LAND & WATER PLANNING AND CONSULTING

DRAFT ENVIRONMENTAL ASSESSMENT

DAVISON WATERLINE IMPROVEMENT PROJECT

KAI HUKI ROAD
HAIKU, MAUI, HAWAII 96779
TMK: (2) 2-8-003:059

Prepared for:
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I. INTRODUCTION

A. PURPOSE OF THE REQUEST

This environmental assessment has been prepared to assess the impacts associated with a waterline, to be dedicated to the County of Maui, Department of Water Supply, know as Davison Waterline Improvement system improvement project to include construction of an eight inch waterline, and four new standpipes along the existing Hana Highway and Kai Huki Road located in Haiku, Maui, Hawaii, please refer to "Appendix H – Construction Plans".

This Environmental Assessment has been prepared in compliance with Chapter 343, Hawaii Revised Statutes (HRS) and Chapter 200, Hawaii Administrative Rules, Environmental Impact Statement Rules. This Assessment also includes information consistent with the State Office of Environmental Quality Control's "The Environmental Guidebook.

B. REQUIRED LAND USE AND DEVELOPMENT PERMITS

1. State of Hawaii, Right of Entry permit
2. Special Management Area Permit
3. Building Permit

C. IDENTIFICATION OF THE APPLICANT

Owner: Maui Integrated Solutions Inc.

Kevin Davison, Managing Member

2310 Umi Place

Haiku, Maui, Hawaii 96708

Phone: (808) 575-2328

D. CONSULTANTS

Civil Engineer:	Linda Taylor Engineer, Inc. P.O. Box 779 Makawao, Hawaii 96768 Phone: (808) 572-2688
Land/Use Planning:	Land and Water Planning and Consulting 65 Lihiwai Place Haiku, Hawaii 96708 Phone & Fax: (808) 575-9763
Surveying:	Newcomer-Lee Land Surveyors, Inc. 1498 Lower Main Street, Suite D Wailuku, Hawaii 96793 Phone: (808) 244-8889

E. PRE-CONSULTATION

The following agencies were solicited for preliminary comments in the preparation of this Draft Environmental Assessment. (See Appendix C for related comments):

County of Maui

1. Department of Planning
2. Department of Public Works and Waste Management
3. Department of Water Supply

State of Hawaii

1. Department of Land and Natural Resources, Historic Preservation Office
2. Department of Transportation

F. ACCEPTING AGENCY

Authority: Maui County Department of Water Supply

Address: 200 S. High Street, Wailuku, Hawaii 96793

Phone: (808) 270-7835

G. PUBLIC COMMENT AND AGENCY COMMENT

County of Maui

4. Department of Planning
5. Department of Public Works and Waste Management
6. Department of Water Supply

State of Hawaii

1. Department of Land and Natural Resources, Historic Preservation Office
2. Department of Transportation
3. Public Libraries on Maui, Hawaii – Wailuku, Kahului, and Makawao

H. ANTICIPATED DETERMINATION

A finding of no significant impact (FONSI) is anticipated.

II. DESCRIPTION OF THE PROJECT AND PROPOSED ACTION

A. PROPERTY LOCATION

The proposed waterline and fire standpipe improvements shall be installed along existing roadway corridors of Hana Highway and Kai Huki Place to the front of Parcel TMK: (2) 2-8-003:059 (see Figure 1, 2, and 3), please refer to "Appendix H – Construction Plans".

B. LAND USE DESIGNATIONS

State Land Use: Agriculture

Pa`ia-Ha`iku Community Plan Land Use: Agriculture

County Zoning: Agriculture

Flood Zone Designations: C

Other: Special Management Area

C. EXISTING LAND USES

Description of the Subject Property:

The subject property is 20.5 acres, previously developed agricultural land (now fallow), gulch land, located along the makai side of the Hana Highway with Kai Huki road splitting the parcel as it extends toward the shoreline.

Surrounding Land Uses:

WEST – Agricultural Lands.

NORTH – Opana Point and Pacific Ocean

EAST – Hana Highway and Agricultural Lands.

