS TO AUGMENT HANSEN RD. JUST PAST

☐ I Support The Highway ☑ I Do Not Support The Highway ☐ It Doesn't Matter To Me

IAO VALLEY TO HANA HWY OR FROM MOKULELE TO HALEAKALA BEHIND OHCS WILL HI CENTER THAN TRAVEL TIME WOULD ONLY BE 5 MIN LONGER THAN PROPOSED HWY.

The State DOT will hold a third public hearing on the proposed Kihei-Upcountry Maui Highway project at Kahului School, 410 South Hina Avenue, on October 13, 1999, between the hours of 6:30 p.m. and 9:30 p.m. The purpose of this meeting is to inform the public of the alternatives being considered and to receive evidence and testimony relating to this Kihei-Upcountry Maui Highway project. A panel of DOT officials and project consultants will convene at 7:00 p.m. to answer questions and accept testimony. Interested parties will be heard, particularly with reference to the social, economic and environmental effects, relocation assistance program, and the tentative schedule will be available at this public hearing. Parties not attending the public testimony may submit their written testimonies and comments on the Draft EIS by October 28, 1999 to:

Mr. Kazu Hayashida – Director of Transportation
State Department of Transportation – Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

PLEASE RETURN YOUR COMPLETED SURVEY TO THE OFFICE OF ECONOMIC DEVELOPMENT ON THE 6TH FLOOR OF THE COUNTY BUILDING BY FRIDAY, OCTOBER 22ND. THANK YOU VERY MUCH.

PERRY KUNIN
572-6377

590 Lipoa Parkway, Suite 103 • Kihei, Maui, Hawaii 96753 • (808) 875-2300 • (808) 879-0011 • Info@medb.org

HW 3925

October 21 1999

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Subject: Upcountry/Kihei Highway

Aloha,

Go ahead and build the road. Go ahead and make the road. Then each member of the final approval committee will be able to look at themselves in the mirror each morning and will be able to say WOW that was a great decision. I was part of a wonderful decision.

From Kula most any new road into Kihei/Wailea would certainly save about 15 minutes driving time. Would those same people who are concerned about the 15 minutes arrive to work any earlier? Would those same people still drive too fast. Would those same people still be the people who are constantly tailgating? Now, perhaps the extra few minutes would save fuel? Now that question would certainly be fuel for thought. Now would this potential new road disrupt people's lives? Would the new road disrupt the plant & animal life? Would the proposed new highway be beautiful and help shape Maui's landscape?

Anyone that has moved here to Maui from the mainland should ask themselves, why did I/we move here? Was the reason the traffic? Or was the reason too much smog? Or perhaps the reason was all of those highways? Or perhaps it was all of that extra blacktop & concrete? Billboards? 4-lane highways? Anyone that was born & raised here should ask themselves those same questions.

Maui does not need this proposed highway. What we do need is more consideration of others. We all put our pants on the same way and we are all going to die. We are all brothers & sisters. We really just need to be nicer to one another and stop being so greedy.

Thank you for your time,

Mahalo,
Michael Cannon

Michael Cannon
115-A Ainakula Road
Kula, HI 96790
Work # 875-0770 x 201

HWY 3927

Gary S. Elster
145 N. Kihei Rd #527
Kihei, HI 96753
Phone (808)879-0564
fax (808)874-5835
gse@sprynet.com

October 8, 1999

Abraham Wong
Federal Highway Administration
PO Box 50206
300 Ala Moana Blvd
Honolulu, HI 96850

Re: Upcountry Road-Maui

Dear Mr. Wong:

I am a resident of South Maui. I am opposed to any of the alternatives proposed for the Upcountry roads. Your funds should first be spent on improving our existing roads before any new ones are even considered.

Very truly yours,

Gary S. Elster

HWY 3954

MAUI ECONOMIC DEVELOPMENT BOARD, INC.

October 28, 1999

Mr. Kazu Hayashida
Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida,

PUBLIC COMMENT
Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

As you are aware of, the Maui Economic Development Board, Inc. (MEDB) has been working to facilitate the Kihei-Upcountry Maui Highway (Highway) being built. At the June 21, 1999 MEDB Board of Directors meeting, the Board adopted the following Resolution for the Kihei Upcountry Island Road:

"Be it resolved that the MEDB Board of Directors supports the construction and completion of the Kihei Upcountry Island Road and urges the Federal Highways Division and the State Department of Transportation to expedite their efforts to complete the highway which is vital to the development of the high tech industry and to the economic health of the island of Maui."

The Kihei-Upcountry link is very important to the local economy. Not only will it help tourists get around the island, it will help the workers who support that industry. As importantly, the Highway will also support the growth of the high tech industry on Maui, particularly on Haleakala, by providing direct access to the complementary activities at the Maui Research and Technology Park.

Our work on the Highway included conducting surveys, the results of which we would like to share with you. In August/September 1999, we surveyed the employees of the Maui Hotel Association member and allied properties. Attachment #1 is a sample of MEDB survey #1. The results and analysis of MEDB survey #1 is shown below (actual surveys are on file at MEDB for inspection):

590 Lipoa Parkway, Suite 103 • Kihei, Maui, Hawaii 96753 • (808) 875-2300 • FAX (808) 879-0011 • info@medb.org

- **I LIVE IN:** – 945 responses
  - 40.0% in South Maui
  - 25.5% in Central Maui
  - 19.6% in Upcountry Maui
  - 14.0% in West Maui, North Maui and other areas

- **I WORK IN:** – 951 responses
  - 64.4% in South Maui
  - 19.8% in West Maui
  - 11.5% in Central Maui
  - 4.4% in Upcountry Maui, North Maui and other areas

- **KIHEI – THE PROPOSED ISLAND ROAD SHOULD START AT:** – 842 responses
  - 59.7% the K2 terminus
  - 40.3% the K1 terminus

- **KIHEI – THE PROPOSED ISLAND ROAD SHOULD START AT:** – 786 responses
  - 27.0% the U1 terminus
  - 23.9% the U2-A terminus
  - 25.3% the U2-B terminus
  - 23.8% the U3 terminus

While there is no consensus from this survey on the termini, the results indicate overwhelming support for the Highway. Those who added comments expressed a clear cry for relief in regard to their long travels from both Upcountry to West and South Maui.

Another survey conducted by MEDB in September/October 1999 of the employees of the County of Maui, the Maui Technology and Research Park, and local businesses again recorded an overwhelming support of the Kihei-Upcountry Maui Highway. Attachment #2 is a copy of MEDB survey #1. The results and analysis of MEDB survey #2 is shown below (actual surveys are on file at MEDB for inspection):

- **I LIVE IN:** – 477 responses
  - 35.0% in Upcountry Maui
  - 33.8% in Central Maui
  - 17.8% in South Maui
  - 8.8% in North Maui
  - 2.9% in West Maui
  - 1.7% in multiple areas on the island and other areas

- **I WORK IN:** – 477 responses
  - 55.6% in Central Maui
  - 19.3% in South Maui
  - 10.3% in multiple areas on the island and other areas
  - 5.9% in West Maui
  - 5.2% in North Maui
  - 3.8% in Upcountry Maui

- 83.2% support the Highway
  6.9% do not support the Highway
  7.5% doesn't matter
  (2.3% did not respond)

We hope this information will be helpful in your decision making. We again urge you to move as quickly as possible toward completion of the Highway.

Sincerely,

Jeanne Unemori Skog
President & CEO

JUS:dk

Maui Economic Development Board, Inc.

KIHEI-UPCOUNTRY ISLAND ROAD SURVEY

The Federal Government, the State of Hawaii, and the County of Maui are working together on the design and funding of a proposed new island road between the Kihei and Upcountry areas. We are collecting information to find out what is most important to you in terms of where the proposed island road might be located. Please assist us by providing the information requested below. You may also make any comments or suggestions on the lines provided below.

I LIVE IN:

☐ **Makawao**	☐ **Pukalani**	☐ **Lower Kula**	☐ **Upper Kula**	☐ **Olinda**
☐ **Kihei**	☐ **Makena**	☐ **Wailea**	☐ **Paia**	☐ **Haiku**
☐ **Maalaea**	☐ **West Maui**	☐ **Central Maui**	☐ **Other** _____	

I WORK IN:

☐ **Makawao**	☐ **Pukalani**	☐ **Lower Kula**	☐ **Upper Kula**	☐ **Olinda**
☐ **Kihei**	☐ **Makena**	☐ **Wailea**	☐ **Paia**	☐ **Haiku**
☐ **Maalaea**	☐ **West Maui**	☐ **Central Maui**	☐ **Other** _____	

KIHEI – THE PROPOSED ISLAND ROAD SHOULD START AT:

☐ **North Kihei**
- **located midway between the Maui Research & Technology Park and Ohukai Street at the Piilani Highway and Ka Ono Ulu Street intersection.**

☐ **South Kihei**
- **located below the Kihei Wastewater Treatment Plant at the Piilani Highway and Ke Ali'i Alanui Street intersection.**

UPCOUNTRY – THE PROPOSED ISLAND ROAD SHOULD START AT:

☐ **Haliimaile**
- **intersects Haleakala Highway near the Haliimaile Road intersection.**

☐ **Five Trees**
- **located below King Kekaulike High School at the existing traffic signal.**

☐ **Kulamalu**
- **located above King Kekaulike High School near the Kula 200 development.**

☐ **Pulehu**
- **located approximately one-half mile north of the Pulehu Road intersection.**

MY COMMENTS/SUGGESTIONS ABOUT THE PROPOSED ISLAND ROAD ARE:

_____

_____

_____

590 Lipoa Parkway, Suite 103 • Kihei, Maui, Hawaii 96753 • (808) 875-2300 • (808) 879-0011 • Info@medb.org

ATTACHMENT #1 - MEDB SURVEY #1

Maui Economic Development Board, Inc.

KIHEI-UPCOUNTRY MAUI HIGHWAY SURVEY

I LIVE IN:

☐ Makawao	☐ Pukalani	☐ Lower Kula	☐ Upper Kula
☐ Paia	☐ Haiku	☐ Maalaea	☐ Olinda
☐ Kihei	☐ Makena	☐ Wailea	
☐ West Maui	☐ Central Maui	☐ Other _____	

I WORK IN:

☐ Makawao	☐ Pukalani	☐ Lower Kula	☐ Upper Kula
☐ Paia	☐ Haiku	☐ Maalaea	☐ Olinda
☐ Kihei	☐ Makena	☐ Wailea	
☐ West Maui	☐ Central Maui	☐ Other _____	

PLEASE CHECK ONE:

☐ I Support The Highway ☐ I Do Not Support The Highway ☐ It Doesn't Matter To Me

The Department of Transportation has provided the following important public hearing dates:

September 29, 1999 - Kihei Community Complex and Aquatics Center at 7:00 p.m. – "Open House" Format
September 30, 1999 - Mayor Hannibal Tavares Community Center at 7:00 p.m. – "Open House" Format
October 13, 1999 - Kahului School at 7:00 p.m. – "Open House" & Conventional Format
October 28, 1999 - Public comment deadline

Send written comments to: Mr. Kazu Hayashida – Director of Transportation
State Department of Transportation – Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Thank you very much for your participation.

590 Lipoa Parkway, Suite 103 • Kihei, Maui, Hawaii 96753 • (808) 875-2300 • (808) 879-0011 • Info@medb.org

ATTACHMENT #2 - MEDB SURVEY #2

Hwy 3961

Debbie K. Anthony
2656 Keikilani Street
Pukalani, HI 96768

October 27, 1999

Mr. Kazu Hayashida
Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

RE: Proposed Kihei-Upcountry Maui Highway project

Dear Mr. Hayashida:

In reference to the above project, I feel that this highway should not be built. As stated in the draft Environmental Impact Statement, the roads along the route from Kihei to Upcountry will be widened to four-lanes. These improvements to the existing roads would lessen the congestion presently encountered during morning and afternoon "rush hour" traffic, as well as provide motorists the ability to pass slower moving traffic that are presently causing the traffic to back-up.

As a life-long resident of Maui, I would rather spend the few extra minutes traveling on the existing route than have more roads built.

Sincerely,

Debbie K. Anthony

Debbie K. Anthony

September 23,
1999 -

State of Hawaii
Dept. of Transportation
869 Punchbowl St.
Honolulu, HI
96813

SEP 27 11 33 AM '99
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Dear People of Maui:

We have hoping 50 years or more to Kihei - Upcountry Maui Highway Project

Maps looks good -

Im not to the 29+30th meetings but my sons - I hope the meetings

Aloha
Olive L Cole

Mrs. Olive Cole
3300 Wailea Alanui Dr Apt 13c
Kihei HI 96753-9530

Mrs. Olive Cole
3300 Wailea Alanui Dr. Apt 13-D
Kihei, HI 96753

USA
First-Class Rate

State of Hawaii

Frances Yasuda
10/01/99 04:35 PM

To: Pericles Manthos/DOT Admin@DOT Admin
cc:
Subject: Kihei-Kula Highway

---------- Forwarded by Frances Yasuda/DOT Admin on 10/01/99 03:35 PM ----------

From: "Nick Goodness" <ngoodne1@swarthmore.edu> AT INTERNET on 10/01/99 02:16 PM

To: Kazu Hayashida
cc:
Subject: Kihei-Kula Highway

Mr. Hayashida:

Altough I am a currently attending college in Philiadelphia,
I would like to express my strong concern over the building
of the Kihei-Kula Highway.
I have called Maui home for my entire life, minus
my stay at Kamehameha and here, in college, and intend
on returning after to spend my life. I enjoy
many of the things that Maui has to offer that
the mainland cannot offer,
including the absence of ubarn sprawl. If the highway
is built, much of upcountry will lose the
quailities that make it unique. An endless potential
for urbanizing in this beautiful and prestine area
of Maui is startling. With the development comes
the problems of infastructure, which has not
been planned for, not to mention the constant
water shortage. Please don't build the Highway,
it will ruin far beyond what it could ever hope to give.

Sincerely,

Nicholas Goodness '03
Swarthmore College
500 College Ave.
Swarthmore, PA 19081

- RFC822.txt

Date: Fri, 08 Oct 1999 09:47:01 -1000
From: "Eric Taniguchi" <EricT@gbimaui.com>
Subject: kihei/upcountry highway
Mime-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: quoted-printable
Content-Disposition: inline

i live in pukalani and i work in kihei, i support the highway. this highway will most likely benefit upcountry residents more than kihei residents. there are more employment opportunities in kihei and easier access to kihei beaches from up country would also be nice. the tourist from wailea/kihei/makena would use the highway to visit haleakala, this would help to alleviate some of the traffic on mokulele and that conjested intersection at dairy road and hana highway. i also support the connection through kula malu, though it is one of the more expensive routes, the other connections don't make sense to me. the connection past the kula post office, this one doesn't make sense at all, most of the population of upcountry is concentrated in pukalani/makawao, i would continue to use the by-pass and mokulele to get to work, plus this connection would most affect the charcter of kula. the hali'imaile conection continues to add traffic to haleakala hwy, it also traverses prime ag. lands, and access coming down the mountain will induce a overhead/underway connection or traffic light, we don't need that.the five trees conection will stop the old haleakala highway and reroute to the by-pass, this idea seems weak, leave the road as is, also putting the intersection there will only confuse the tourist and we will have another hana hwy/dairy road situation. the kula malu conection seems the most appropriate alternative. it is close enough to the major population of upcountry, yet far enough away from the five tree intersection and most importantly leaves intact the character of kula going to ulupalakua. the conection in kihei is a differant story, my wife works in makena so naturally she likes the connection near the kamalii elementry school, i work in north kihei so i would like it near the ka ono ulu intersection. actually i would use any of them and she would too. thank you for allowing me to express my feelings about this matter.
aloha and mahalo

HWY 3495

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Eric S. Taniguchi
Address: 273 Hiwalani Loop
Pukalani HI 96768

Telephone (day): 874-5263
Telephone (eve): 572-8219

Please make any comments below:

My wife and I both live Upcountry and work in Kihei. We support this project, and so do alot of my neighbors. Our recommendation for the connection would be from Kulamalu (U2-B) to Ka ono ulu (K-1). Let's get busy!

HNY3470

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: DAN SCHEPER
Address: 1587 N. ALANUI PL
KIHEI, HI 96753

Telephone (day): 808-280-4802
Telephone (eve): 808-280-4802

Please make any comments below:

In my opinion the U3 – K1 route would best serve the residents of both South Maui and Up-Country Maui.

On the Kihei end the K1 termination makes the most sense because it will allow those up-country to west-end travelers a reduced travel time without causing excessive traffic in central Kihei.

For those Kihei to Up-Country travelers, K1 or K2 will make little difference.

On the Up-Country end the U3 termination best, it won't add congestion in and around the High School, yet will service all of Up-Country.

Public Comment Form

HWY 3471

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Jaimie Brown

Address: 350 Aulike St.
Lahaina, HI 96761

Telephone (day): (808) 242-5550

Telephone (eve): _____

Please make any comments below:

I am in favor of the Kihei-Upcountry Maui Highway particulary the Route U2A. I think this will improve on safety by reducing traffic up and down Haleakala Highway.

Public Comment Form Hwy 3472

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Steve Goodfellow
Address: P.O. Box 220
Kihei Hi 96753

Telephone (day): 879-5205
Telephone (eve): _____

Please make any comments below:

I prefer U2-B-K-1

I believe this route will offer the best alternative for traffic flow and convenience.

HWY-3482

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: STEVE PAWLAK
Address: 2191 S. KIHEI RD, #1417
KIHEI HI 96753

Telephone (day): 879-5205
Telephone (eve): 874-5727

Please make any comments below:

I WOULD LIKE TO SEE THE KIHEI-UPCOUNTRY HWY TO BE BUILT SOON. A GREAT LOCATION FOR THE UPCOUNTRY SECTION WOULD BE THROUGH THE KULAMALU DEVELOPMENT. REASON IS # ... THE STATE WOULD NOT HAVE TO SPEND EXTRA MONEY FOR A PORTION OF THIS HWY BECAUSE THERE ALREADY EXIST A ROAD. I WOULD LIKE TO SEE THE HIGHWAY TERMINATE AT PILANI HWY & KA'ONO'ULU ST.

HWY 3483

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Sandra Yoshimori
Address: 2862 Iwalani St.
Pukalani, HI 96768

Telephone (day):
Telephone (eve): 572-9749

Please make any comments below:

I am in favor of route:

U2-~~X~~A, K1

Reasons:

U2-~~X~~A — Infrastructure already in place - any cost (additional) would be minimal compared to starting in a "new" area.

K-1 — Destinations to & from Lahaina would be best suited for upcountry, ~~*~~ Lahaina, ~~*~~ [redacted] travelers ... accessibility ... also

HWY-3485

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Heidi Bigelow
Address: 1336 W. Kuiaha Rd.
Haiku, HI 96708

Telephone (day): (808) 874-5263
Telephone (eve): (808) 575-2089

Please make any comments below:

I live in Haiku, work in Kihei. No matter which alignment is chosen, I will not be using the new road. I will benefit from the reduced traffic along Hana Hwy, Hansen Rd., and Mokulele.

I am in favor of the U2-B/K2 alignment U2B because its the most central to Upcountry and will serve the community best. I selected K2 for two reasons – first, the central Kihei location and secondly, there is a light at that intersection. I don't want to see more lights on the Piilani 'By Pass'.

Thankyou.

HWY-.3486

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 4 1 50 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Mckaig E. Hewitt

Address: 2690 Liohola pl.
Kihei HI. 96753

Telephone (day): 879-8868

Telephone (eve): ~~_____~~

Please make any comments below:

It would be foolish to come in at Haliimaile and above. It does nothing to alleviate traffic at Pukalani and above. Part of the rd. is already built & the owner will do every thing he can to make it cheaper for the State. It serves more people and is the ideal location. Their will be less environmental disturbance. There is already urban zoning so it won't change. No need for more conservation. It also provide easy access to Kamehameha schools.