SOUTH - Hana Highway and Agricultural Lands.

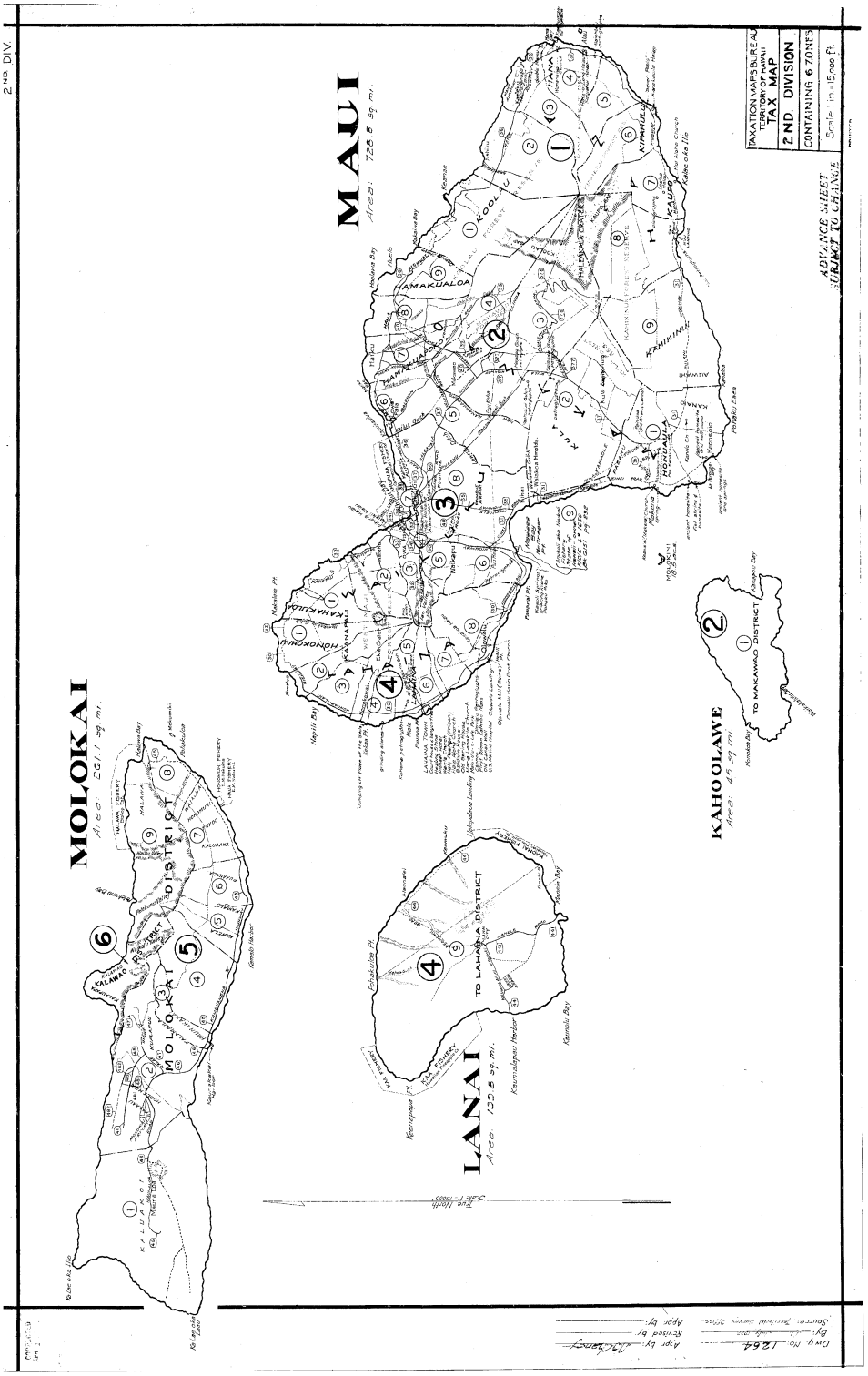

Figure 1: Location Map, not to scale.

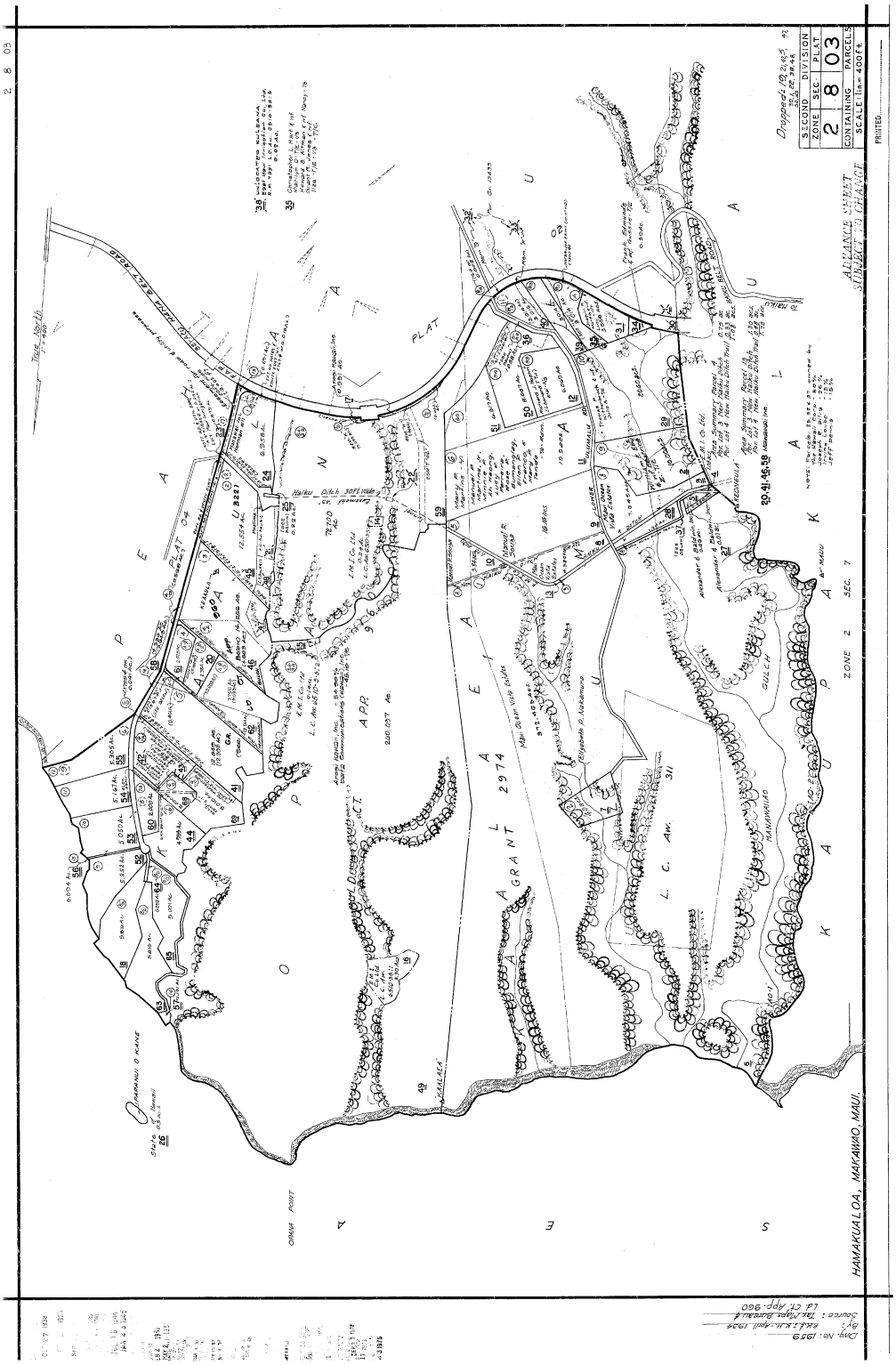

Figure 2: TMK Map, not to scale.