Public Comment Form

HWY 3487

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Denise GoodFellow
Address: 709 Wuhea Way
Wailuku, HI 96793
Telephone (day): 242-2700
Telephone (eve): Same

Please make any comments below:

U2-B, K2

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

HWY 3488

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 4 1 50 PM '99

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: LiAnne K. Ventura

Address: RR2 Box 377-A
Kula, HI. 96790

Telephone (day): 879-5205

Telephone (eve): 878-6317

Please make any comments below:

Being a resident of Kula for over 20 years it's all we have been hearing is that we are going to get a Kihei-Upcountry Highway. I drive to Kihei everyday to go to work & by building the highway that goes from K-2 & comes from via K-1 or K-2 will make my commute safer & quicker. So it is now it takes me 1 hour to get one — with the new highway in place on these points it would take me only 30 minutes. Thank you for your time —

HW 9 3484

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 4 1 49 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: John Mercer

Address: 126 Waikai St
Kihei HI 96753

Telephone (day): 808-879-5205

Telephone (eve): 808-874-6741

Please make any comments below:

PREFERED ROUTE - "K2 - U2-B"

Kihei Benefit:

1) Relieve Traffic Congestion IN Center of Kihei/Wailea Areas, i.e. Traffic going up Country will Be relieved from Piilani Hwy faster

2) IN Case of emergency K2 is located IN the Center of population

Up Country Benefit:

1) U2-B location has infrastructure to accept the Termination point better than others

2) U2-B location vs a Centered location for relief of up Country. i.e. Traffic going to Kihei won't have to go through pukalani OR the pukalani By Pass or the 5 trees

HWY 3490

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Marlayna Bega
Address: P.O. Box 220
Kihei HI 96753

Telephone (day): (808) 874-5263
Telephone (eve): (808) 879-0520 unlisted

Please make any comments below:

I AM IN FAVOR OF THE FOLLOWING ROUTES:

U2B and K1

Public Comment Form

HWY 3491

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Lucia Gouveia
Address: P. O. Box 95
Makawao, HI 96768

Telephone (day): 875 4589
Telephone (eve): 572 6232

Please make any comments below: prefer:

#6 UZ-B, K1

HWY-3492

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Tom Hoen

Address: 28 Hale MaKoi Place
Lahaina, Hi 96761

Telephone (day): 283-0225

Telephone (eve): 669-5163

Please make any comments below:

I support the alignment of U2-B - K-1 as I believe it would be the most effective traffic pattern and also be least intrusive to the existing Landscape & developments.

Thank You

Public Comment Form

HWY 3493

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Ronald Acoyan

Address: 2291 Baldwin Ave
Makawao, Hi, 96768

Telephone (day): 875-4589

Telephone (eve): 579-8514

Please make any comments below: As an up country resident working in kihei,
I recomend #6. U2-B-K1

Public Comment Form

HWY. 3494

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Claudia Goodfellow

Address: 165 W. Ikea Makai Pl.
Kihei HI.
96753

Telephone (day): 879 9021

Telephone (eve): _____

Please make any comments below:

U2B - K1 is my choice -

Public Comment Form

HWY 3496

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 4 1 47 PM '99

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JACK ANDERSON

Address: WAILEA FAIRWAY VILLAS #C-101
3950 KAIAI WAA ST
KIHEI, HI 96753

Telephone (day): _____

Telephone (eve): 808 / 891-8732

Please make any comments below:

I PREFER THE UZB - K1 ALIGNMENT

HWY 3497
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
OCT 4 1 47 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ALVIN M. YOSHIMORI

Address: 2862 IWALANI ST.
PUKALANI HI 96768

Telephone (day): 242-4666

Telephone (eve): 572-9749

Please make any comments below:

SEPT. 30, 1999.

I ATTENDED THE INFORMATION HEARING @ PUKALANI COMMUNITY CENTER & FOUND IT TO BE VERY INFORMATIVE AND WELL PRESENTED.

I AM IN FAVOR OF ALIGNMENT U2-A K-1.

THE REASONS FOR MY SELECTION ARE AS FOLLOWS

1. K-1 OFFERS LAHAINA TRAVELLERS A MORE DIRECT ROUTE THAN K-2.
2. K-2 REQUIRES 3 ADDITIONAL BRIDGES ∴ MORE COSTLY.
3. U2-A CONNECTS DIRECTLY TO HALEAKALA HIGHWAY ∴ DIRECT ACCESS.
4. U2-A K-1 WILL OFFER US A SCENIC DRIVE TO KIHEI, NOT LIKE MOKULELE.

HWY 3498

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CHARLTON OLIVEIRA
Address: 320 OLOKANI ST.
MAKAWAO, HI 96768

Telephone (day):
Telephone (eve): 572-9416

Please make any comments below:

I PREFER THE U2-A, K1 ROUTE BECAUSE OF THE FOLLOWING:

1) MAKAWAO - PUKALANI IS THE UPCOUNTRY POPULATION CENTER, THE U2-A CONNECTION WOULD SPLIT THE TRAFFIC. THE U1 CON. WOULD FORCE ALL THE TRAFFIC DOWN THE PUKALANI BYPASS UNTIL HALIIMAILE.

2) PROVIDES BETTER ACCESS FOR TOURIST AND HIGH-TECH WORKERS TRAVELING TO HALEAKALA.

4) THE K1 CONNECTION PROVIDES BETTER ACCESS TO WEST MAUI.

5) REASONABLY PRICED (OUR TAX DOLLARS).

HWY 3499

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: TED FRITZEN
Address: 32 UAKOKO PL
HAIKU HI 96708

Telephone (day): 808-875-4589
Telephone (eve): 808-573-0633

Please make any comments below:

MY CHOICE FOR THE ALIGNMENT OF THE UPCOUNTRY ROUTE IS U2B - K1.

K1 - LESS EXPENSIVE OF K CHOICES
U2B LESS DISRUPTIVE OF U CHOICES

HWY 3500

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 4 1 46 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Eddie B. Touchberry

Address: 22 Kubilani Place
Pukalani

Telephone (day): 879-5205

Telephone (eve): 573-1982

Please make any comments below: I favor K1-U2B

Haliimaile intersection defeats purpose of road. U2-A screws up the "Five Trees" intersection.

Kulamalu is the more central spot to better serve unserviced areas of upcountry--Lower Kula, Upper Kula, Pukalani, Olinda, & Makawao.

It would leave less impact on agriculture and give a direct route to Haleakala.

HWY 3501

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Janet P. Redo
Address: S.R. Box 95
Keanae, Hi. 96708

Telephone (day): 808-248-8355
Telephone (eve): 808-248-7625

Please make any comments below:

It would be a perfect project. The traffic pattern will eliminate a lot of congestion for ~~people~~ vehicles using the Haleakala Hwy. Go for it!!

HWY-3509

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Millie S. Septimo
Address: 795 Paloma Street
Wailuku, HI 96793

Telephone (day): 879-5205
Telephone (eve): 244-8225

Please make any comments below:

I believe the best alignment for the new Kihei/Upcountry Highway is 42B Kulamalu through K1 Kaonoulu.

1) It would redirect the traffic flow from Haleakala Highway and provide an alternative route for Upcountry & Kihei/Wailea residents.
2) Direct access for tourist traveling to the Haleakala Crater from Kihei/Wailea & Lahaina.
3) Emergency access in case 1 route is closed due to an accident. (The Haliimaile access will not provide an alternative route if a portion of Haleakala Highway was closed.)

Public Comment Form

HWY 3510

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Tammie Matsuura

Address: 50 Koiula Lane, #514

Kahului, Hawaii 96732

Telephone (day): 244-1500

Telephone (eve): _____

Please make any comments below:

Alternative #2-B, Maui, Hawaii, Upcountry Highway

HWY 3513

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Tuby Tadalcums

Address: ~~[illegible]~~ Kula, Maui

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

After much "studying" I think that U1 to K1 would be the best plan because it will be used by Haiku, Makawao, Pulalani + Kula residents. Where as routes from Kula will be traveled only by Kula people.

I really hope the cost of the project will be largely funded by federal funds.

[illegible] resident for

HM 3584

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: KIMO HODGINS

Address: 308 KINAOLE CIR
KIHEI HI 96753

Telephone (day): 808-870-2099

Telephone (eve): SAME ↑

Please make any comments below:

WHAT I THINK ABOUT THE MAUI HIGHWAY PROJECT.
I THINK THAT THE PROJECT IS A GOOD IDEA, TO RELEASE STRESS OFF THE ROADS THAT WE HAVE TO DRIVE ON ALREADY TO GO UP COUNTRY.
I THINK ROAD # 7 SHOULD BE DONE. U2-B-K2

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OF TRANSPORTATION

HWY 3585

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Gary L. Webster

Address: 71 Haaheo Place
Pukalani, Hi 96768

Telephone (day):

Telephone (eve): 808-572-1450

Please make any comments below:

I am in favor of alternative U2-B TO K1, I guess for more personal reasons than any other. But at the same time this will relieve +/or reduce overall congestion at many other locations between Kihei + upcountry, No matter which alternative is selected. I also like the idea of reduced travel time and also it is an excellent means of evacuation or alternate route in case of emergencie

HWY 3587

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Vincent Vargas

Address: 2674 Akolani Pl.
Pukalani, Hi

Telephone (day): _____

Telephone (eve): 572-6620

Please make any comments below:

In favor of K-2 - 42B

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HW43588

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ELLSWORTH NIKAIDO

Address: P.O. BOX 1214
PAIA HAWAII 96779

Telephone (day): 579-9141

Telephone (eve): _____

Please make any comments below:

I LIKE IT. I THINK IT'LL
GET THE UPCOUNTRY PEOPLE OFF THE
ROAD WAY I BEEN GOING THRU.

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HIGHWAYS DIVISION

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OF TRANSPORTATION

HWY 3589

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: James P. Rust

Address: 61 Ulana St. Makawao Hi. 96768

Telephone (day): 280-2545 or 879-8868

Telephone (eve): 572-3855

Please make any comments below:

I prefer U2-B-K2

I work in the Maalaea to Makena Area

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HIGHWAYS DIVISION
PLANNING BRANCH

HWY 3591

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Moses Kauhaahaa

Address: 384 Nakoa Drive
Wailuku Hi 96793

Telephone (day): 249-8154

Telephone (eve): _____

Please make any comments below:

I support the Kihei-Upcountry highway project and would approve and agree with the plans approved. I firmly believe

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PLANNING BRANCH

HW43591

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: _____

Address: _____

_____

_____

_____

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

I Think U2B K-1 is a good one

HW 3593

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Martin B. Cabradilla

Address: 2793 Ainalani Drive
Pukalani Hi 96768

Telephone (day): 572-4700

Telephone (eve): 572-4700

Please make any comments below:

Its about time that the SOH - D.O.T. is in the planning for the Kihei - Upcountry Highway project. (Maui) I would like to see it constructed from Haliimaile Junction straight into Kihei. Without going into any residential areas, such as Pukalani + Kula. We have enough traffic congestion already. In the event of a traffic accident on the Mokulele Highway people coming out are trapped for hours. at Least with this by-Pass people of the Up Country Area will be able to get out of Kihei at a sensible time, without delay.

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HIGHWAYS DIVISION

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OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

HWY 3514

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Donna Speed

Address: P.O. Box 1538 Kahului, HI 96733
2498 Kula Hwy Kula, HI 96790

Telephone (day): 878-8300

Telephone (eve):

Please make any comments below: 43/KT

I can't believe This Hwy has not been built yet! I work in Kihei and it takes me 45-60 minutes one way for a total of 31 miles each way. Why??? If you look from Kula Hwy down to Kihei There is nothing but wasteland. (No Pineapple fields, sugarcane or housing projects. I would like to see The Hwy even further toward Kekaulike Hwy. This would be a shorter route and not disturb anything or anyone. Even if The Road would connect AT The Hawaiian housing project That would be better. There are roads half way down The hill now (I'd build Something from Kihei To There (save $ and Time.) But The most important Thing is To just build Something ASAP!!!

HWY 3595

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Joseph G. Toro

Address: 1874 Anapa Pl. Kihei

Telephone (day): 8757689

Telephone (eve): Same

Please make any comments below:

I drive in Kihei & like to see
A new Road way from upcountry to
Kihei 412B. K2.

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HIGHWAYS DIVISION

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OF TRANSPORTATION
OCT 18 11 45 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

HW/3596

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Robin Weeks

Address: 1480 Hogback Rd.
Haiku, HI 96708

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

I would like to see the new up-country road start from the Haliimaile Intersection. By using this route, people from areas in Haiku, Makawao, Pukalani & Kula would be able to get to Kihei without first back-tracking up to Kula to do so.

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PLANNING BRANCH
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OF TRANSPORTATION

HWY 3597

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: EDGAR MORTON III / Edgar Morton III

Address: 641 POHALA STREET
WAILUKU, MAUI, HAWAII
96793

Telephone (day): AT WORK / 871-6191

Telephone (eve): 242-4360

Please make any comments below:

THE U3, K2 ALTERNATIVE WOULD BE [redacted] A BETTER WAY TO GO BECAUSE:

1). IT WOULD DIVERT TRAFFIC AWAY FROM MAJOR INTERSECTIONS THAT MAY CAUSE TRAFFIC CONGESTIONS.

2). THE K2 WAY WOULD PUT THE CONNECTION IN THE MIDDLE OF KIHEI AND MAKENA MAKING IT EVENLY ACCESSABLE FOR BOTH NORTH AND SOUTH KIHEI AND MAKENA RESIDENCES AND VISITORS IN CASE OF EVACUATION [redacted] PURPOSES, ETC.

3). THE U3 WAY WOULD PUT THE CONNECTION IN THE MIDDLE OF KULA HIGHWAY MAKING IT AN EASIER WAY FOR PEOPLE AND VISITORS WHO WANT TO GO STRAIGHT TO ULUPALAKUA, OR PEOPLE WHO WANT TO GO STRAIGHT TO MAKAWAO, OR [redacted] HAILIIMAILE, OR PUKALANI AND RIGHT TO KULA OR HALEAKALA. THIS WAY WOULD SAVE ALOT OF TIME AND MONEY FOR MAUI COUNTY PEOPLE.

THIS HIGHWAY PROJECT SHOWS ONLY GOOD [redacted] POTENTIAL REASONS WHY WE SHOULD HAVE IT BUILT AS SOON AS POSSIBLE (ASAP).

BUISNESSES, VISITORS, AND RESIDENCES ALIKE WILL BENEFIT FROM IT.

THE PROJECT WILL CAUSE MORE JOBS FOR MAUI COUNTY AND NEW OPPORTUNITIES, PAVING THE WAY FOR FUTURE DEVELOPMENT.

BUILD IT,
AND THEY WILL COME.

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HIGHWAYS DIVISION

HWY 3598

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Esmor Krash

Address: 331-9 Waiakoa Rd
Kula 96790

Telephone (day): 878 1342

Telephone (eve): "

Please make any comments below:

Prefer no road - improve existing roads (Haleakala, Hansen, Mokulele), If road is built desire it to originate at Hali'imaile.

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PLANNING BRANCH

HWY 3599

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: LARRY HEMAR

Address: 345 LOKELANI PLACE
PUKALANI, MAUI 96768

Telephone (day): 572-4801

Telephone (eve):

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HIGHWAYS DIVISION

Please make any comments below:

THE HALIMAILE (UI) TO (KI) SEEMS TO HAVE THE LEAST IMPACT ON RESIDENTIAL AREAS, ALSO + LIGHT @ INTERSECTION) ON AT (UI) WOULD BE BEST, AND NEEDED. IF (KI) SKIRTS RESIDENTS THEN MOVE TO K-2). NO ONE REALLY WANTS A MAJOR ROADWAY NEXT TO OUR RESIDENTIAL STREETS, OR OUR BACK YARD! THIS WOULD BE ACCEPTABLE ONLY AFTER MAKING THE EXISTING ROADS INTO FOUR LANES FIRST! ON THE WAY TO KIHEI!

LLH

10-7-99

HWY 3600

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: GARY GREEN

Address: 3549 MALIMA PL.
KIHEI, HI 96753

Telephone (day): 879 - 5970

Telephone (eve): "

Please make any comments below:

A ROAD CONNECTING KIHEI TO UPCOUNTRY IS DESCRIBED. ~~#~~ WE DO NOT WANT A ROAD THAT ONLY DOES HALF THE JOB (A ROAD COMING OUT AT HAIIMAILE DOES NOT MAKE SENSE). WE FAVOR KIHEI TO UPCOUNTRY USING THE OPTIONS U2-B K2 OR ~~U~~ U2-B K1, WITH U2-B K2 THE BETTER OF THE TWO.

EVALUATING THE OPTIONS:

U1 - NO GOOD, ½ THE JOB.
U2A - INTERSECTION VERY BUSY, HALEAKALA HWY. AS WELL.
U2B - GOOD INTERSECTION, NOT AS BUSY AS U2-A BUT NOT THAT FAR FROM THE HALEAKALA HWY.
U3 - TOO FAR FROM CONTINUING UP THE HALEAKALA HWY
K1 ~ K2 - GOOD K2 A GOOD SPOT BETWEEN KIHEI &

Public Comment Form

HW3601

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: GARY F. WATANABE

Address: 1361 KAWIKA ST.
WAILUKU, HI 96793

Telephone (day): 871-7079

Telephone (eve): 244-8125

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Please make any comments below:

MAUI DEFINITELY NEEDS A KIHEI UPCOUNTRY HIGHWAY!!

THE K1 TO U2A ROUTE WOULD SERVICE THE GREATEST NUMBER OF TRAVELERS IN THE MOST EFFICIENT WAY.

THIS PROJECT IS LONG OVERDUE.

IN ADDITION TO THE OBVIOUS BENEFITS OF TRAVEL TIME SAVINGS, EVACUATION EFFICIENCY, AND HIGHWAY SYSTEM EFFICIENCY; I FEEL THAT WITH A MORE EVEN DISTRIBUTION OF VEHICULAR TRAFFIC THE HIGHWAY SYSTEM WILL BE SAFER.

MAUI TRAVELERS AND THE PLANTATIONS ARE VERY FAMILIAR WITH AGRICULTURAL VEHICLE CROSSINGS ON MAJOR HIGHWAYS, SO THIS HIGHWAY DOES NOT POSE ANY NEW THREAT TO MOTORISTS.

HWY 3602

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CHIP WEIKTER

Address: 68-A LOHA ST.
PUKALANI HI. 96768

Telephone (day): 298-1190

Telephone (eve): _____

Please make any comments below:

I think U2-B, K-1 is a great alternative route.

HWY 3603

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Thomas J. Rabe

Address: 10-Hoolai St Makawao
Hi 96768

Telephone (day): (808) 572-8338

Telephone (eve): " " "

Please make any comments below:

43, K1

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PLANNING BRANCH

Hwy 3606

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Anthony Nay

Address: 19 Kupalaiki Lp Kihei HI 96753

I Think it should happen it would save Time from Kihei to upcountry.

Telephone (day): 879-6167

Telephone (eve): 874-5465

Please make any comments below:

The Kamaka school to 5 Trees

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HWY3607

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: William Swinson

Address: 149 Keala Pl.

Telephone (day): 875 - 8213

Telephone (eve): _____

Please make any comments below:

MUCH NEEDED

LONG OVERDUE

Hwy 3608

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Lanny Shamblin Sr

Address: 263-C Naniloa

Wailuku HI 96793

Telephone (day): ~~[illegible]~~ 249-0659

Telephone (eve): _____

Please make any comments below:

yes

HW/3609

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 13 2 26 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: GARY W MARTIN

Address: 3676 LOWER HONOAPILANI HWY.
APT 307-13
LAHAINA, MAUI

Telephone (day): (808) 255-8561

Telephone (eve): (808) 255-8561

Please make any comments below:

WANT THE UPCOUNTY HWY.

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PLANNING BRANCH

Hwy 3610

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ERNEST Lopes
Address: 203 Nagalae Rd
Kula, HI 96793

Telephone (day): 244-8812
Telephone (eve): _____

Please make any comments below:

yes come by my home, faster to get Home

HWY 3611

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: FRED K. KANOHO JR

Address: 1082 PUANA ST WAILUKU
96768

Telephone (day): 572-0350 or 280-0268

Telephone (eve): 572-0350

Please make any comments below: We need this Highway from up County to Kihei, and we need more highway around other place on Maui

HWY 3612

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Keith Echiverri

Address: P.O Box 2281
Wailuku Maui
96793

Telephone (day): _____

Telephone (eve): _____

Please make any comments below: I think it will be good because whatever can make the traffic flow better will help everyone, and there will be more jobs. Thank you.

HWY 3613

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: VERNON BAL

Address: 230 KOELI ST
WAILUKU, HI
96793

Telephone (day): _____

Telephone (eve): 244-9860

Please make any comments below:

I AM IN FAVOR OF THE KIHEI-UPCOUNTRY PROJECT

HWY 3614

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CHRISTOPHER D. HAYNES
Address: 1546 S. KIHEI RD
KIHEI HI. 96753

Telephone (day): 283-7345
Telephone (eve): 871-0722

Please make any comments below:

FOR
KEALII ALANUI → 5 TREES

HWY 3615

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 13 2 25 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Gordon Guerrero

Address: 121 Ihea Pl Pukalani HI 96768

Telephone (day): 573 0442

Telephone (eve): SAME

Please make any comments below:

I'm in favor of Haliimaile to Kealii Alanui

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PLANNING BRANCH

HWY 3616

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: RONALD E. PAUL

Address: 530 WAIKALA ST. KAH.

Telephone (day): _____

Telephone (eve): 873-7885

Please make any comments below:

FIVE TREE'S

HWY 3617

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Michael Paul

Address: 530 Wa'Kala ST.
Kahului, Hi
96732

Telephone (day): (808) 873-7885

Telephone (eve): Same

Please make any comments below:

I Think That They Should Fix The Road By Kamalea School They The STrees.