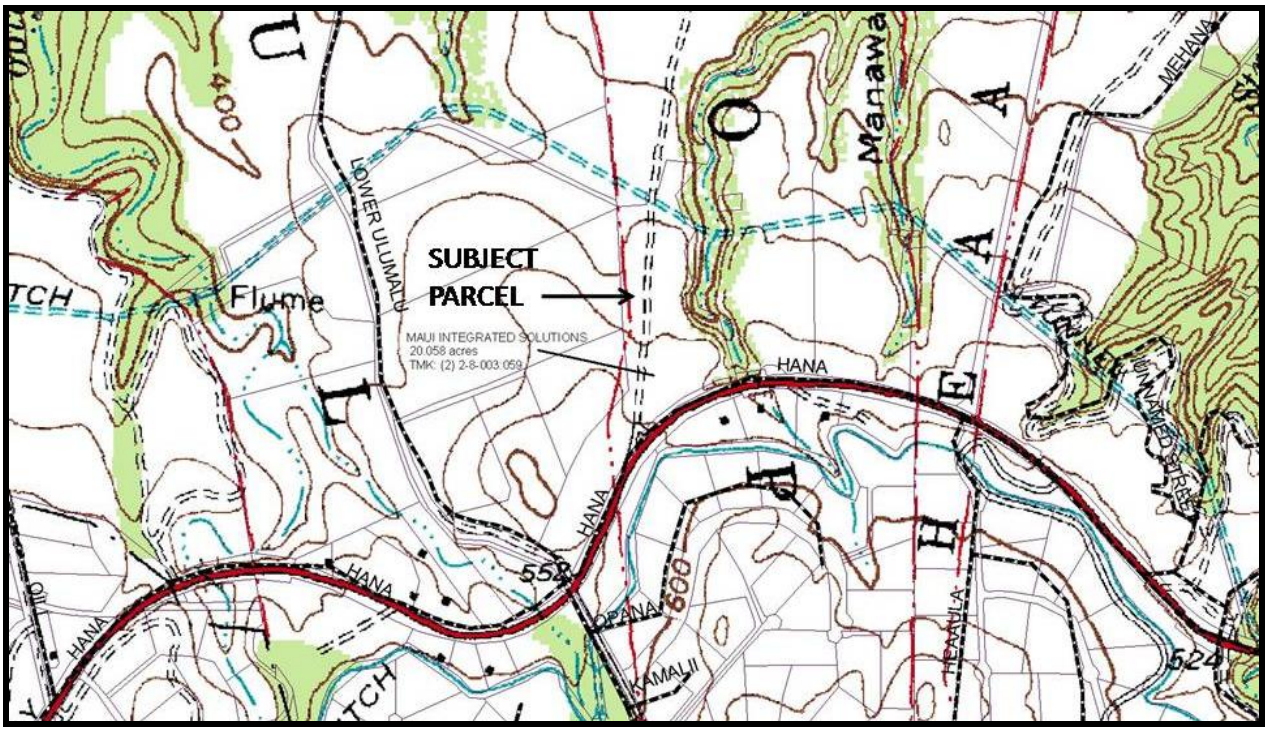

Figure 3: Area Map, not to scale.

III. DESCRIPTION OF THE PROPOSED ACTION

DESCRIPTION OF PROPOSED ACTION:

The applicant proposes the installation of underground utilities and appurtenant aboveground fixtures less than four feet in height (standpipes) along existing corridors of Hana Highway and Kai Huki Road, please refer to "Appendix H – Construction Plans".

The proposed installation of utilities and appurtenant above ground fixtures less than four feet in height along existing corridors is here with described (herewith attached in proceeding Appendixes are corresponding SHPD review letter, project plans, and photos):

1. Within existing corridor of Hana Highway, the proposed utility work is 1300 linear feet of eight (8") inch waterline and one new standpipe less than four feet in height; and

2. Within existing corridor of Kai Huki Road, the access to Opana Point the proposed utility work is 1200 linear feet of four (4") inch waterline and three new standpipes less than four feet in height.