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PLANNING BRANCH
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DEPT. OF
TRANSPORTATION

Hwy 3618

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 13 2 24 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: MILTON J.K. THEODORE SR.

Address: 191 MAOLI PL. PAIA, HI 96779

Telephone (day): 579-6293

Telephone (eve): SAME

Please make any comments below: I SUPPORT IT.

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HIGHWAYS DIVISION
PLANNING BRANCH

HWY 3619

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: EDWINGTON NAKI

Address: 302 HOOHIE ST
KIHEI HI 96753

Telephone (day): 875 1254

Telephone (eve): SAME

Please make any comments below:

More Jobs

HWY 3620

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Leslie U Shingama

Address: 98 Alehula ST.
Kahului, Hawaii 96732

Telephone (day): 877-2615

Telephone (eve): Same

Please make any comments below: Please Consider

4 Fb - K-2.

HW/3621

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Adrian Hoopai

Address: Po Box 2676 wailuku Maui Hawaii 96793

Telephone (day): 242-5925

Telephone (eve): _____

Please make any comments below: I'm For The Project

HW43623

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: William H Uluhookolani

Address: 589 Pahi Ka St

Telephone (day): 579-9543

Telephone (eve): _____

Please make any comments below: Yes

HWY 3624

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Agenhart Nahoopii

Address: W 868 Halula Pl.
Wailuku

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

5 trees to Keelii Alanui

HW/3625

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Juan Bustamente

Address: 1375 old Waikapu Rd

Telephone (day): _____

Telephone (eve): 244-4548

Please make any comments below:

That a great idea, The timming is Right

HW4 3626

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: José Francisco Agredano-

Address: 297 P.O Box MAKAWAO Hi

Telephone (day): 579 89 40

Telephone (eve): _____

Please make any comments below: OK

HWY 3627

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Mark Matsunaga

Address: 426 So. Palama Dr.

Telephone (day): 871-4761

Telephone (eve): 871-4761

Please make any comments below: yes

HWY 3629

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 13 2 26 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Tom Cleghorn

Address: 233 Kola Hwy

Telephone (day): 283-0252

Telephone (eve): 878-2048

Please make any comments below:

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HWY 3630

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 13 2 23 PM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Adrian Kaalakea

Address: 975 Oe Ct.
Kihei, Maui Hi 96753

Telephone (day): 879-5406

Telephone (eve): SAME

Please make any comments below:

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HIGHWAYS DIVISION
PLANNING BRANCH

HWY 363

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Douglas E TAVARES

Address: 670 waiale pk
Wailuku, MZ, HI 96793

Telephone (day): 280-2706

Telephone (eve): 280-2706

Please make any comments below:

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HIGHWAYS DIVISION

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OF TRANSPORTATION
OCT 18 11 08 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

HWY 3632

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: SIMON TASCUB JR.

Address: 420 KEKOAULE PL.

Telephone (day): 572-5205

Telephone (eve): " "

Please make any comments below:

HWY 3633

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

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HWYS DIVISION

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: B. Chapman

Address: 2670 Ililani Way
Pukalani HI 96768

Telephone (day): 573-5639

Telephone (eve): same

OCT 15 10 21 AM '99
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Please make any comments below:

I believe the proposed routes for a "new" highway from Kihei to Kula are not as good as a proposed plan to "improve" the existing highway upcountry. Improvements would help Pukalani residents.

By new roads up the gulch I not needed - the improvement is urban sprawl is the bain of the mainland - it is not for Maui - we can do better than that!

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PLANNING BRANCH
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OF TRANSPORTATION

HWY 3649

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Tom Motaro

Address: 777 S. Kihei Rd. #201
Kihei, Hi. 96753

Telephone (day): 879-5233 #105

Telephone (eve): "

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HIGHWAYS DIVISION

Please make any comments below:

K2

K2B

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 40 PM '99

HIGHWAYS DIVISION
PLANNING BRANCH

Oct 21 11 42 AM '99

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HWY 3650

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Lorraine Gibo

Address: 2781 Olulani Street
Pukalani, Hawaii 96768

Telephone (day): (808) 242-4555

Telephone (eve): (808) 572-4073

Please make any comments below:

I am in favor of the U1 and K2 termini. By using the U1 terminus people from Haiku, Makawao, Haliimaile and Pukalani would not have to back track as much. The K2 is closer to Wailea and Makena and also central Kihei, which I believe are the destinations of most of the upcountry people.

I am definitely in favor of a by-pass road to alleviate the the down hill traffic and also spur the economy in many ways.

HWY 3653

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: William T. Black

Address: 3353A Kuaua Pl
Kihei, HI 96753

Telephone (day): 879-5233

Telephone (eve): 879-5233

Please make any comments below:

K-2
UZB

Public Comment Form

HWY 3744

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Max Griesenbeck

Address: Po Box 10037

Lahaina, HI 96761

Telephone (day): 665-1875

Telephone (eve): Same

Please make any comments below:

U2 - B, K2

HW/3742

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JOHN KEISER
Address: 1450 KAUPAKALUA Rd
HAIKU, Hi.

Telephone (day): 808 879-7708
Telephone (eve): 808 572-8127

Please make any comments below:

I travel Haleakala Highway thru the Hallimale Rd. everyday. There is already a traffic bind trying to make left turns at this junction don't make it worse by bringing more traffic to this area. try the U2-BK2 Route.

HWY 3746

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Greg Tamayose

Address: 816 E. Kaena Pl.
Wailuku, HI 96793

Telephone (day): 879-7708

Telephone (eve): ~~879-7708~~ 244-7085

Please make any comments below: I would suggest the U2-B, K2 route. The traffic is really bad coming down Upcountry area and in Kihei district we should have alternate routes to help this congested roads.

HWY 3747

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Alfred V Campos JR

Address: 45 WEST WAIPO ST
WAIPUKU, HI 96793

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

I WOULD LIKE 6 & 7 BECAUSE IT'S A GOOD ROUTE.

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
OCT 25 10 58 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

HWY 3765

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ERIC MOELTER
Address: 104C POLI POLI RD
KULA HI 96790

Telephone (day): 808/ 665-1875
Telephone (eve): 808/ 878-1445

Please make any comments below:

THE ROUTE FROM K2 TO U2-B IS THE BEST ROUTE FOR THIS PROJECT

HWY 3766

DIRECTOR'S OFFICE
DEPT. OF
TRANSPO...

OCT 22 10 07 AM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Danny Collier

Address: P.O. Box 714
Haiku - Maui

Telephone (day): 276-8990

Telephone (eve): 575-2785

Please make any comments below:

U2-B — K2

HWY 3767

Public Comment Form

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

OCT 22 10 07 AM '99

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JAMES KUROSE

Address: 5084 HONOAPIILANI RD
LAHAINA MAUI HI
96761

Telephone (day): 665-1875

Telephone (eve): 669-6454

Please make any comments below:

U2B TO K2

HWY 3768

DIRECTOR'S OFFICE
DEPT. OF

OCT 22 10 07 AM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Melani K. Kaahui

Address: 5155 E Hanawai St.
Lahaina Hi 96761

Telephone (day): 808-1669-1875

Telephone (eve): _____

Please make any comments below:

U2-B-K2

HWY 3769

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ED Murphy

Address: PO Box 220

KIHEI HI 96753

Telephone (day): 665-1875

Telephone (eve): _____

Please make any comments below:

U2-B to K2

HWY 3769 3770

Public Comment Form

DIRECTOR'S OFFICE DEPT OF

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

OCT 22 10 07 AM '93

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ENRIQUE V. PUNZALAN

Address: 117 KUUALOHA ST. MAUI LANI
KAHULUI MAUI HAWAII 96732

Telephone (day): 249-0014

Telephone (eve): 242-0215

Please make any comments below: U2-B, K2

HWY 3774

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 27 9 53 AM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Alexandra Parker

Address: 104 Kawaiea Pl
Kula Hi 96790

Telephone (day): ~~[illegible]~~ 280-6466

Telephone (eve): _____

Please make any comments below:

I don't want any highway

HWY 3775

Public Comment Form

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 27 9 53 AM '99

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Aly Parker

Address: 104 Kawalea Place &
Kula, Hi 96790

Telephone (day): 878-1263

Telephone (eve): _____

Please make any comments below:

I strongly feel that the Kihei - Upcountry highway should come out at either Waiinaile or 5 trees. It definitely should not go through Omaopio or somewhere in Kula. That way all the Pukalani, Makawao & Haiku traffic wouldn't have to go through Kula.

HWY 3776

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Hilary Parker
Address: 104 Kawalea Pl.
Kula 96790

Telephone (day): 242-0096
Telephone (eve): 878-1263

Please make any comments below:

Choice #1: No road

- If it is true that the DOT is planning to make Haleakala, Puunene, and Mokulele Hwys. four lanes, that would relieve most of the congestion. The worst bottle neck is the connection to Mokulele from Hana Hwy or Haleakala Hwy.
- Improving existing roads would have the least negative impact on all areas.
- People make choices where they live and work. If you choose to work in Kihei, but want the serenity of living upcountry, you will need to drive, period. Live in Kihei if you don't want to commute.

Choice #2: Haliimaile to either Kaonoulu or Ke Alii Alanui

- It makes the most sense for ALL commuters: moving the access to either of the Pukalani sights or particularly to Omaopio would be pretty useless for Paia and Haiku folks.
- Haliimaile splits the traffic with Haiku and Paia coming up and Kula, Pukalani and Makawao coming down.
- Haleakala Hwy. is in and will be widened.
- Omaopio is a terrible choice. Serious road improvements would have to be made from the new Pukalani by-pass to Omaopio, taking all sorts of people by the new high school and residential areas. An Omaopio road would have the serious negative impacts on farming and residential communities. Omaopio is also a pretty bad choice for tourists trying to find the crater for sunrise.

I am not a no-growth fanatic. I understand the necessity of improving traffic flow. Let's just be very careful how we go about it to help preserve a sense of what people come to Maui to experience and to keep Maui the place we have all chosen to live. The cost issue should not dictate the route.

HW/3778

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: IGNACIO SO G. EUGENIO JR

Address: 92 KEACA PL.
KIHEI, HI 96753

Telephone (day): 879-1693

Telephone (eve): SAME

Please make any comments below: U2-B -K2

HWY 3779

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: BRIAN BAILEY

Address: 141 OHUKAI Rd Kihei Maui HI.

Telephone (day): 298-4303

Telephone (eve): SAME

Please make any comments below:

U2B TO K2

HWY 3780

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Clayton Sado

Address: 5464 Cahaira Maui

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

U2-B, K2

HW4 3781

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

OCT 22 10 07 AM '99

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Stuart K. Ahuna

Address: 19 Kuhinia St. Wai.

Telephone (day): 244-9735

Telephone (eve): _____

Please make any comments below:

U23 - K2

HWY 3782

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Stuart K. Akuna Jr
Address: 19 kuhinia ste
Wailuku HI 96793

Telephone (day): 385-9735
Telephone (eve): 2449735

Please make any comments below:

U2-B - K2

HWY 378

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Flint Nakamura

Address: 848 Kanua St. Lahaina
HI 96761

Telephone (day): 661-4550 (667-1575

Telephone (eve): 661-4550

Please make any comments below:

U2-B, K2

HWY 3579

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JODY BALDWIN

Address: 429 Hoopalua Dr.
Pukalani 96788

Telephone (day): 572 0123

Telephone (eve): _____

Please make any comments below: No bin.

Why vote is for no connecting road at all —
Please consider 4 lanes on the Haleakala
Hwy instead + a traffic signal
at Omaopio + Kula Hwy. Mahalo.

— JB —

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

Hwy ~~3[illegible]~~ 3922

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ANNETTE C. PETERS
Address: 25 ALEA PLACE
PUKALANI, HI 96768

Telephone (day): 572-9330 (H) 242-0169 pgr.
Telephone (eve): 572-9330 (H)

Please make any comments below:

PREFERENCE - U1 - ~~HALIIMAILE~~

REASON - TRAFFIC COMING TO ~~HALEAKALA~~ HWY. FROM HALIIMAILE AND PUKALANI, ETC. HAS NO HOUSES, SCHOOLS ETC NEARBY. WITH A TRAFFIC LIGHT, THIS AREA WOULD BE MORE CONVENIENT AND MANAGEABLE. AS FOR WHERE IT WILL EXIT FROM UPCOUNTRY, THE LEAST CONGESTED AREA IN KIHEI, K1 - KA ONO ULU

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Reed Arriyoshi

Address: 618 Anela Place

Kailuku, Hi 96793

Telephone (day): 808-242-4403

Telephone (eve): 808-242-5410

Please make any comments below:

I am in favor of the Kihei-Upcountry Highway as I feel it provides a vital link between these 2 regions.

After careful evaluation, I feel that the U2A to K1 route should be selected as the preferred alternative.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Eugene G Barber

Address: 2619 So. Kihei Rd # A102 Kihei 96753

Telephone (day): 879-8720

Telephone (eve):

Please make any comments below:

I favor the U-3, K2 Route because it seems to be the most beneficial for Kula and Kihei residents as well as tourist traveling to Haleakala Crater. As Kula is developed and population increases, this route will become more and more valuable and necessary.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: ETHEL BELWAY

Address: P.O. Box 1591
KIHEI, HI 96753

Telephone (day): 879-6587

Telephone (eve): _____

Please make any comments below:

the Kihei terminal should be K2.
Upcountry would be U2A or U2B.

any road that relieves the traffic from the intersections on Dairy Rd would be a benefit to everyone on Maui - Residents and tourist. this roadway

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: BILL BONNET

Address: 65 KAMAALII PLACE
HAIKU, HAWAII
96708

Telephone (day): 871-2300

Telephone (eve): 572-7508

Please make any comments below:

EXCELLENT CONCEPT! THIS HIGHWAY SHOULD AND WILL BE BUILT.

I HAVE NO STRONG FEELINGS ON ALIGNMENT, HOWEVER HALIIMAILE WOULD NOT SEEM TO OFFER THE ADVANTAGES OF THE OTHER THREE UPCOUNTRY TERMINII — RELIEF OF TRAFFIC ON KULA HWY. BELOW THE HALEAKALA HWY INTERSECTION.

GOOD LUCK. GREAT PROJECT, WELL-PRESENTED.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CONCERNED CITIZEN

Address: _____

_____

_____

_____

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

AS A CONCERNED UPCOUNTRY RESIDENT, I DO NOT CARE ABOUT HISTORICAL ARTIFACTS, PROPERTY VALUES, POLITICAL BIASES, AND SOCIAL MORALS; ALL I BELIEVE IS THAT MAUI AS A COMMUNITY AND AN EXPANDING TOURISM MECCA WE NEED THIS HIGHWAY VERY BADLY! THE 4-LANE EXPANSION ON HANSCALA & MOKULELE IS NOT ENOUGH! WEIGH THE OVERALL COST-BENEFIT RATIO & YOU WILL SEE THE IMPERATIVE NEED FOR THIS PROJECT. I BEG THAT YOU WILL PUT ASIDE YOUR PERSONAL SELFISH VALUES & LOOK TO THE OVERALL GOOD OF OUR AINA!

THANK YOU!

ME

(6)

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Donna Clayton

Address: 249 Kaualani
PUKALANI HI 96768

Telephone (day): 877-3875

Telephone (eve): _____

Please make any comments below:

I prefer the Road ending at 5-Trees. This site is on a highway that could accept the increased traffic. I feel the intersection there now is not quite right. By terminating the road at the 5 Trees it would give the State a chance to prepare the area properly for the 2nd school opening in the near future. Also, 5 Trees is more upcountry where Haliimaile is mid-County. On addition there would be less interruption of agreculture at 5 Trees.

(16)

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Bob Diffley

Address: P.O. Box 2300
Honolulu HI 96804-2306

Telephone (day): 539-7175

Telephone (eve): _____

Please make any comments below:

THIS IS AN EXCELLENT FORMAT FOR A PUBLIC HEARING — IT ALLOWS EVERYONE TO TALK TO THE EXPERTS AND TO LEARN THE THOUGHT PROCESSES THAT ARE BEHIND THE ALTERNATIVES. THIS IS CERTAINLY MORE INFORMATIVE THAN LISTENING TO A LONG STREAM OF WELL MEANING BUT PARTIALLY INFORMED CITIZENS.

I LOOK FORWARD TO AN EQUALLY RATIONAL ROUTE SELECTION.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: EDITH & ANDREW IDEN

Address: 21 ALOKELE PLACE
PUKALANI HI 96768

Telephone (day): 572-1107

Telephone (eve): "

Please make any comments below:

WE PREFER THAT THE UPCOUNTRY-KIHEI HIGHWAY BE ROUTED TO HALIIMAILE (U-1) TO EITHER K-1 OR K-2 IN KIHEI BECAUSE IT WOULD HAVE LESS IMPACT ON THE PUKALANI & KULA AREAS

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Donald Fujii

Address: 326 Alani Lane
Wailuku HI 96793

Telephone (day): 661 4835

Telephone (eve): _____

Please make any comments below:

Suggest: U2A ↔ K1

Makes more sense!

best route is downhill to help everyone. 20 years from now you could build another road to Pukalani. (That's how long this has been going on with no results except meetings.) Get it built, it's already too late!!

here

Name: _____

Address: _____

_____

_____

_____

Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
Highways Division
869 Punchbowl St.
Honolulu, Hawaii 96813

here

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Garrett Goo

Address: 400 Lihoiha St.
Wailuku

Telephone (day): 270-7491

Telephone (eve): _____

Please make any comments below:

I favor UDA - K1

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: KIYOSHI HASHIMOTO

Address: 117 AKEA PL, KULA, HI

Telephone (day): 878-3739

Telephone (eve): 878-3739

Please make any comments below:

U2-A, K2

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CECILE S. HASHIMOTO

Address: 117 AKEA PL, KULA HI

Telephone (day): 878-3739

Telephone (eve): 878-3739

Please make any comments below:

U2-A, K2

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Charles R. Hua

Address: 72 Kapuahi St. Makawao

Telephone (day): 5730272

Telephone (eve): "

Please make any comments below:

I'd prefer U3, K2 to relieve us from the Kula raceway/Lem pressure on Haleakala Hwy.

My convenience would best be served by a U2-A or B, K2 route.

Regardless build something!

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: THOMAS KAESACK

Address: 207 HAKUI PLACE
LAHAINA

next year: Onaeapia Road

Telephone (day): 667-6105

Telephone (eve):

Please make any comments below:

I think we should see the costs: a) V3-K1 2.) V1-K1

b) most of people living: 1.) V1-K1 2.) V3-K1

c) lowest impact on individual farming + ranching 1.) V1-K1 2.) V2-K1

d) lowest impact on residential sites 1.) V1-K1 2.) V3-K1

overall: 1.) V1-K1

Many of my friends are living in Makawao + Pukalani and many of them are working in Kihei. For them the alternative V1-K1 is the best. I think you should eliminate the alternatives V2 a/b, because it has too much impact on school and residential areas in Pukalani. So I think the V1-K1 alternative is the best, much better than the others.

You did a fantastic job !!

5

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Daniel K. Kaniaupio

Address: 1100 Kapulani DR. (Maui Meadows)
Kihei, HI 96753

Telephone (day): 879-2730 or 870-0356

Telephone (eve): 879-0139

Please make any comments below:

I favor KI-U3 Route:

1. Cost less
2. area at the intersection can stand some development
3. an escape route in case of storms, Tsunami etc.
4. Spread the traffic Versus the Jamming a Maximale of 5 trees

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: KWYNE KUSUNOKI

Address: 731 MOLOKAI AKAU ST
KAHULUI, HI

Telephone (day): 242 4403

Telephone (eve): 871 7340

Please make any comments below:

I prefer KI TO U2A

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Lana S. Kusunoki

Address: 731 Molokai Akau
Kahului, HI 96732

Telephone (day): 242.6375

Telephone (eve): 871-7340

Please make any comments below:

I favor the K[redacted] to [redacted] U2-A route

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: EARL LANGHOFF

Address: 3650 HALEAKALA HWY
PUKALANI, HI 96768

Telephone (day): 572-7311

Telephone (eve): _____

Please make any comments below:

THE DOT SHOULD BE CONSCIENCE AS TO THE PEOPLE WHO LIVE WHERE THE TURNOUTS ARE TO COME OUT. I SUPPORT U1 TO K1, OR U2B TO K2

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Jane Loeffler

Address: 541 Hakulani St
Pukalani 96768

Telephone (day): 808 - 572-8864

Telephone (eve): same

Please make any comments below:

Support Choice #1 ~~U2A~~ - U3 - K1 — Rationale: least expensive, most direct, fewest archeological disturbances, away from schools

Choice #2 U2A - K1 — closer to population center than U3-K1, proximity to proposed Haleakala highway improvements

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JOHN P. MACONEY

Address: 300 LAKANA PLACE
KIHEI, HI. 96753

Telephone (day): 242-4403

Telephone (eve): 879-3562

Please make any comments below:

THANK YOU FOR ORGANIZING SUCH A GOOD INFORMATIONAL FORUM. WE HOPE FUTURE PUBLIC FORUMS ARE CONDUCTED IN SUCH A MANNER.

I HOPE THE ROUTE 42A-K2 OR K1 IS CONSTRUCTED.

WE NEED THIS ROAD FOR BOTH EMERGENCIES AND BUSINESS. PLEASE BUILD THIS HIGHWAY!

MAHALO!

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Donn Matsuda

Address: 314 Molokai Akau St.
Kahului, HI 96732

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

PLEASE SELECT U2A / K1 ALIGNMENT.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: _____

Address: ERIC MATSUDA
162 W. LANAI STREET
KAHULUI, HI 96732

Telephone (day): 249-6905

Telephone (eve): 871-4353

Please make any comments below:

1. The public hearing format was very user friendly and informative.

2. U2A / K1 Alignment seems to be the most logical / useful. Consideration of the school (K.K.) should be taken in the final design of the upcountry intersection.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: MARK MATSUOA

Address: 314 MOOKAI AKAU ST.
KAHULUI, HI 96732

Telephone (day): 242-4403

Telephone (eve): _____

Please make any comments below:

ALIGNMENT C/2A TO K-1 LOOKS THE MOST SENSIBLE

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: GERARD F MAZZACANO

Address: 629 KAIOLA ST
KIHEI HI 96753

Telephone (day): 874-4844

Telephone (eve): SAME

Please make any comments below:

My family and I are in favor of the New Road upcountry. We feel that is really needed. Beside being needed for relief of normal traffic on existing Roads, it is important that another route for evacuation from the Kihei & Wailea area be provided.

I disagree with the one starting point in Kihei being Kaonoulu, since it is already being used as a race track from South Kihei Rd to Pi'ilani Highway. People from our end of town can use Mokulele Highway and people closer to Wailea would have their own access upcountry. Please use comon sense and split the traffic to both ends of Kihei. Kihei is still growing & has already

Rd.

(1L)

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Nichole Meyer age(13)

Address: 240 Hoolua Dr
Pukalani HI, 96768

Telephone (day): X not available

Telephone (eve): 572-6677

Please make any comments below:

I think that the U1-K1 is the best route propo
All my opinion is based on is first hand experie
of all the problems mentioned with the new highwa
The U1-K1 route passes the least ammoun
of homes. Having a highway going through a
sub-division will decrease the highway's acceptan
as well as decrease the likely hood of new housi
projects because the highway will take up optimum
space. U1-K1, it seems, avoides the leasts of this.
It is also the second most cost-efficient road. If connec
W Hali'imaile it can handle the most traffic (28
since Hali'imaile already

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Eric & Kavene Nakagawa

Address: 2191 S. Kihei Rd. Apt. #2123
Kihei, HI 96753

Telephone (day): (808) 242-4403

Telephone (eve): (808) 874-9377

Please make any comments below:

I feel the Kula-Kihei Highway will benefit the island of Maui in a lot of aspects. Residents who commute everyday from Kihei to Upcountry and vice-versa will cut down travel time and have alternate routes to work. Traffic will also be minimized on Haleakala Highway, Piilani Highway and Mokulele Highway.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Wayne A. Nishida

Address: 3177 Iolani St
Pukalani, Hi 96768

Telephone (day): 242-4403

Telephone (eve): 572-6328

Please make any comments below:

Yes, I am in favor of the construction of the highway.

The route I prefer is Alternate K1 to U2-A

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: CHARLES W. QUESNEL

Address: 882 WENELEA ST.
HALIIMAILE, HI 96768

Telephone (day): 872-3293

Telephone (eve): 572-5100

Please make any comments below:

I WOULD LIKE TO SEE THE U1, K1 ALT. RTE. THIS WOULD HELP TO ALLEVIATE THE ACCIDENTS CAUSED BY THE PRESENT/DANGEROUS INTERSECTION AT HALIIMAILE ROAD. IT WOULD ALSO SERVE THE EAST MAUI RESIDENTS, AND RELIEF THE MAKAWAO TOWN TRAFFIC.

ALTHOUGH IT MAY INTERRUPT THE DOWNHILL MORNING WORK FLOW TRAFFIC, THIS WOULD STILL BENEFIT OUR PRESENT TRAFFIC CONDITIONS.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: JOHN RUSSELL

Address: P.O. BOX 351
KULA, HI 96790

Telephone (day): 876 0222

Telephone (eve): SAME

Please make any comments below:

I FAVOR U-1 TO KI IN THE BYPASS HAS TO GO IN.
UP COUNTRY ~~RESIDENCE~~ HOMEOWNERS SHOULD CHOOSE THE UP COUNTRY ACCESS &
KIHEI HOMEOWNERS SHOULD CHOOSE THE KIHEI ACCESS.
THE IMPACT ON THE KULA WAY OR LIKE WILL BE TOO GREAT IF ANY OTHER ALTERNATIVE IS CHOOSEN OTHER THAN U-1.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Edna Sakamoto

Address: 2528 Kaupakalua Road

Haiku, HI 96708

Telephone (day): (808) 572-8949

Telephone (eve): (808) 572-8949

Please make any comments below:

My choice is U1 to K1 (Haliimaile junction to the beginning of Kihei).

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Wayne Sakutori

Address: 320 Hina Avenue
Kahului, Maui, Hawaii

Telephone (day): 242-4403

Telephone (eve): 871-6480

Please make any comments below:

I live on Maui all my Life, and I see a real need for a Road from Kula to Kihei

This is something we all need, so everyone can enjoy the Beauty of our Island, that is isolated from the Public and provide an alternate time saving route from Kula to Kihei.

I prefer the U2a / K1 Route is the Best Choice

Wayne S. Sakutori

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Byron Sing

Address: P.O. Box 1200
Haiku, Hi 96708

Telephone (day): 575-9797

Telephone (eve): _____

Please make any comments below:

I prefer U2A to K-1

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Bob Smith

Address: No Road

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Louise H. Smith

Address: RR1 Box 530 Kula, Maui
Kimo Drive

Telephone (day): 878-1554

Telephone (eve):

Please make any comments below:

Aside from being all in favor of U1 and either K1 or K2, I wish to congratulate the Dept. of Transportation on a really well done format and instructions on the Kula Highway. Anyone who didn't attend really missed meeting most informative personell, from Honolulu and local on Maui

(9)

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: SCOTT SPLETH

Address: 296 LILIUOKALANI
MAKAWAO HI 96768

Telephone (day): 879-5077

Telephone (eve): 573-0644

Please make any comments below:

I SUPPORT ALTERNATIVES U2-A/B, K1, 2 AS TRAFFIC FLOW FROM UPCOUNTRY AREAS TO KIHEI WOULD BE SEGREGATED FROM UPCOUNTRY TO KAHULUI/WAILUKU TRAFFIC FLOW, THUS, RELIEVING CONGESTION ON HALEAKALA HWY, BETWEEN PUKALANI AND HANA HWY.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Steve Sandoval

Address: 75 Hoopalua Drive
Pukalani, HI 96768

Telephone (day): 808 573-6404

Telephone (eve): 572-1976

Please make any comments below:

I am in favor of (1) U1 : K1 Main

(2) U24 : K1 Branch

I hope Both routes are combined to make best use of the Collector Road.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: DONALD TERADA

Address: 324 EKOA PL
Wailuku, HI 96793

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

I think this would be the best route to benefit the citizens of Hawaii.

(K1 - 42A)

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: GARNER TERUYA

Address: PO BOX 1893
KAHULUI, HI 96733

Telephone (day): 242-9403

Telephone (eve): _____

Please make any comments below:

I FAVOR ROUTE K-1 TO U2-A.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Gene Thompson

Address: 2531 S Kihei Rd C-502
Kihei

Telephone (day): 879-2758

Telephone (eve): _____

Please make any comments below:

Strongly favor Kihei Upcountry Road.
Our communities are growing whether we like this or not. Want to see reduced traffic on Mokulele & Pilani.

Comments: Kihei Either one, may prefer the more northerly route as it would make the trip shorter.

Upcountry end: Really up to the people there but for myself prefer to see a half mile either side of 5 lanes.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Leslie Wilkins

Address: 508 Kulamalu Pl
Wailuku HI 96793

Telephone (day): 870 2021

Telephone (eve): 242 3999

Please make any comments below:

I am very much in favor of building the Hwy. We need to take pressure off existing roads. I am not in favor of the alignment. I do like the Pulimaile alignment but would like some [illegible] it will [illegible]

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Debbie Yokote

Address: 1126-A Ainakula Road
Kula, HI 96790

Telephone (day): 879-4471

Telephone (eve): 878-6568

Please make any comments below:

I prefer the UI, KI route). It isn't near the schools and people wouldn't have to backtrack as much.

Public Comment Form

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
State of Hawaii Department of Transportation
Highways Division

The information you provide in this form will help the State Department of Transportation in planning the Kihei-Upcountry Maui Highway project. We appreciate any comment you may have.

Name: Carolyn Ziegler

Address: Kihei Kai Nani #163
Kihei, Maui

Telephone (day): _____

Telephone (eve): _____

Please make any comments below:

I would favor the U2-A — K2. It (U2A) would be a central area upcountry (less costly than U2-B) & K2 would provide access to the Kihei - Wailea area where many [illegible] available.

HWY 3455
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

SEP 29 10 57 AM '99

PUBLIC (

Kihei-Upcou
County o
Department of Transportation, Highways Division, State of Hawaii

RECEIVED
SEP 29 1 48 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: James Ferrier Phone: 873-7704 day
Ruben Ferrier 572-3044 eve

Address: 275 Hoopalua
Pukalani 96768

Please write any comments below:

Overall I'm opposed to construction. It will cause urbanization of up country.

If it is to be built, it should end at Haliimaile for the following reasons.

(1) It would not have a negative impact on any residential areas.

(2) It would keep traffic away from the already crowded Kula Hwy/Haleakala Hwy intersection

(3) It would provide central access for people from Haiku & upcountry and direct traffic away from residential areas.

(4) It would not serve the private interests of Mr. Dowling who has paid alot of money under different guises to influential people to get the road different guises to influential people to get the road to go to his development which was approved by call

HWY 3605

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

OCT 14 10 47 AM '99

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: James L Worley / Kathleen Worley Phone: 808 879 4416 day / 808 879 5548 eve

Address: 10 E Kolu Pl
#1603
Kihei Hi 96753

RECEIVED
OCT 15 9 18 AM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Please write any comments below:

Maui needs this ~~Road~~ for reasons

1- Safety.
2- Convenience
3- Economy

Too many people work in Kihei, Wailea, Makena, Kaanapali, Lahaina, West Maui and central Maui that would benefit from this road It would shorten their drive and save time and money. It would help provide alternative roads when sea level roads are closed due to emergencys.

10/12/99

Mr. Abraham Wong, Division Administrator
Federal Highway Administration
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850
(808) 541-2700

Mr. Kazu Hayashida, Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
(808) 587-2150

Hwy 3771

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Robin Killett Phone: 874-2214 day
879-2521

Address: 2716 Palima PL
Kihei HI 96753

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
OCT 22 11 36 AM '93
HIGHWAYS DIVISION
PLANNING BRANCH

Please write any comments below:

The Kihei-Upcountry Road will help to Alleviate the Traffic between Kihei/Wailea And Kahului. This is A much needed Roadway.

RECEIVED
OCT 15 1993
HAWAII DIVISION

HWY 3928

RECEIVED
OCT 1 3 1999
HAWAII DIVISION

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Ruth L. Steele Phone: 808-874-5791 day

~~483 So. Kihei Rd. #204~~ eve

Address: ~~Kihei, HI. 96753~~

We, my husband and I are in agreement that the road down from up-country should be built. It would releive some traffic from Haleakala Hwy. Hopfully reducing accidents.

Please write any comments below:

We do not feel the road should come down near either of the schools that are on Piilane Hwy.

Keonoulu, Keonekai or the end of Piilane Hwy. where it turns down to Wailea.

We thank you for giving us the opportunity to give our opinion.

Sincerely,

Ruth Steele

Giles & Ruth Steele

HWY 393

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OCT - 1
HAWAII DIV

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: ALFONSO JOSE Phone: (808) 573-0645 day
_____ _____ eve

Address: 337 HAULANI ST.
PUKALANI, HI.
96768

Please write any comments below:

I HOPE THIS WILL COME TRUE SOON.
IT HELP LOTS OF PEOPLE ESPECIALLY ~~WHO~~
FROM UPCOUNTRY PEOPLE.

MAHALO MUCH,
Alfonso

HWY 3943

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: DAVID RYAN Phone: 874-2297 day
874-5450 eve

Address: 3163 Hoomua
Kihei, Hi 96753

Please write any comments below:

Please build a road connecting south Maui with upcountry ASAP. The route option closest to Lipoa and the middle of Kula is my preference!

HW 3145

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: STEVE REPOLLO

Phone: 874-8000 x52 day WK.
572-2335 eve HM.

Address: 2630 KAUPAKALUA RD.
HAIKU, HAWAII
96708

Please write any comments below:

HAVING THE ROAD WILL BE REALLY NICE. WOULD PROBABLY CUT MY TRAVELING TIME BY AT LEAST 1/4 HR. IT WILL ALSO BE A GOOD BACK UP ROUTE IN CASE OF A ACCIDENT WHERE THE ROADS CLOSE UP IN KIHEI. I THINK ITS A GOOD IDEA

HTW 3946

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Charles Maitland Phone: 572-9963 day
_____ _____ eve

Address: P.O. Box 1233
Makawao Hi 96768

Please write any comments below:

I Believe The addition of this road would help alleviate road Fatigue for those of us who live in the up-country area and possibly result in fewer car accidents also in light of higher fuel prices would help everyone financially.

HWY 3948

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: KAREN CHRISTENSEN Phone: 874-8000 day
874-6915 eve

Address: 155 WAILEA IKE PLACE #124
WAILEA, MAUI 96753

Please write any comments below:

ADD ROAD →

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STATE DEPARTMENT
OF TRANSPORTATION
OCT 22 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

RECEIVED
OCT 19 1999
HAWAII DIVISION

HK Hwy 315

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: CRISTINA CURY Phone: 808.879-5797 day
SAME eve

Address: 111-A ONAKA PLACE
96752 KIHEI

Please write any comments below:

The road is a great idea and will make a lot of people's lives easier!

Hwy 3992

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Elena Panigada Phone: 874-8000 day
Antonio Fontana 874-9074 eve

Address: LION
2000 S. KIHEI RD
KIHEI
HI, 96753

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STATE DEPARTMENT
OF TRANSPORTATION
OCT 22 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Please write any comments below:

We support the new Hwy project.
We think it will reduce the # of accidents that occur in the dark hours.
It will facilitate those workers of the Kihei-Wailea area Hotels that commute from Upcountry daily.
It will bring businesses Upcountry more tourist flow.
If well designed and studied, the environmental impact that many community members worry about can be monitored and kept to a minimum.
We do not want Maui to become excessively urbanized (like Oahu) but the increasing growth of the resident population requires some inevitable changes that the whole community should support.

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OCT 15 1999
HAWAII DIVISION

Hwy 3973

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: DONALD G MALCOLM **Phone:** 808-6695224 day
same
Address: 39 HALE MALIA PL
LAHAINA, HI 96761

Please write any comments below:

I WISH TO EXPRESS MY STRONG SUPPORT for the KIHEI-UPCOUNTRY MAUI HIGHWAY PROJECT.

THIS A MOST NECESSARY LINK IN MAUI'S HIGHWAY INFRASTRUCTURE. IT IS AN OPPORTUNITY FOR FEDERALLY FINANCING WE SHOULD NOT MISS.

IMPORTANT CONSIDERATIONS — THE HIGHWAY WILL AID TRAFFIC TO HALEAKALA, REDUCE FLOW THRU KAHULUI & AID WORKERS from UPCOUNTRY TO REACH EMPLOYMENT IN KIHEI + WAILEA. VISITOR TRAFFK WILL BE ENHANCE WITH SIGNIFICANT SAVINGS IN TIME & GASOLINE USED.

IT IS TIME TO MOVE AHEAD

Mr. Abraham Wong, Division Administrator
Federal Highway Administration
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850
(808) 541-2700

Mr. Kazu Hayashida, Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
(808) 587-2150

PUBLIC COMMENT FORM

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION
OCT 19 3 08 PM '99

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: Kathryn Mabrey Phone: 572-0242 day
Same eve

Address: 310 Kauila St
Makawao, Hi
96768

RECEIVED
OCT 19 3 48 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

Please write any comments below:

I believe U3-K1 will best serve the upcountry/Kihei communities with the least budgetary impact. Anything at 5 lanes or below would have serious impact on upcountry to town traffic.

Mahalo

Mr. Abraham Wong, Division Administrator
Federal Highway Administration
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850
(808) 541-2700

Mr. Kazu Hayashida, Director of Transportation
State of Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
(808) 587-2150

PUBLIC COMMENT FORM

Kihei-Upcountry Maui Highway
County of Maui, Hawaii
Department of Transportation, Highways Division, State of Hawaii

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The information you provide in this questionnaire will help the State Department of Transportation to assess concerns regarding the Kihei-Upcountry Maui Highway project. We appreciate your assistance in filling out and returning this form.

Name: _____ Phone: _____ day
_____ _____ eve

Address: _____
_____
_____
_____

Please write any comments below:

(1) See enclosed definitions of "questionnaire".

(2) Where are lists or sets of questions re this new highway?

(3) Why not have E-mail address to submit comments?

Main Entry: **ques·tion·naire**
Pronunciation: "kwes-ch&-'nar, -'ner, "kwesh-
Function: *noun*
Etymology: French, from *questionner* to question, from Middle French, from *question*, n.
Date: 1899
1 : a set of questions for obtaining statistically useful or personal information from individuals
2 : a written or printed questionnaire often with spaces for answers
3 : a survey made by the use of a questionnaire

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name GARY BRATLAND

Signature [signature]

Print Name _____

Signature _____

Address 41 POHA PL
PUKALANI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Marilyn M. Morikawa

Signature Marilyn M. Morikawa

Print Name LYNN MORIKAWA

Signature [signature]

Address 431 Aulii Dr.
Pukalani, Hi 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Helen A James
Signature Helen A James
Print Name William C James
Signature William C James
Address 461 Kulii Dr
Pukalani HI 96768

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION
Oct 19 2 39 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Harry A. Sieling
Signature Harry A. Sieling
Print Name Penny M. Sieling
Signature Penny M Sieling
Address 128 Hoopalua Dr.
Pukalani, HI. 96768

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 32 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION

Oct 19 3 50 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION

Oct 19 2 30 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name _____

Signature _____

Print Name _____

Signature _____

Address _____

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 32 AM '99
STATE DEPARTMENT
OF TRANSPORTATION

RECEIVED
Oct 19 3 51 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION

Oct 19 2 30 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Jack Wheaton

Signature Jack Wheaton

Print Name JUDITH WHELPTON

Signature Judith Whelpton

Address 20, Lealoa Place
Pukalani, 96768

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 32 AM '99
STATE DEPARTMENT
OF TRANSPORTATION

RECEIVED
Oct 19 3 51 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name BARBARA P. MATHEWS
Signature Barbara P. Mathews
Print Name MARY MATHEWS
Signature
Address 494 Aulii Place
Pukalani Hi 96768

Current Address:
811 Kaipii Street
Kailua, Hi 96734

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name HARRY T. MIYACHI
Signature Harry T. Miyachi
Print Name ETHEL A. MIYACHI
Signature Ethel A. Miyachi
Address 400 AULII DRIVE
PUKALANI, HI 96768

DIRECTOR'S OFFICE
DEPT OF
TRANS

Oct 19 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Blan D. Williams M.D.
Signature Blan D Williams
Print Name Lynn Williams
Signature Lynn Williams
Address 100 Hoopalua Pl.
Pukalani, Hi 96768

RECEIVED
Oct 19 3 51 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 33 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION

DIRECTOR'S OFFICE
DEPT OF
TRANS

Oct 19 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Gary L. Ritchie
Signature
Print Name
Signature
Address 44 Welina Place
Mahanae, Hawaii
96768

RECEIVED
Oct 19 3 51 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 33 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 31 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Betty Kay Ikeda
Signature Betty Kay Ikeda
Print Name _____
Signature _____
Address 321 Aulii Drive
Pukalani, HI 96768

RECEIVED
Oct 19 3 51 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 33 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 31 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name ALVIN K. BARNHART
Signature Alvin K. Barnhart
Print Name SANDACE L. BARNHART
Signature Sandace L. Barnhart
Address 14 AULII PLACE
PUKALANI, HI 96768-8252

RECEIVED
Oct 19 3 51 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 33 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name R. Gregory LaGoy
Signature
Print Name
Signature Victoria Joyce Victoria Joyce
Address 50 Poha Place
Pukalani, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Craig F. Williams
Signature Craig F. Williams
Print Name Lisa K. Williams
Signature Lisa K Williams
Address 511 Aulii Dr.
Puk. HI. 96768

J. Kapena Williams
j Kapena williams

22 yr. old voter

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 31 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name PATRICIA THIBAUT

Signature Patricia Thibaut

Print Name _____

Signature _____

Address 65 Aulu Place
Pukalani Hi 96768

RECEIVED
Oct 19 3 51 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
Oct 21 11 33 AM '99
STATE DEPARTMENT
OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 32 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Tony Walholm

Signature _____

Print Name Katherine Walholm

Signature Katherine Walholm

Address 11 Ho'opalua Drive
Pukalani HI 96768

Oct 19 3 51 PM '99
HIGHWAYS DIVISION

RECEIVED
Oct 21 11 33 AM '99
STATE DEPARTMENT
OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Robert Morine
Signature Robert Morine
Print Name Adrienne Morine
Signature Adrienne Morine
Address 201 Hoopalua Dr.
Makawao Maui Hi 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Richard E. Helm
Signature Richard E. Helm
Print Name Ethelyn W. Helm
Signature Ethelyn W. Helm
Address 91 Aalii Dr
Pukalani, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Yoshio Arakaki
Signature Yoshio Arakaki
Print Name Ruby Dawn Arakaki
Signature Ruby Dawn Arakaki
Address 15 Aulii Dr.
Pukalani Hi 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Roland J. Wolfe
Signature Roland J. Wolfe
Print Name Mona M Wolfe
Signature Mona M Wolfe
Address 164 Mano Dr
Kula Hi 96790

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Paul Meyer
Signature Paul J. Meyer
Print Name [redacted] Rosalyn Loomis
Signature Rosalyn Loomis
Address 240 Hoopalua Dr
Makawao HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

We, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Alice Chau Bower
Signature Alice Chau Bower
Print Name Dwayne T. Bower
Signature Dwayne T. Bower
Address 79 Alokele Pl.
Makawao, Hi 96768
(Kula 200)

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Gary A. Sanchez
Signature Gary Sanchez
Print Name Margaret L. Sanchez
Signature Margaret L. Sanchez
Address 44 Melina Place
Pukalani, HI 96768

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 19 2 32 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Kahren Miller
Signature Kahren Miller
Print Name Kristin M. Miller
Signature Kristin M. Miller
Address 100 Alokele Place
Pukalani, HI 96768
GERALD H. MILLER
Gerald H. Miller

RECEIVED
Oct 19 3 52 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 21 11 33 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
HAWAII

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 32 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Richard Armour
Signature
Print Name Melinda Armour
Signature Melinda Armour
Address 380 Hoopalua Dr.
Pukalani, HI 96768

RECEIVED
Oct 19 3 52 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
Oct 19 11 34 AM '99
STATE DEPARTMENT
OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 32 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name HUGH. B. CHARE
Signature
Print Name KAREN E. CHARE
Signature K. Chare
Address 72 AULII PLACE
MAKAWAO, HI 96768

RECEIVED
Oct 19 3 52 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
Oct 19 11 34 AM '99
STATE DEPARTMENT
OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Bobbie K. Kop

Signature

Print Name

Signature

Address 54 Auli Place
Pukalani HI. 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Calvin Shibuya

Signature

Print Name Betty Shibuya

Signature Betty Shibuya

Address 40 Haele Place
Makawao, Maui HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Max F. AGATHER
Signature Max F. Agather
Print Name Rosemary AGATHER
Signature Rosemary Agather
Address 192 'Ulili'i St.
Kihei, HI 96768-8208

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name HORST FRYCHEL
Signature Horst Frychel
Print Name
Signature
Address 38 POHA PL. PUKALANI
HAWAII, 96768

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION

Oct 19 2 32 PM '99

RECEIVED
Oct 19 3 53 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name James Ferrer
Signature
Print Name Robin Ferrer
Signature
Address 275 Hoopalua
Makawao, HI 96768

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 34 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION

Oct 19 2 32 PM '99

RECEIVED
Oct 19 3 53 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name ARTEMIO C. BAXA
Signature Artemio C. Baxa
Print Name
Signature
Address 393 Aulii Drive
Kula 200, Makawao 96768

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 34 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name A. S. LONG

Signature A S Long

Print Name BARBARA LONG

Signature Barbara Long

Address 370 Aulii Drive

Makawao HI 96768

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 34 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

RECEIVED
Oct 19 3 55 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Fukumura, Richard H

Signature

Print Name

Signature

Address

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 34 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

RECEIVED
Oct 19 3 55 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name George W. Freeland

Signature [signature]

Print Name _____

Signature _____

Address 49 Lea Lea Place
Pukalani, Hi 96768

RECEIVED
Oct 13 3 54 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
RECEIVED
Oct 13 11 34 AM '99
STATE DEPARTMENT
OF TRANSPORTATION

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name CLIFFORD N. KEKAUOHA

Signature [signature]

Print Name LESNAHLA G. KEKAUOHA

Signature [signature]

Address 77 AULEI PLACE
PUKALANI HI 96768

RECEIVED
Oct 13 3 54 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAYS DIVISION
PLANNING BRANCH
RECEIVED
Oct 13 11 34 AM '99
STATE DEPARTMENT
OF TRANSPORTATION

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Eva M. Duponte
Signature Eva M. Duponte
Print Name _____
Signature _____
Address 570 Kulaimi Dr.
Wailuku, HI 96793

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name THOMAS A. ROSSMAN
Signature Thomas A. Rossman
Print Name PATRICIA ROSSMAN
Signature Patricia Rossman
Address 31 Welina Place
Pukalani 96768

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION
Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Hideo Koga
Signature [signature]
Print Name Hisako Koga
Signature [signature]
Address 11 Aulii Place
Pukalani, HI 96768

RECEIVED
Oct 19 3 54 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT OF
TRANSPORTATION
Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name [illegible]
Signature [signature]
Print Name _____
Signature _____
Address [illegible]

Albert Brown ?

RECEIVED
Oct 19 3 54 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Alice E. Martin

Signature Alice E. Martin

Print Name Patricia N. Park

Signature Patricia N. Park

Address 45 Hoopalua Drive
Pukalani, Hawaii 96768

RECEIVED
Oct 19 3 54 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 19 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name W. Byron Metts

Signature W Byron Metts

Print Name

Signature

Address 11 Welina Place
Pukalani, HI
96768

RECEIVED
Oct 19 3 54 PM '99
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 13 2 33 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Benny Yamamoto
Signature
Print Name Gayle Yamamoto
Signature
Address 255 Hoopalua Dr.
Pukalani

RECEIVED
Oct 13 3 54 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Oct 13 2 34 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Richard Goodenough
Signature
Print Name Vickie Goodenough
Signature
Address 70 Hoopalua Dr
Kula 200 Pukalani, HI 96768

RECEIVED
Oct 13 3 54 PM '99
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Oct 21 11 35 AM '99
HIGHWAYS DIVISION
PLANNING BRANCH

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile. + Should not be Omapio

Print Name DAVID L. BARRATT
Signature
Print Name Lynne Barratt
Signature
Address 111 HOOPACUA DR.
MAKAWAO, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name ELLIOT L. LUKE
Signature
Print Name BARBARA J. LUKE
Signature
Address 111 AULII DR.
PUKALANI, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Carmen K. Lindsey
Signature Carmen K. Lindsey
Print Name _____
Signature _____
Address 52 Alokele Place
Pukalani, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name ANDREW DON
Signature _____
Print Name EDITH W. DON
Signature Edith W. Don
Address 21 ALOKELE PL.
PUKALANI, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Tobi Fisher
Signature Tobi Fisher
Print Name Patrick Fisher
Signature Patrick C. Fisher
Address 42 Alokele Pl.
Pukalani, HI 96768

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 19 2 34 PM '99

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name BRUCE TAYLOR
Signature Bruce R Taylor
Print Name LISA M STEVENS
Signature
Address 20 ALOKELE
PUKALANI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name DIANE LOGSDON
Signature [signature]
Print Name R.S. THIEMAN
Signature [signature]
Address 172 AUWI DRIVE
PUKALANI, HI 96768

Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

I/we, the undersigned, agree with the decision of the Kula 200 Community Association regarding the Upcountry/Kihei highway that the Upcountry terminus should be at Haliimaile.

Print Name Tama Brandeburg
Signature Tama Brandeburg
Print Name Donald Brandeburg
Signature [signature]
Address 243 Hoopalua Dr.
Pukalani, HI 96768

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: _____

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION '99 OCT 19 P3:04

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION '99 OCT 05 PM

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: From 4 adult individuals HW43661

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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____ I agree with the above statement. √ I disagree with the above statement.

Comments: M. VALES
1. Road should not be built. Detrimental to Kula agriculture
2. If built, should be thru Pulehu.

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION '99 SEP 14 PM 1:05

3662

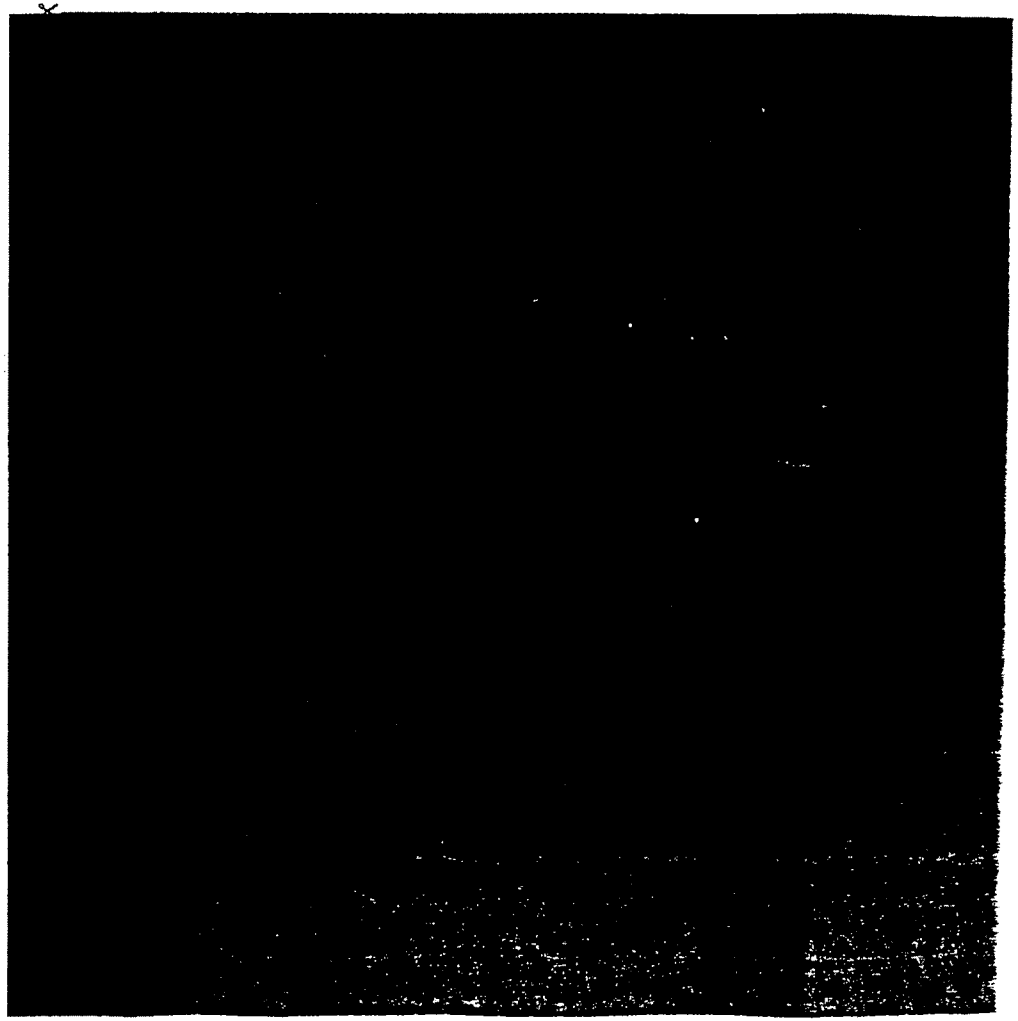
Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement.

Comments: RON RAWSON
98-C Nana Pono Pl
Kula Hi 96790

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION '99 SEP 3 PM 1:02



Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
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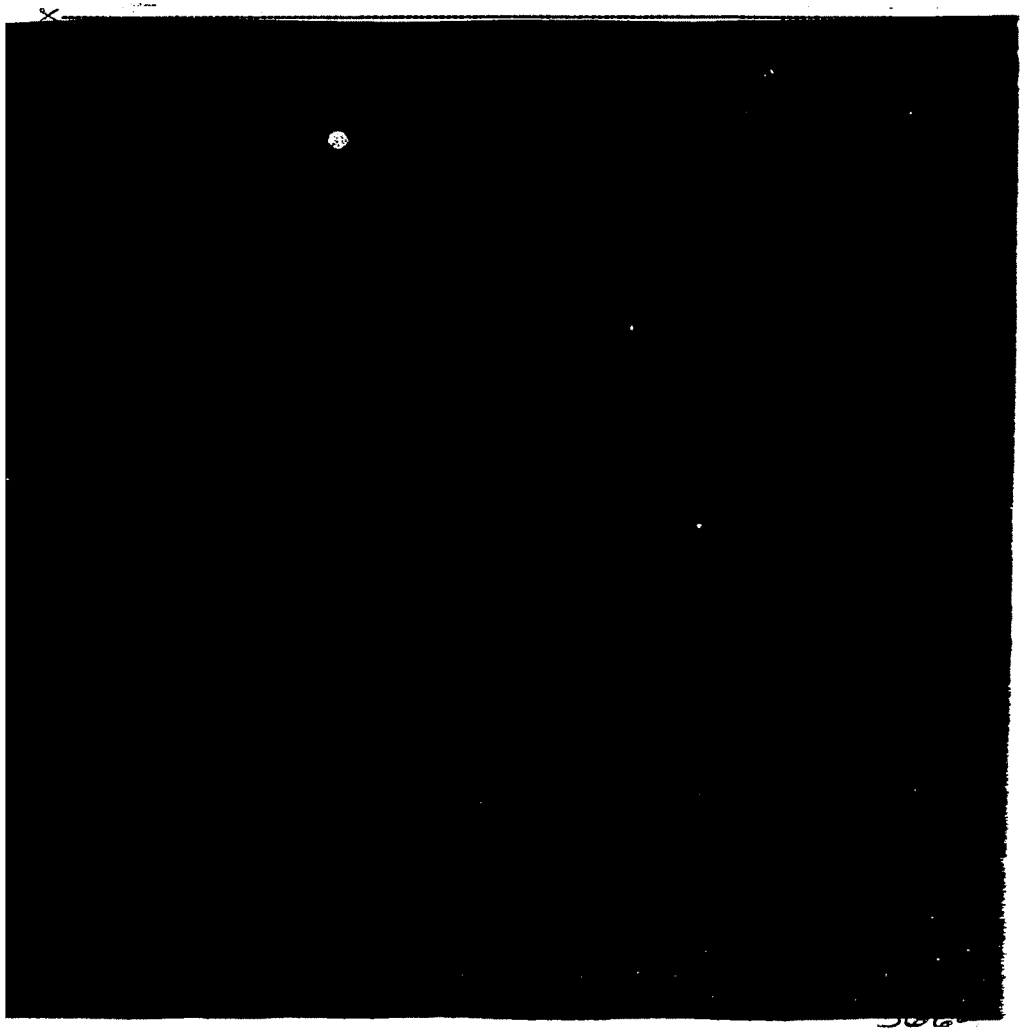
✓ I agree with the above statement. ___ I disagree with the above statement

Comments: My ~~sister~~ husband works in Makena we live in upper Kula
The Haliimaile route makes the most sense - convienece at shopping at Kuiakoni for groceries etc.

×



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✓ I agree with the above statement. ___ I disagree with the above statement

Comments: I believe that a majority of the Upcountry residents do not want this road. If you don't believe me, perhaps you should put the issue to a vote.

×

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 19 3 09 PM '95
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: THERE IS NO INFRASTRUCTURE UPCOUNTRY TO HANDLE INCREASED TRAFFIC & PEOPLE. LETS FOCUS ON MAKING THE INFRASTRUCTURE WORK & BE AT LEAST ADEQUATE FOR THOSE PEOPLE ALREADY RESIDING UPCOUNTRY BEFORE EVEN CONSIDERING A NEW ROAD AT ALL!

[redacted]

3668

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

OCT 05 1 09 PM '95
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

HW4 3670 X I agree with the above statement. ____ I disagree with the above statement

Comments: Getting tired of this issue being tossed around back and forth. Hope it can be decided. This becomes a reality.

[redacted]

3670

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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✓ I agree with the above statement. ____ I disagree with the above statement

Comments:

M. McDaniel
RR 4 Box 644
Kula, HI 96790

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
99 OCT 28 PM 3:40

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway, to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments:

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION
99 OCT 28 A10:40

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
99 OCT 28 PM 3:40

'a Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ____ I disagree with the above statement

Comments: IF THE HALIIMAILE TERMINUS IS NOT CHOSEN, I WOULD PREFER THAT THERE BE NO HIGHWAY. THE RESIDENTS OF KULA WANT TO RETAIN THE RURAL ATMOSPHERE OF THEIR COMMUNITY

Robert B. Silvey

Robert B. Silvey
282 Kahoea Place
Kula, HI 96790

19 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION '99

[redacted]

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: Gail C. Lemmie

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION 2 5 PM '99

[redacted]

8677

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION
Oct 19 3 00 PM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments: We do not need a road leading directly into Kula. We want our rural area preserved!!

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

2 drought relief ___ water reservoirs | 1 fire control ___ delivery systems | 3 water quality ___ meter wait list | ___ water pressure ___ rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes V

Comments: This is common sense we need to take care of the people who currently reside here.

[redacted]

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION
99 Oct 19 P1 :39

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments: I would prefer the highway not be built at all!

(over) HW4 3678

[redacted]

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 19 3 02 PM '99 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

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X I agree with the above statement. ____ I disagree with the above statement

Comments: Keep the integrity of upcountry communities being the road skip Pulehu/Haliimaile/Five Off course it will least Waste Community Tax

Mary A. Hildebrand

[redacted]

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. ✓ I disagree with the above statement

Comments: I believe Pulehu or the shortest route between Kihei & Upcountry is best. Least amount of dollars spent & it provides an alternate route

KCA UPCOUNTRY WATER POSITION

OCT 19 3 02 PM '99 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

1 drought relief	2 fire control	3 water quality	___water pressure
___water reservoirs	___delivery systems	___meter wait list	___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes ✓

Comments:

Jacob & Maryann Barros
P. O. Box 156
Kula, HI 96790
573-9839

[redacted]

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION 96 OCT 19 P3:06

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ___ I disagree with the above statement

Comments: Please inform Senator Daniel Inouye of my opinion so well expressed above and how apparently a majority opinion in some communities, and recommend that he back away from supporting this project.

William Russell, William Russell, 58 Keokeo Rd.
Kula, Maui, HI 96790

3673

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

HWY 3666

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION 96 OCT 19 P3:06

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ___ I disagree with the above statement

Comments: Although the trade off between convenience for people to destruction in the long term effect is not worth the effort! Where and when can we say that there will be no need for major development projects - NO more mainland investors we allways endup loosing in the long run!

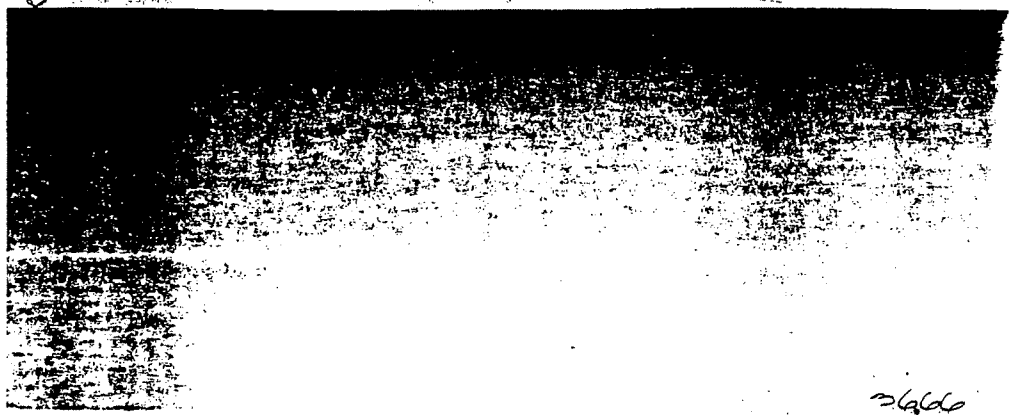
KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

X drought relief	___ fire control	___ water quality	___ water pressure
X water reservoirs	___ delivery systems	X meter wait list	___ rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments: _____



3666

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 19 9 58 PM '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

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___ I agree with the above statement. X I disagree with the above statement

Comments: THE SHORTEST DISTANCE BETWEEN 2 TWO POINTS IS A STRAIGHT LINE. FROM THE KIHEI R&T PARK TO THE CRATER (TOP), ANY OTHER ROUTE WILL INTERSECT W/ OMAOPO WHICH IN TURN PUTS CRATER BOUND TRAFFIC INTO OUR BEAUTIFUL OMAOPO, KULA GLEN, KIAOO DRIVE AND PULEHUIKI-KAMAKAHAWAHI RESIDENTIAL AREAS. WAKE UP BOARD MEMBERS, I WAS BORN & RAISED HERE IN KULA. FAMILY HERE SINCE 1850's

3682

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 19 2 58 PM '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

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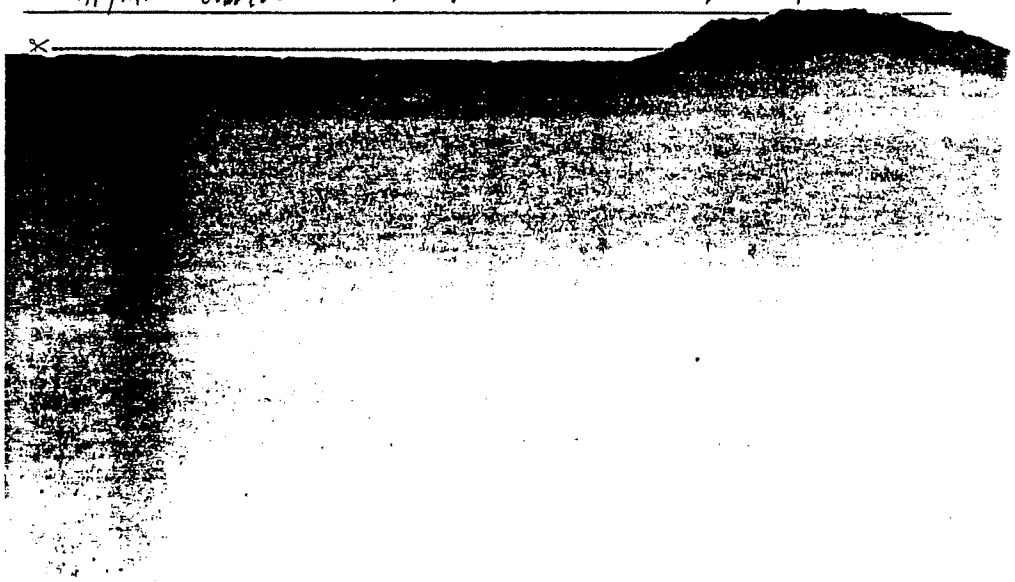
X I agree with the above statement. ___ I disagree with the above statement

Comments: Our preference is for this road not to be built.

Mr/Mrs. Charles P. Rum, Sr., 122 Pulehu Rd, Kula, HI 96790



3682

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Don McLane
160 Kulalani Dr
Kula, Hi 96790

DIRECTOR'S OFFICE
OCT 30 11 39
DEPT OF TRANSPORTATION
STATE OF HAWAII

X _____

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ____ I disagree with the above statement

Comments: _____

I OPPOSE THE UPCOUNTRY/KIHEI HIGHWAY BEING BUILT.

Don McLane

X _____

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE
OCT 19 2 11 PM '95
DEPT OF TRANSPORTATION
STATE OF HAWAII

X _____

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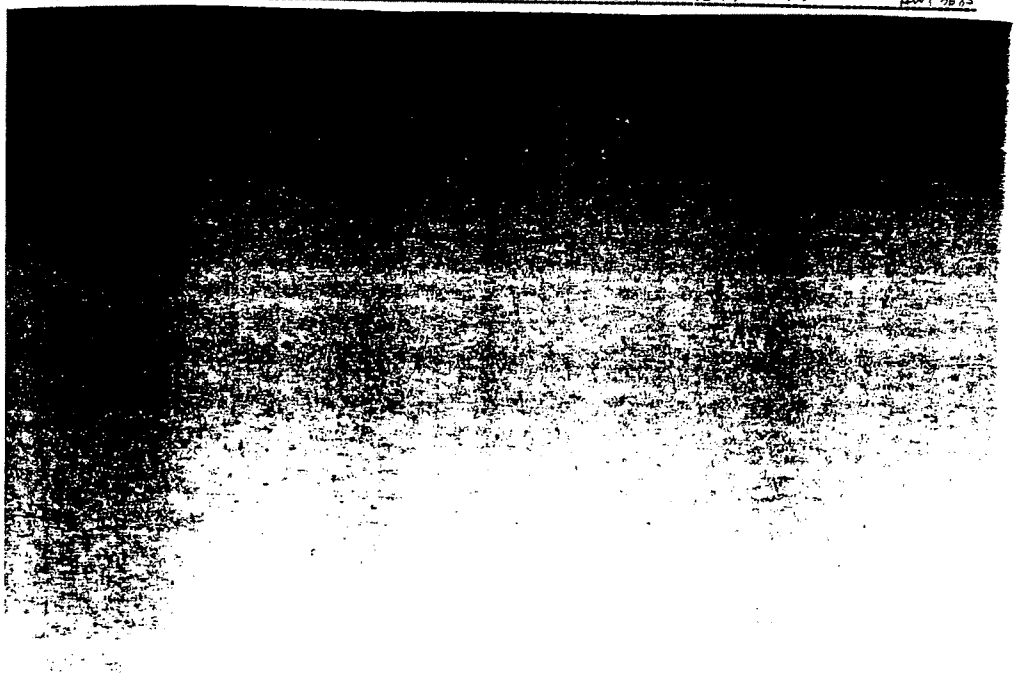
____ I agree with the above statement. X I disagree with the above statement

Comments: We believe this highway will promote future high-Tech industry expansion and tourism, bring employment and financial improvement to our island.

Bunie Dick Kramer
284 WAIPOLI ROAD
Kula, HI 96790-9478

HWY 3685

X _____



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HW4 3686 ✓ I agree with the above statement. ____ I disagree with the above statement

Comments: _____

x _____

[redacted]

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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____ I agree with the above statement. X I disagree with the above statement

Comments: We completely support the construction of the UpCountry/Kihei highway. Build it where it's the cheapest and safest. Five Trees junction is not a good idea — too much congestion already. Let's get it done!!
Aloha, Anne + Jack Brauer 878-3491

x [redacted]

3687

KIHEI / UPCOUNTRY HIGHWAY

HWY 3688

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

RECEIVED
Oct 19 5 31 PM '99
DEPT OF TRANSPORTATION
HIGHWAY DIVISION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ___ I disagree with the above statement

Comments: Diana Sargent

OCT 19 3 05 PM '99
DEPT OF TRANSPORTATION
HIGHWAY DIVISION

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

___drought relief ___fire control ___water quality ___water pressure
___water reservoirs (3) delivery systems (2) meter wait list ___rates and fees

(1) Tax credits for individuals installing home treatment + storage facilities

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes✓

Comments: If the county won't provide us with safe water or adequate water, then we should receive tax credits as an incentive to do what our government is remiss in not providing

If you haven't yet joined the KCA, please do so now. Here is the 1999 membership form.

Yes, your year 2000 membership dues are now payable!

1999 Dues expire on Dec. 31, 1999

Year 2000 KCA Membership Form

Dues: $5-Indiviual $10-Family $3

NAME: DIANA SARGENT
ADDRESS:
PHONE:
FAX: E-MAIL: eclipse@maui.net

Ms. Diana Sargent
202 Kepa Rd
Kula, HI 96790

Send dues with this form to: KCA, P.O.B. 417, KULA, HI. 96790. Or you may also join at the meeting. Membership is available for those who reside or own property in the Kula area. Others may also join but without voting privileges. By providing your fax or email address, we can keep you aware of issues facing the community and on the actions of the Board and Association.

3688

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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✓ I agree with the above statement. ___ I disagree with the above statement

Comments: Dear Mr. Hayashida - We have worked for over a year to Bring back to life the 5 Trees intersection. Please do not even consider bringing the road there. The Haliimaile junction would allow the road but NOT destroy upcountry. If you Lived here you would feel the SAME! Bob + Marsa Rowland

OCT 19 3 05 PM '99
DEPT OF TRANSPORTATION
HIGHWAY DIVISION

[redacted]

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION
'90 OCT 26 AM 11

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X I agree with the above statement. ____ I disagree with the above statement

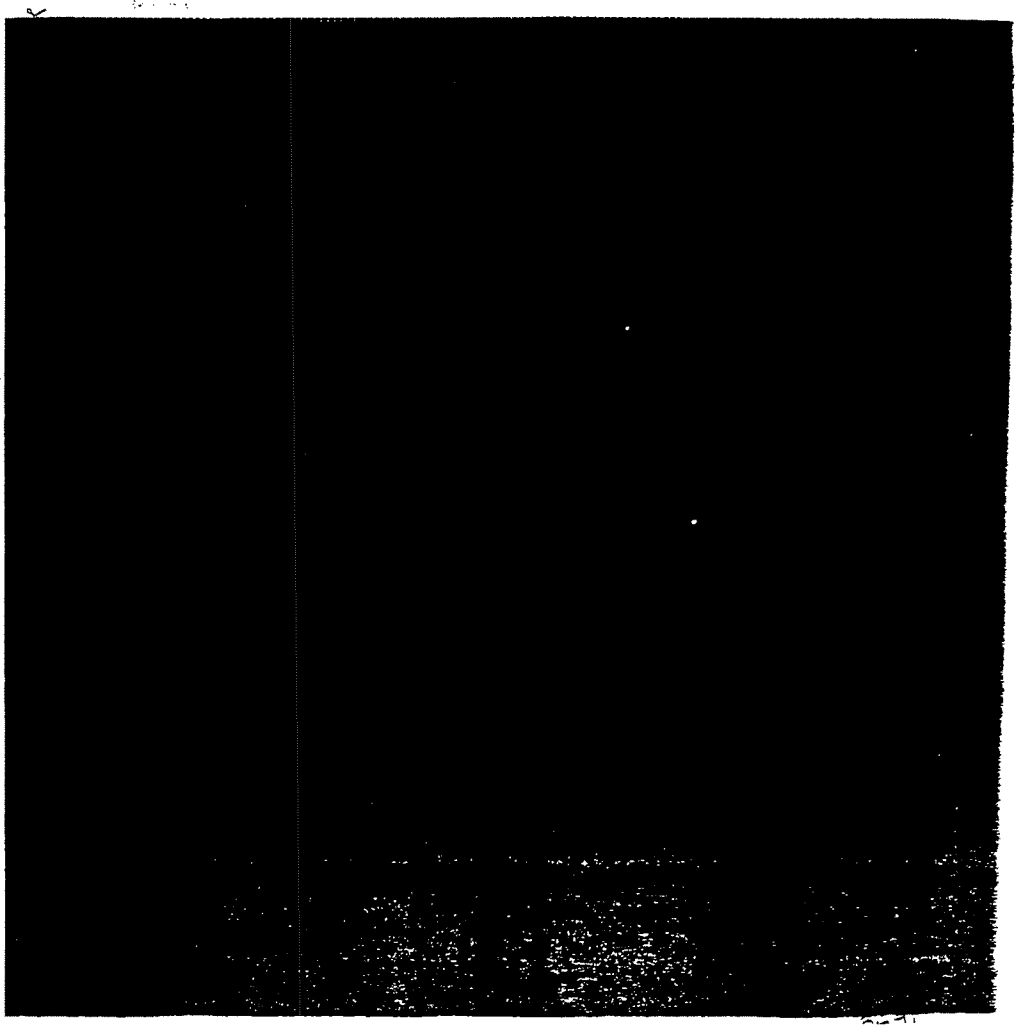
Comments: I would prefer that no upcountry-Kihei road be built. I think its important to keep Maui beautiful and am against any development upcountry

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: Kihei is overdeveloped already, and we have alot to solve our water problems. We don't need the added traffic problems this would create.



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Honolulu, HI 96813

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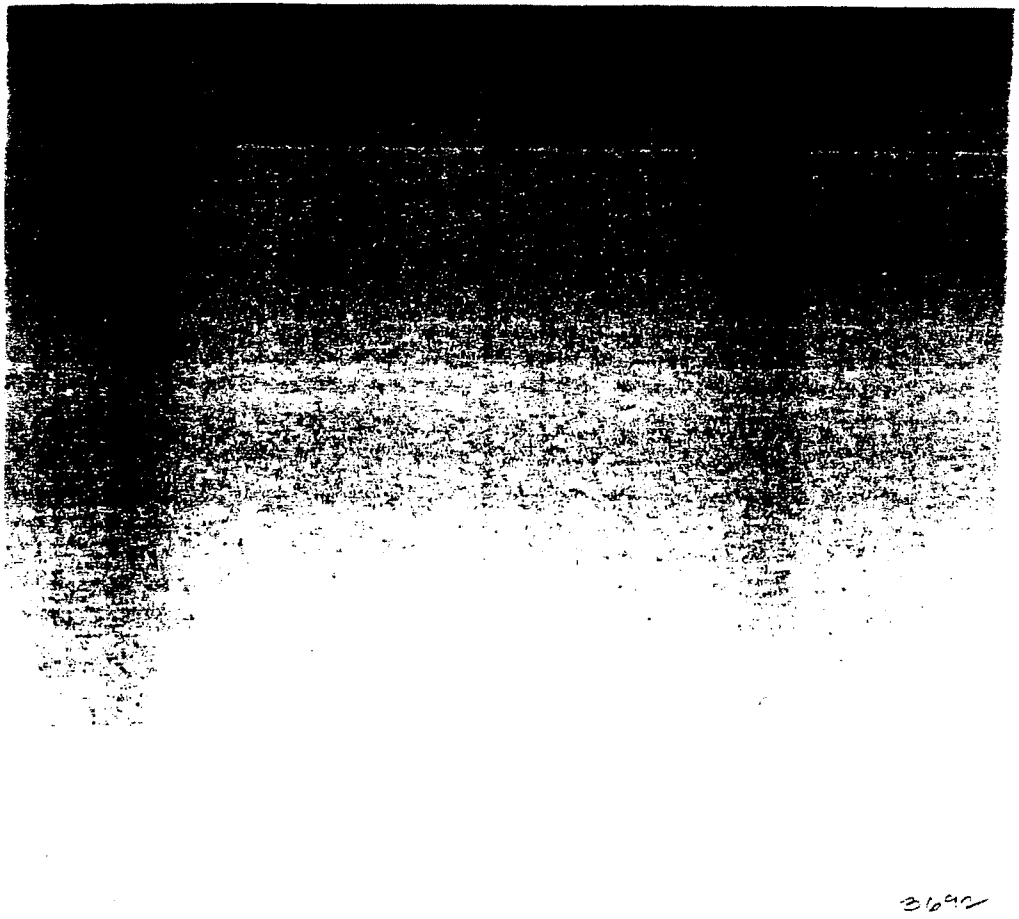
X I agree with the above statement. ____ I disagree with the above statement

Comments: _____



3692

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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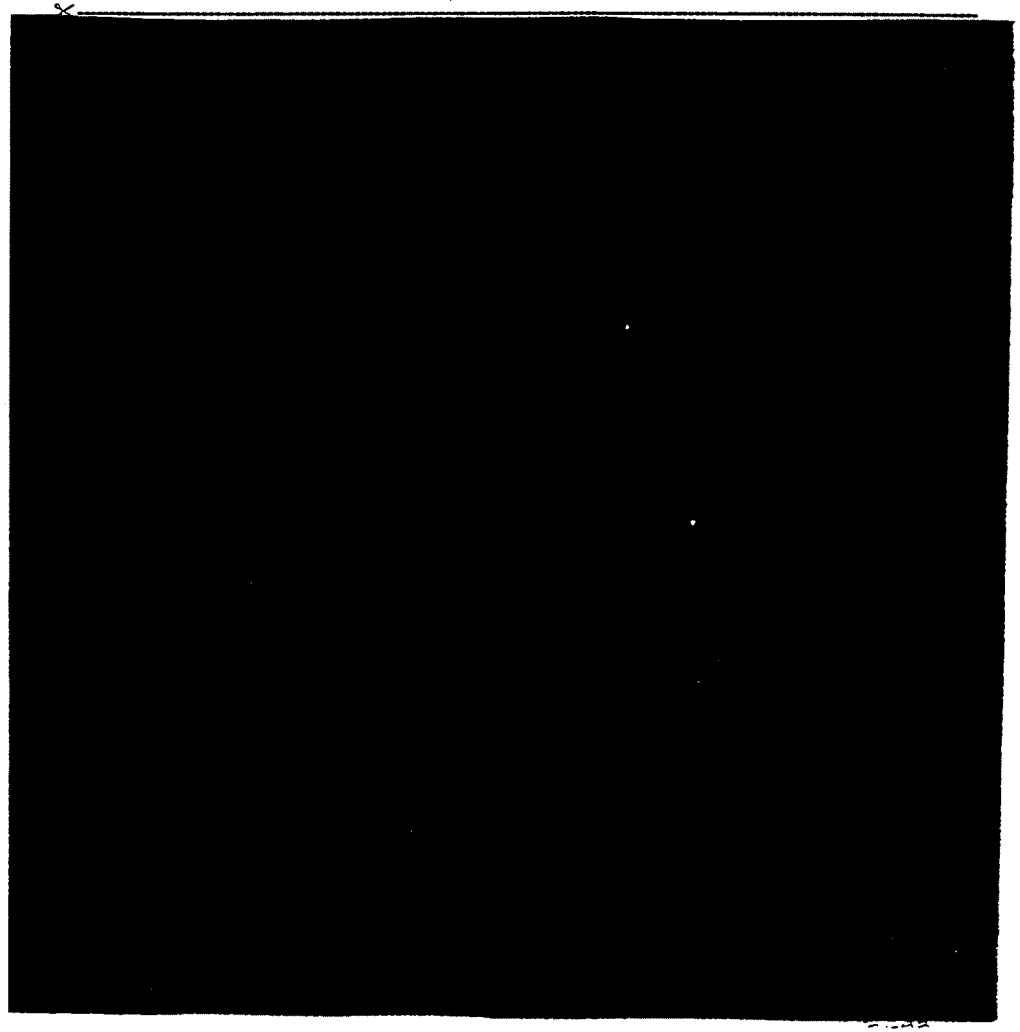
X I agree with the above statement. ____ I disagree with the above statement

Comments: I live in Kula & drive to Kihei Mon-Fri. I do not want the upcountry/Kihei highway. Please fix Hansen Road!



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X I agree with the above statement. ___ I disagree with the above statement

Comments: IF THE UP COUNTRY/KIHEI ROAD IS TO BE BUILT UP COUNTRY RESIDENTS SHOULD BE ALLOWED TO CHOOSE THE TERMINUS ON THEIR END, OF THE BYPASS.

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
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___ I agree with the above statement. X I disagree with the above statement

Comments: IF A SHORTER ROUTE BETWEEN UPCOUNTRY & KIHEI IS SERIOUSLY CONSIDERED, WHY DRIVE HALF WAY + DOWN THE HILL BEFORE PICKING UP A TURN TO THE SOUTHWEST TO HEAD TOWARD KIHEI. AM I MISSING SOMETHING?

[redacted]

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 11 AM 99
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

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X I agree with the above statement. ___ I disagree with the above statement

Comments: Douglas + Janet Chun
Holopuni Road
Kula HI 96790

3698

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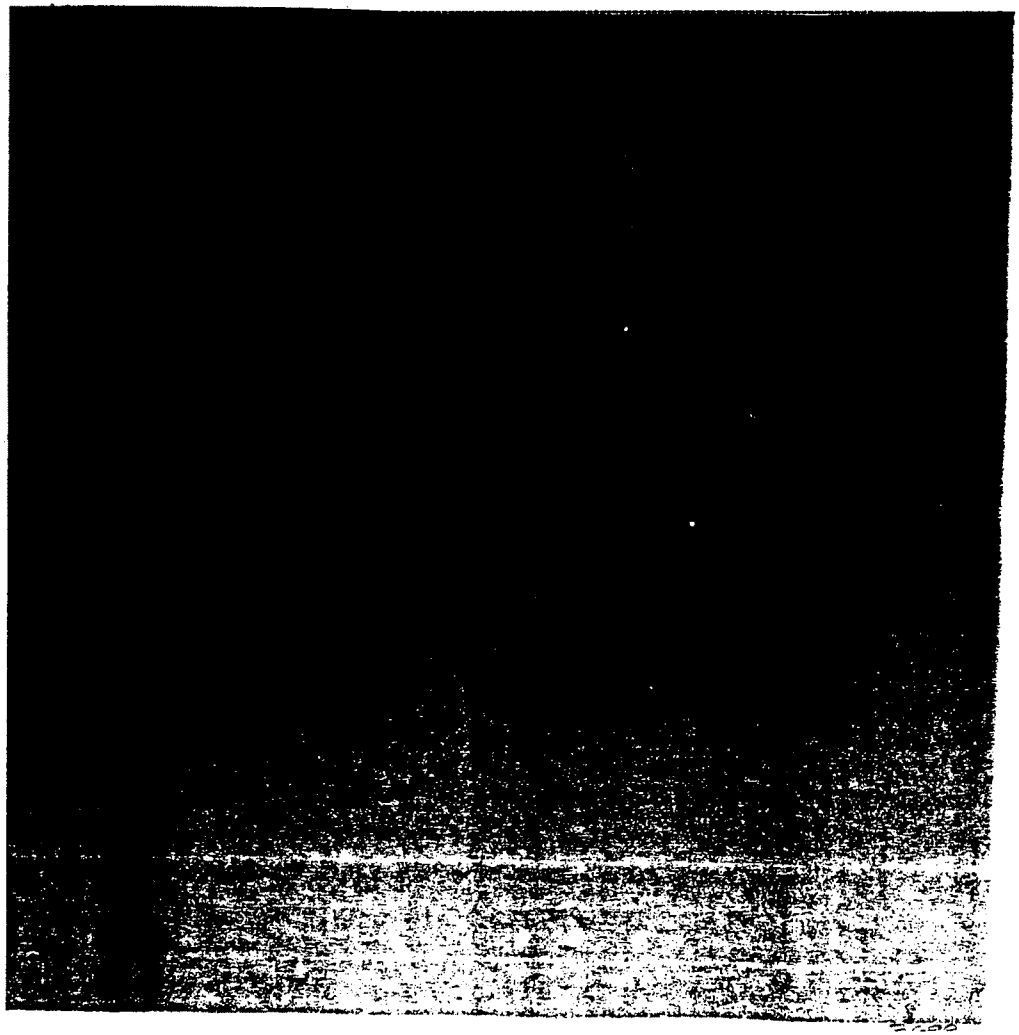
OCT 11 AM 99
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

X I agree with the above statement. ___ I disagree with the above statement

Comments: Preferably no bypass road but if necessary - Haliimaile



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✓ I agree with the above statement. ___ I disagree with the above statement

Comments: Pamela Beagle 878 2418
207 Copp Rd ; Kula

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
'99 OCT 29 AM 8:20

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
'99 OCT 28 AM 8:20

✂

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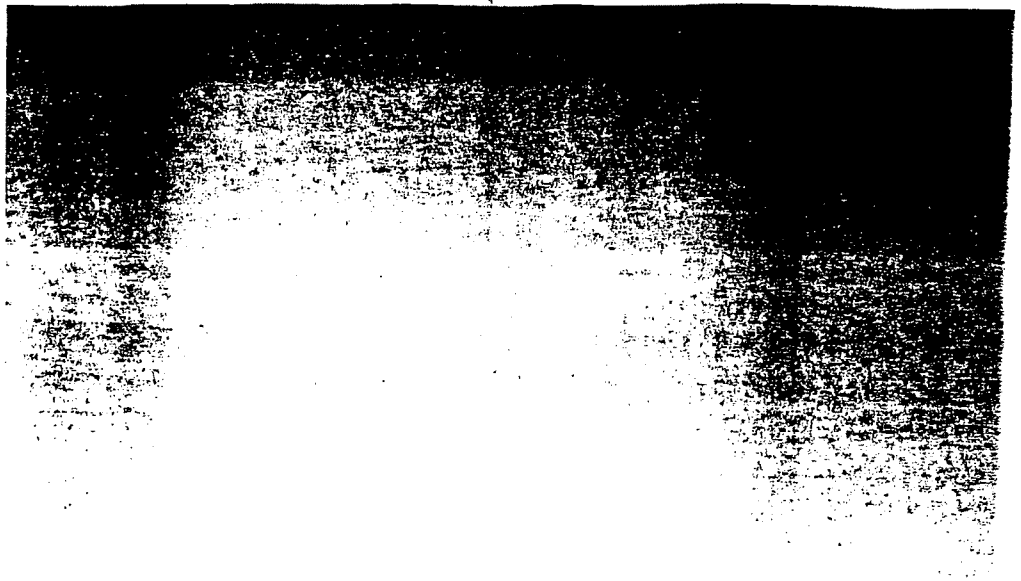
___ I agree with the above statement. X I disagree with the above statement

Comments: It doesn't matter how much you upgrade the existing roads it's always going to be jammed up with too many cars. We need a direct route to Kihei and Lahaina. Pulehu would be the quickest, cheapest, and take less ag. land. It would also avoid a certain traffic snarl-up at Haliimaile.

✂



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43704 X I agree with the above statement. ___ I disagree with the above statement.

Comments:

x

OCT 20 DIRECTOR DEPT TRANSPO

KCA UPCOUNTRY WATER POSITION

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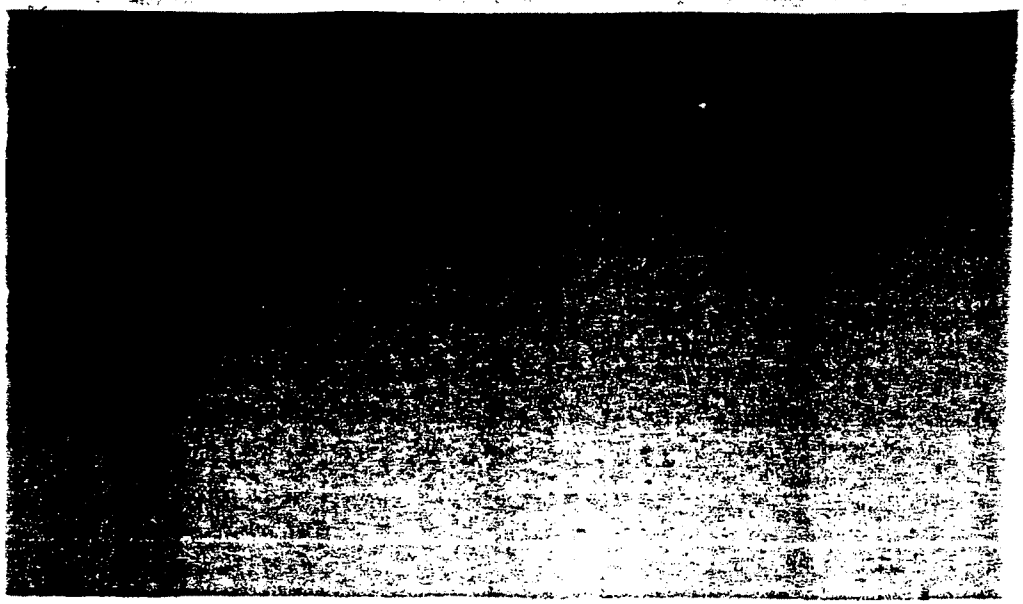
X drought relief ___ fire control ___ water quality X water pressure
X water reservoirs ___ delivery systems ___ meter wait list ___ rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments:



Kula Community Association
P.O. Box 417
Kula, Maui, Hawaii 96790
http://www.kulamaui.com

Already a mapped Road

Bulk Permit
#17
Kula

On the Soft-out / more colorful Map of Maui

Kula Postal Patron Kuhei Rd that

Here is A Road called

goes from Omaopio - and comes out on Piilani Hwy

Also if main junction - going left down Piilani - at 1st stand light

turn left - right there at the end of road Through Cane field -

the is about 20 yards pavement with a Stop Sign — for those

comment out of cane field

KULA COMMUNITY ASSOCIATION GENERAL MEETING

The next KCA General Meeting is Thursday, November 18, 1999, 7 p.m., at the Kula Community Center. All community members are welcome. Please come, meet your Kula neighbors, discuss our community's problems, and help develop solutions. Refreshments will be served. We look forward to seeing you there! For information, call 878-1342. The agenda includes the following:

State Legislative Issues

State Senator Avery Chumbley and Representatives Chris Halford and David Morihara will be our guest presenters. They will address topics that directly and indirectly affect Kula and Kula residents, including such issues as education initiatives, 24 hour ambulance service, Haleakala summit development plans, water system projects, and the state's economy and fiscal challenges. Opportunity will be provided for you to share your interests and concerns with our legislators and to provide them feedback on upcoming issues.

Election of KCA Officers and Board Members

The nominees for office are: Elliott Krash – President; Tom Jewell – Vice President; John McDonald – Treasurer; and Gina Flammer – Secretary. All current Board Members are standing for reelection. They are listed below, along with the current officers. If you are interested in serving as an officer or board member, please call Alan Kaufman at 878-6682. **Current Executive Committee:** John Wilson-President; Elliott Krash-Vice President; Sue Guille-Secretary; John McDonald-Treasurer. **Board of Directors:** Emma Abihai, Hari Atmani, Erwin DePonte, Gina Flammer, Tom Jewell, Alan Kaufman, Henry Lau, Verna Nahulu, Dick Mayer, Terry McBarnet, Cathy Ross, Mitch Silver, Steve Sutrov.

KCA WEBSITE

Our pages can be viewed at **http://www.kulamaui.com**. Position statements, minutes, links and more are [illegible] We have also used the site to poll members on [illegible]

OCT 20 DEPT. OF HIGHWAYS RECEIVED

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments: _____

X _____

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION OCT 20 11 10 AM '99

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

1 drought relief	___fire control	4 water quality	___water pressure
2 water reservoirs	3 delivery systems	___meter wait list	___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments: _____

[redacted]

3706

Hwy 3707

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26 to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION OCT 20 11 10 AM '99

X _____

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___ I agree with the above statement. X I disagree with the above statement

Comments: I support upgrading existing roads, however if there is to be an up country/Kihei road it should be built far out away from Haleakala Hwy to benefit Kihei people as well as people living in Kula. Why make a new highway so close to the old one? Pulehu is the smartest choice for the new highway.

X

KCA UPCOUNTRY WATER POSITION

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2 drought relief	___fire control	1 water quality	___water pressure
3 water reservoirs	___delivery systems	___meter wait list	___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes___

Comments: _____

[redacted]

HWY 3714

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 25th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 21 10 09 AM
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

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X I agree with the above statement. ____ I disagree with the above statement

Comments:

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X I agree with the above statement. ____ I disagree with the above statement.

OCT 07 10 09 AM
DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION

Comments: PLEASE REMEMBER, IT IS YOUR JOB TO LISTEN TO YOUR COMMUNITY.

THANK YOU!

HWY 3716
3715

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✓ I agree with the above statement. ___ I disagree with the above statement

Comments: The Haliimaile Terminus is more central to the Upcountry areas, of Paia, Pukalani, Makawao, & Kula.

Hwy 3716

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

OCT 20

KIHEI / UPCOUNTRY HIGHWAY

Hwy 3717

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

OCT 21

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X I agree with the above statement. ___ I disagree with the above statement

Comments:

HWY 3718

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 21 10 07 AM '99

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X I agree with the above statement. ___ I disagree with the above statement

Comments: I think this option will serve the population MORE EFFECTIVELY. IT SEEMS that the MAJORITY OF "UPCOUNTRY" is and will be in the Pukalani & Makawao & Haliimaile in the next years.

HWY 3720

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

RECEIVED Oct 21 11 03 AM '99 DEPT. OF T; HIGHWAY DIVISION

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 21 10 06 AM '99

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___ I agree with the above statement. V I disagree with the above statement

Comments: When a community is resistant to change without reasonable foresight to the realities of present and future needs, then, eventually that community will suffer from its own shortsightedness and selfish, self-serving AMBITIONS. This proposed roads can become a LIFELINE FOR ALL of us Economical as well as in times of a tsunami — a fast, safe place for the people of Kihei to get away from danger.

KCA UPCOUNTRY WATER POSITION

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___drought relief ___fire control 1 water quality 2 water pressure
3 water reservoirs ___delivery systems ___meter wait list ___rates and fees

a moratorium does not benefit everyone. It is not fair to the non-developer residents

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No X Yes ___ Because despite of a moratorium, developers still get permits.

Comments: The benefits of pure water free of carcinogenic contaminants is of utmost importance. There should be a separate water reservoir for agricultural use and a separate line for their usage also.

If you haven't yet joined the KCA, please do so now. Here is the 1999 membership form.

Yes, your year 2000 membership dues are now payable!

1999 Dues expire on Dec. 31, 1999

Year 2000 KCA Membership Form

Dues: $5-Indiviual $10-Family $30-Business

NAME: Julia Shim
ADDRESS: R R 2 BOX 123-A KULA, HI 96790
PHONE: 876-0382 UNLISTED NUMBER
FAX: ___ E-MAIL: ___

Send dues with this form to: KCA, P.O.B. 417, KULA, HI. 96790. Or you may also join at the meeting. Membership is available for those who reside or own property in the Kula area. Others may also join but without voting privileges. By providing your fax or email address, we can keep you aware of issues facing the community and on the actions of the Board and Association.

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ___ I disagree with the above statement

Comments: _____

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

2 drought relief ___ fire control ___ water quality ___ water pressure
1 water reservoirs ___ delivery systems ___ meter wait list 3 rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes✓

Comments: _____

KIHEI / UPCOUNTRY HIGHWAY

HWY 3102

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

___ I agree with the above statement. ✓ I disagree with the above statement

Comments: Nobody (residents tourists and/or business people) wants traffic jams - Nobody likes to waste time stuck in traffic. Build the road but do it smart connecting @ Haiimaile would create a huge bottleneck The terminus must be higher up the mountain

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 3150

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement.

Comments: _____

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 3104

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement.

Comments: _____

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

HWY 3740

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: There's enough traffic with King Kekaulike High School and Kamehameha School on Kula Highway that Haliimaile terminus will be the best solution and alleviate traffic problems!

✂

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 25th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

HWY 3740

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

✂

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. ____ I disagree with the above statement

Comments: I agree exept I would like the road to come into the Kula area by the newly built school complex where the Kula Highway has the widened road & bright lights newly added.

CA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

2 drought relief 3 fire control ___water quality ___water pressure
1 water reservoirs ___delivery systems ___meter wait list ___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

omments:_____

If you haven't yet joined the KCA, please do so now. Here is the 1999 membership form.

Yes, your year 2000 membership dues are now payable!

1999 Dues expire on Dec. 31, 1999

Year 2000 KCA Membership Form

Dues: $5-Indiviual $10-Family $30-Business

AME:_____
DDRESS:_____
IONE:_____
X:_____ E-MAIL:_____

nd dues with this form to: KCA, P.O.B. 417, KULA, HI. 96790. Or you may also join at the meeting. mbership is available for those who reside or own property in the Kula area. Others may also join but nout voting privileges. By providing your fax or email address, we can keep you aware of issues facing the nmunity and on the actions of the Board and Association.

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei – Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

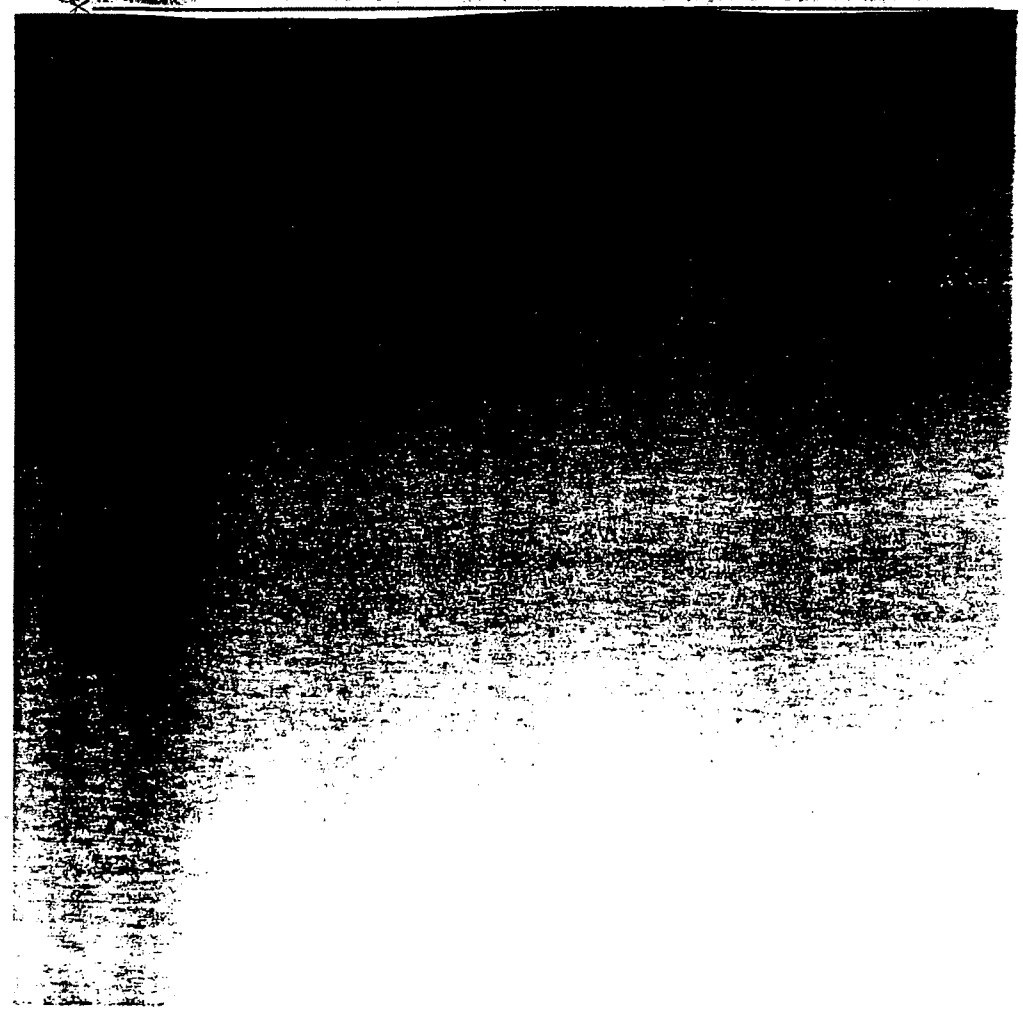
HWY 0130

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
'99 NOV 12 P1:59

X I agree with the above statement. ___ I disagree with the above statement

Comments: Strongly agree!

Patricia Mazingo – PO Box 223 Kula 96790



KULA COMMUNITY ASSOCIATION GENERAL MEETING

The next KCA General Meeting is Thursday, November 18, 1999, 7 p.m., at the Kula Community Center. All community members are welcome. Please come meet your Kula neighbors, discuss our community's (Fax machines make this easy). The public NEEDS to KNOW. We would appreciate your comments to KUNISAWA@maui.net

Mahalo

Kula Postal Patron

HIGHWAYS DIVISION
PLANNING BRANCH
Oct 25 10 57 AM '99
RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION

Bulk Permit
#17
Kula

Kula Community Association
P.O. Box 417
Kula, Maui, Hawaii 96790

http://www.kulamaui.com

KIHEI / UPCOUNTRY HIGHWAY HWY 0171

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION OCT 27 AM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments:

LAMBERT
118 AKEA PL
KULA HI 96790

HONOLULU HI 968 PM 26 OCT 1999

MR. KAZU HAYSHIDA, DIR. OFT.
STATE DEPARTMENT OF TR
869 PUNCHBOWL STREET
HONOLULU HI 96813

96813+5036

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 0171

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION OCT 27 AM '99

X I agree with the above statement. ____ I disagree with the above statement

Comments: ABSOLUTELY!

ZAC BAILEY
96790

HONOLULU HI 968 PM 26 OCT 1999

33 USA

MR. KAZU HAYSHIDA - DIRECTOR
STATE DEPT. OF TRANSPORTATION
869 PUNCHBOWL St.
Honolulu, HAWAII 96813

96813+5036 3759

KIHEI / UPCOUNTRY HIGHWAY HWY 0160

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 27 10 10 AM '93 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Pine Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments: We do not need more roads! We need improvements to existing roads! - I have lived in Kula 22 yrs

P.O.B 332
Kula, HI
96790

HONOLULU HI PM 25 OCT 1993

Mr Kazu Hayshida
Director of Transportation
State Dept of Trans
869 Punchbowl St
Honolulu, HI ~~96810~~ 96813

96813+5036

3760

KIHEI / UPCOUNTRY HIGHWAY Hwy 376

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 27 10 10 AM '93 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Tree termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments: I believe that Haliimaile terminus to be the best possible location. If there has to be a highway - If at all possible, I would prefer if there Not be A highway - We need to Keep Maui Beautiful - Promote Agriculture and Quality of Life.

S. Kauai
P.O. Box 322
Kula, HI 96790

HONOLULU HI PM

Mr. Kazu Hayashida
Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

96813+5036

37.

Hwy 3762

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 25th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION OCT 27 1999

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments:

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

2 drought relief ___ fire control ___ water quality ___ water pressure
7 water reservoirs 3 delivery systems ___ meter wait list ___ rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No X Yes ___

Comments: Because they are still allowed to build.

MICHAEL J. OR FREDA L. ABREU
7148 ALANUI PL
KULA, HI 96790

HONOLULU HI 968
PM
28 OCT
1999

Mr. Kazu Hayshida, Dire
State Department of Tra
869 Punchbowl St.
Honolulu, Hi. 96813

Hwy 0815

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 25th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION OCT 27 2 49 PM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ___ I disagree with the above statement

Comments: Use the money to widen + improve the present roads, especially Lokia + Kihei. We don't need 6000 more cars a day in Kula.
Philip E Mulligan

M

Philip E. Mulligan
149 Ohelo Pl
Kula, HI 96790-9721

HONOLULU HI 968
PM
27 OCT
1999

Mr. Kazu Hayshida, Director
State Dept. of Transportation
869 Punchbowl St
Honolulu, Hi 96813

96813+5036

HWY 3878

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 25 58 AM '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
STATE OF HAWAII

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: Randy Heller - Kula
Kyoko Yoshida - Kula
Marilyn Heller - Kula
Dean Hoe - Makawao
Curtis Tyler - Makawao

Residents who feel the roads would be detrimental to the quality of life, are unnecessary and $ could be better spent to widen existing roads

Randy & Marilyn Heller
484C Upper Kimo Drive
Kula HI 96790

HONOLULU HI 969
PM

Mr Hayshida, Dept of Transportation
State Dept of Transportation
869 Punchbowl St
Honolulu, HI. 96813

96813+5036

Hwy 3878

HWY 3883

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 25 58 AM '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
STATE OF HAWAII

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: D A Horeshita
3233 A Alae Rd
Kula HI 96790

Kula Community Association's positio.. .. - proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement.

Comments: _____

HWY 3884

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION 10 59 AM '99

PIERCE
212A KAWEHI PL
KULA, HI 96790

HONOLULU HI 568 PM 22 OCT 1999

MR KAZU HAYSHIDA
DR. OF TRANSPORTATION
STATE DEPT. OF TRANS
869 PUNCHBOWL ST
HONOLULU, HI 9681

96813+5036

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement.

Comments: There is no excuse for building a highway when the majority of people in Kula do not want it.

HWY 3885

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION 10 57 AM '99

Bremmer
631 omaopio Rd.
Kula Hi. 96790

HONOLULU HI 568 PM 22 OCT 1999

Mr. Kazu Hayshida
Director of Transportation
State dept. of Transportation
869 Punchbowl st.
Honolulu Hi. 96813

96813+5036

Hwy 3885

KIHEI / UPCOUNTRY HIGHWAY

Hwy 3884

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 25 10 55 AM '95
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments:

H. FERRIS
RR 2 BOX 240
KULA HI 96790

HONOLULU HI 967
PM
OCT
1995

MR. KAZU HAYASHIDA Director
STATE DEPT OF TRANSPORTA
869 PUNCHBOWL
HON. HI. 96813

96813+5036

Hwy 3884

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. X I disagree with the above statement

Comments: This is NO realistic Solution to this problem.
We desperately Need that Upcountry ROAD NEED NEED NEED IT ✓
There are many people who would not associate with a group like KCA who FAVOR THE ROAD!

OCT 25 10 55 AM '95
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

Wesson
750 B Pulehuiki RD.
Kula Hi 96790-9716

HONOLULU HI 967
PM
OCT
1995

* HONOLULU P&D CTR *

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

96813-5036 37

KIHEI / UPCOUNTRY HIGHWAY

HWY 3890

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 15 10 AM '99 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

*X I agree with the above statement. ____ I disagree with the above statement

Comments: I believe the Haliimaile terminus serves the best interest of Upcountry, including Haiku, Makawao. It will keep Kula rural and away from traffic. It will also maintain business growth for Pukalani and Makawao that depend on tourist traffic.

D. Oka
209 Mauna Place
Kula, HI 96790

HONOLULU HI PM

33¢

Mr. Kazu Hayashida
Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

96813-5036 37

3890

KIHEI / UPCOUNTRY HIGHWAY

HWY 3891

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 25 10 AM '99 DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

*√ I agree with the above statement. ____ I disagree with the above statement

Comments: WIDENING HALEAKALA HIGHWAY TO 4-LANES WOULD

PUA KEA FARMS
206 Cooke Road
Kula, Maui, HI 96790
(808) 876-6705

HONOLULU HI PM

MR. KAZU HAYSHIDA, D
STATE DEPT. of TRANSPORT
869 PUNCHBOWL ST.
HONOLULU, HI 96813

96813+5036

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 30-16

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement.

Comments: _____

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
OCT 25 10 54 AM 99

Furukawa
RR 2 Box 82-B
Kula HI 96790-9441

Mr. Kazu Hayashi
State Department of
869 Punchbowl
Honolulu, Hi
96813/5097

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 30-16

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ___ I disagree with the above statement.

Comments: Since 4½ years I drive 5 days/week from Kula to Wailea but I'm willing to drive the existing route because I don't want the destruction of typical rural Kula atmosphere. Why does everybody want to se out whole land and destroy it? This is against the tourism

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
OCT 25 10 54 AM 99

Ursula Evarts
RR 2 Box 755J
Kula, HI 96790-9802

HONOLULU HI 968
PM

Mr Kazu Hayashida
Director of Transportation
State Dept. of Transportation
869 Punchbowl St.
Honolulu Hi 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
'00 OCT 27 A10:53 RECD

X I agree with the above statement. ____ I disagree with the above statement.

Comments: Julie Patterson, 210 HOLOMAKANI PL, KULA HI 96790

HWY 3894

KIHEI / UPCOUNTRY HIGHWAY

HWY 3895

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION
'00 OCT 30 A10:53 RECD

KAZU!!

✓ I agree with the above statement. ____ I disagree with the above statement.

PROPOSED ROAD IS UNNECESSARY AND WILL NEGATIVELY IMPACT KULA-UPCOUNTRY REGION
Comments: ANY FUNDS AVAILABLE FOR ROAD IMPROVEMENTS SHOULD BE APPLIED TO EXISTING ROADS THAT PROVIDE ADEQUATE ROUTES TO & FROM UPCOUNTRY & KIHEI.

Fred Robbins, Former State Senator/Rep.
RR 1, Box 398 KULA HI 96790

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 11 4 AM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

___ I agree with the above statement. X I disagree with the above statement

Comments: 40 minutes Kula – Kihei is a joke. We MUST get this road built – let's bring Kula into the 20th century, God forbid the 21st.

HWY 3896

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 25 99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ___ I disagree with the above statement

Comments:

Bangerter
116 Akea Place
Kula, Maui, Hawaii
96790

HONOLULU HI 968 PM 23 OCT 1999

Kazu Hayshida
State Dept of Transportation
869 Punchbowl St
Honolulu Hi
96813

KIHEI / UPCOUNTRY HIGHWAY

HWY 3897

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 25th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

✂

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: [illegible]

[illegible] 104 Iotoa Pl Kula 96790

✂

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: HWY 3898

✂

PO Box 481
Kula HI 96790

MR. KAZU HAYSHIDA
Dir. of Transportation
STATE Dept. of TRANSPORTATION
869 PUNCHBOWL ST.
HONOLULU HI 96813

Hwy 3898

KIHEI / UPCOUNTRY HIGHWAY

Hwy 3900

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DEPT. OF TRANSPORTATION
OCT 25 10 54 AM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments: _____

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

1 drought relief ___ fire control 3 water quality ___ water pressure
___ water reservoirs 2 delivery systems ___ meter wait list ___ rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments: _____

Gilbert
26 6 Poaka Pl
Kula Hi 96790

HONOLULU HI PM 968 28 OCT 1999

Mr. Kazu Hayshi
Director of Tr
State Department

KIHEI / UPCOUNTRY HIGHWAY

Hwy 3104

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DEPT. OF TRANSPORTATION
OCT 27 1 12 PM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: _____

E. J. CAMBRA
125 PULEHU RD
KULA, HI 96790

HONOLULU HI PM 968 28 OCT 1999

MR. KAZU HAYSHIDA
DIRECTOR OF TRANSPO
STATE DEPARTMENT OF
869 PUNCHBOWL ST.
HONOLULU, HI 968

3681345036

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

HWY 3905

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement.

Comments: Clifford + Mary A. Willey

OCT 26 10 PM '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

___drought relief ___fire control ___water quality ___water pressure
___water reservoirs ___delivery systems ___meter wait list ___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes___

Comments:_____

Mrs. Clifford A. Willey
RR 1 Box 461, Kula, Hawaii 96790

Hwy 3905

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 3905
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

-✓- I agree with the above statement. ____ I disagree with the above statement.

Comments: There is no need for another road upcountry. There are enormous problems and congestion on the highway from Kahului to Lahaina. Last week there were 4 car accidents on the hwy. 2 of them the road had to be closed. I was in that traffic along with thousands of others. Please do something about West Maui.

Suzy Moffett
115 Aloalo Pl.
Lahaina, HI 96761

HONOLULU HI 96813
PM

Mr. Kazu Hashida
Director of transportation
869 Punchbowl St.
Honolulu, Hi. 96813

8681345036

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: Hwy 3110

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE DEPT OF TRANSPORTATION 12 PM '99

X I agree with the above statement. ____ I disagree with the above statement.

Comments: There is so much growth upcountry – it now doesn't feel like upcountry. Lets not ruin this special place on earth.

H. Snipes
PO Box 1241
Kula, Hi 96790

HONOLULU 1 PM 25 OCT 1999

Mr. Kazu Hayshida
Director of Transportatio
State Department of Trans
869 Punchbowl St.
Honolulu, Hawaii
96813

96813+5036

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: Hwy 3110

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE DEPT OF TRANSPORTATION 99 OCT 25 PM 12:

X I agree with the above statement. ____ I disagree with the above statement.

Comments: WE HAVE RECENTLY MOVED TO KULA AND THINK THAT THE KCA POSITION IS REASONABLE. WE ALSO THINK THAT IMPROVEMENT OF THE HONOAPIILANI HIGHWAY AROUND LAHAINA, [redacted] SHOULD BE A HIGHER PRIORITY.

CHARLES & LINDA CHANDLER
198 B NANA POND PL. KULA

HWY 3915

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
Oct 26 10 58 AM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ____ I disagree with the above statement

Comments: _____

Joseph Palmeira R.R. 4 Box 790-D Kula, 96790

HWY 3921

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

DEPT. OF
TRANSPORTATION
Oct 25 10 58 AM '99

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. X I disagree with the above statement

Comments: Omaopio to the st. in Kihei near OKUKAI is the most direct. after it reaches KULA highway it should continue thru farm area to HALEAKALA HWY. A bike path shall be constructed nearby, to take all the cyclist bike clubs to KIHEI. No heavy trucks should be allowed on this 2 lane HWY. I disagree progress as much as the next guy but this is a necessity! HALIIMAILE IS NOT UPCOU

QUE SELF
P.O. BOX 393
KULA, HI 96790

* HONOLULU P&D CTR * 2 * 1

MR. KAZU HAYSHIDA
STATE DEPT. OF TR.
869 PUNCHBOWL
HONOLULU, HI 9

96813/5057

Hwy ~~3960~~ 3970

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

RECEIVED NOV 4 3 PM '99 STATE DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PLANNING

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

✓ I agree with the above statement. ___ I disagree with the above statement

Comments: _____

CHRIS BOTHMER
125A AINAKULA RD
KULA, HI 96790

HONOLULU HI 968 PM 29 OCT 1999

MR. KAZU HAYSHIDA
DIRECTOR OF TRANSPOR
STATE DEPT. OF TRAN
869 PUNCHBOWL ST.
HONOLULU, HI 96

9681+5036

Hwy 3978

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

NOV 8 STATE DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PLANNING

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ___ I disagree with the above statement

Comments: Go visit any metropolitan area on the mainland, and we will realize we do not need more roads - Roads are not the problem. Not here on Maui. Leave it the way they are.

Hwy 3979

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

____ I agree with the above statement. X I disagree with the above statement

Comments: I support an Upcountry/Kihei route and as a Kula resident I support a Kula terminus.
Rick Perrine M.D.

HWY 3980

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments:

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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X I agree with the above statement. ____ I disagree with the above statement

Comments: The proposed terminus of the other upcountry alternatives will lead to further congestion and loss of rural life style. The Haliimaile road currently is unsafe and needs to be re-worked anyway. Also, the Haliimaile terminus would serve the greatest # of people.

X

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

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✓ I agree with the above statement. ____ I disagree with the above statement

Comments: R. Dougal Crowe RR 2 Box 96-A
Ann B. Crowe Kula, HI 96790

HWY-917

OCT 12 11 '99
DIRECTOR'S OFFICE
DEPT. OF TRANSPORTATION

Mr. Kazu Hayashida, Director of Transportation
State Dept. of Transportation
869 Punchbowl St.
Honolulu, HI 96813

96813+5036

HWY
375 1

KIHEI / UPCOUNTRY HIGHWAY

Hwy 4405

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

✂---

Kula Community Association's position on the proposed Upcountry/Kihei Highway is:

The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING BRANCH
'99 OCT 25 P1:55

____ I agree with the above statement. X I disagree with the above statement

Comments: I support the building of the Upcountry/Kihei Highway if, and only if, the Haliimaile terminus is chosen.

✂---

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

___drought relief ___fire control ___water quality ___water pressure
___water reservoirs ___delivery systems ___meter wait list ___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments: small Upcountry agriculture should be exempt from drought restrictions — Lge. SUGAR/PINEAPPLE agribusiness should not be exempt!!

✂---

If you haven't yet joined the KCA, please do so now. Here is the 1999 membership form.

Yes, your year 2000 membership dues are now payable!

1999 Dues expire on Dec. 31, 1999

Year 2000 KCA Membership Form

Dues: $5-Indiviual $10-Family $30-Business

NAME: Sachin Hazen
ADDRESS: PO BOX 574 KULA 96790
PHONE:
FAX: E-MAIL:

Send dues with this form to: KCA, P.O.B. 417, KULA, HI. 96790. Or you may also join at the meeting. Membership is available for those who reside or own property in the Kula area. Others may also join but without voting privileges. By providing your fax or email address, we can keep you aware of issues facing the community and on the actions of the Board and Association.

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Hwy 4410

✂---

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X I agree with the above statement. ____ I disagree with the above statement

Comments: Don't waste good money on a project that is so controversial. Let Kula be Kula. We have almost no tourist destinations and the National Park is fragile enough w/o more traffic

✂ Susan Lanser 102-3 Kani Pl. Kula HI 96790

WATER
proc

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DEPT. OF TRANSPORTATION
Oct 27 10 11 AM '99

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X I agree with the above statement. ____ I disagree with the above statement

Comments:

KCA UPCOUNTRY WATER POSITION

The KCA is in the process of developing a position statement on upcountry water. Immediate, critical problems as well as long term needs will be addressed, with special focus on providing adequate water service for current residents and agriculture. We want the position statement to include the issues of greatest concern to Kula residents, so please indicate in numeric order the three most important items.

___drought relief ___fire control ___water quality 3 water pressure
1 water reservoirs 2 delivery systems ___meter wait list ___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments:

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DIRECTOR'S OFF 10 DEPT. OF TRANSPORTATION
Oct 27 10 11 AM '99

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Comments:

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✓ drought relief ___fire control ___water quality ___water pressure
✓ water reservoirs ___delivery systems ✓ meter wait list ___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes ✓

Comments:

Rice
R.R. 2 Box 258
Kula, Hi. 96790

KIHEI / UPCOUNTRY HIGHWAY

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DEPT OF TRANSPORTATION
Oct 25 10 48 AM '99

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X I agree with the above statement. ____ I disagree with the above statement

Comments: Please don't put this road through our Communities. There also must be parking lot so people can share rides

---

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2 water reservoirs	___delivery systems	___meter wait list	___rates and fees

Should there be a moratorium on the issuance of new meters until the water system has reserves that are sufficient to meet the needs of current users for six months of drought with no more than 10% usage reduction? No___ Yes X

Comments: We need reservoirs to save the water when it rains instead of letting it run off to be lost

---

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STATE DEPARTMENT OF TRANSPORTATION
Nov 4 3 43 PM '99
HIGHWAYS DIVISION PLANNING BRANCH

Oct 29 11 43 AM '99
DIRECTOR'S OFFICE DEPT OF TRANSPORTATION

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Comments:

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X I agree with the above statement. ____ I disagree with the above statement

Comments: NO BRAINER.

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Comments: _____

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Comments: ITS STUPID AND ELITE. EVERYONE DESERVES A BED AND A ROAD. LETS THINK ABOUT BURNING LESS FOSSIL FUELS. HOW ABOUT THE SHORTEST ROUTE POSSIABLE. TRY SOME LOGIC

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____ I agree with the above statement. X I disagree with the above statement
We strongly disagree!

Comments: It doesn't matter how much you upgrade the existing roads it's always going to be jammed up with too many cars. We need a different route to Kihei and Lahaina. Pulehu would be the cheapest, and take less ag. land. It would also avoid certain traffic [illegible] at Haliimaile

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Comments: _____

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 29 AM '99

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Nov 4 3 44 PM '99

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Comments: _____

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HIGHWAYS DIVISION PLANNING BRANCH

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Comments: No Highway

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DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 29 8 23 AM '99

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The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

X I agree with the above statement. ____ I disagree with the above statement

Comments:

KIHEI / UPCOUNTRY HIGHWAY

This is an important opportunity to comment on the proposed Upcountry/Kihei Highway. If you haven't yet shared your opinion, complete the following and mail it on or before Oct. 26th to:

Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813 Nov 4 3 44 PM '99

HIGHWAYS DIVISION PLANNING BRANCH

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 29 8 23 AM '99

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X I agree with the above statement. ____ I disagree with the above statement

Comments: State, County & Fed. Money should be spent on the Hwy To West Maui First.

KIHEI / UPCOUNTRY HIGHWAY

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State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

RECEIVED STATE DEPARTMENT OF TRANSPORTATION Nov 4 3 44 PM '99

HIGHWAYS DIVISION PLANNING BRANCH

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 29 8 23 AM '99

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X I agree with the above statement. ____ I disagree with the above statement

Comments:

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Mr. Kazu Hayshida, Director of Transportation
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869 Punchbowl St.
Honolulu, HI 96813 Nov 4 3 44 PM '99

HIGHWAYS DIVISION PLANNING BRANCH

DIRECTOR'S OFFICE DEPT. OF TRANSPORTATION Oct 29 8 23 AM '99

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X I agree with the above statement. ____ I disagree with the above statement

Comments: This proposed road is a waste of 60-100 $million dollars and irresponsible given our on going water problems and needs to upgrade existing roads.

KIHEI / UPCOUNTRY HIGHWAY

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Hwy 4410

x_____

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__X__ I agree with the above statement. ____ I disagree with the above statement

Comments: Don't waste good money on a project that is so controversial. Let Kula be Kula. We have almost no tourist destinations and the National Park is fragile enough w/o more traffic

x Susan Lanser 102-3 Kawi Pl. Kula HI 96790

WATER F
PROC

Kula Community Association's position on the proposed Upcountry/Kihei Highway is: HWY 2107
The Kula Community Association Board of Directors opposes the Pulehu, Kulamalu, and Five Trees termini options of the Upcountry/Kihei Highway. Further, the Kula Community Association Board supports as its highest priority the upgrading and improvements to existing roads connecting Upcountry and Kihei - Piilani Highway, Mokulele Highway, Hansen Road, and Haleakala Highway - to alleviate growing traffic concerns. If an Upcountry/Kihei road is to be built, the Kula Community Association Board considers the Haliimaile terminus the best option available.

DIRECTOR'S OFFICE
DEPT OF TRANSPORTATION
2007 NOV 21 AM 11:

__X__ I agree with the above statement. ____ I disagree with the above statement

Comments: I strongly agree with highest priority as stated here. If an Upcountry/Kihei road must be built, then the best option is Haliimaile terminus

x_____

KIHEI / UPCOUNTRY HIGHWAY HWY0100

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Mr. Kazu Hayshida, Director of Transportation
State Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

OCT 22 11 24 AM '02 DIRECTOR'S OFFICE

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X I agree with the above statement. ___ I disagree with the above statement

Comments: ① We work in Honokowai (a time in Kula) & We Really feel that the PALI Hwy deserves some very serious CONSIDERATION as to HOW a WIDENING can be accomplished. ② When an ACCIDENT in effect Shuts down the [redacted] a Roadway, the PO'l have an obligation to get that INFO to ALL RADIO STATIONS