3. All work will be performed in adjacent to existing highway and roadway corridors at a depth of three feet.

A. THE PURPOSE AND NEED OF THE PROPOSED PROJECT

The purpose and need of the proposed project is:

1. To provide water service to the subject parcel and;
2. To provide waterline size along Hana Highway and Kai Huki Place in accordance with Department of Water Supply System Standards;
3. To upgrade required waterline size along Hana Highway from 6” to 8” to improve fire protection capacity and
4. To provide fire protection along Hana Highway and Kai Huki Place;
5. To provide improved water system services, reliability, and provide adequate fire flow protection for the existing uses in the area.

IV. ALTERNATIVES

ALTERNATIVE 1 - NO ACTION

Kevin Davison, owner of the subject parcel, has had his name on the Upcountry Water Meter list and is now eligible to receive three 5/8" water meters for his parcel. In order to be able to receive the actual meters the applicant must provide for the following:

1. All water related improvements to be completed, inspected and accepted (specifically a 6" waterline along Hana Hwy.) by DWS;
2. All improvement warranties, easement documents, and other required documents be submitted and approved by DWS;
3. All 'As-Built' drawings are submitted to the DWS.

The NO ACTION alternative would have the following effects:

1. Render the property owner unable to provide water service for agricultural and domestic use to his parcel;
2. Department of Water Supply (DWS) has entered into a joint venture with Kevin Davison to pay their share to increase the required waterline improvement from a 6" waterline to an eight (8") inch waterline along Hana Hwy from the intersections of Ulumalu Road and Kai Huki Road. To eliminate the opportunity for the Department of Water Supply to provide improvements to their existing water system via the joint venture with Kevin Davison would result in substandard fire protection along Hana Hwy.

Potential benefits of the no action alternative were sought but there were none that could be exacted.

ALTERNATIVE 2 – PROVIDE SIX (6") INCH WATERLINE

The second alternative that was considered provides only minimal waterline improvements and fire protection improvements along Hana Hwy. Mr. Davison is only required to improve the County water system in this area to a six (6") inch water main. It is the belief of DWS that, although the user is only required to do a 6" water main due to his agricultural use, an increase to an 8" water main provides greater benefit to the surrounding community in terms of fire flow/fire

protection. It is important to note that the existing waterline along Hana highway in this area is a 4" water main, considered substandard by existing 'Water System Standards" in the County of Maui.

V. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. LAND USE

Existing Conditions. The subject parcel is located on the northwestern slope of Haleakala along the makai side of Hana Highway. The subject property is an L-shaped lot with a portion fronting the Hana Highway and split down the middle by a private roadway to access "Peahi Farms", Kai Huki Road. The elevation of the subject parcel ranges from 400 to 600 feet. Access to the property is from Hana Highway. There are no dwellings on the property and historical use of the agricultural land was pineapple production. Surrounding land use is Agricultural and equine.

Potential Impacts and Mitigation Measures.

No significant changes or impacts to land uses in the area are anticipated except for normal and temporary construction activities associated with the waterline improvements along the existing roadways. During the construction phase, there is a potential for short-term for short-term impacts to existing residences. The DWS will require the contractor to notify residents of the project schedule and will seek to minimize impacts on day-to-day activities, by limiting construction to daylight hours and maintaining access to properties. With the incorporation of these mitigation measures, short-term construction impacts to surrounding land uses are considered minimal. As well, the project will employ Best Management Practices and traffic mitigation as outlined in "Appendix F".

Over the long-term, surrounding uses will benefit by the improved water service and fire protection.

2. TOPOGRAPHY AND SOILS

Existing Conditions. The lot has both flat and sloping portions with the greatest slope, gulch, occurring on the northeast interior boundary of the parcel. This gulch area is recognized as Manawai Gulch.

According to the "Soils survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, state of Hawaii (August 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soil within the subject parcel is classified as "Haiku Silty Clay" with 3-7% slopes and "Puawela Clay" with 7-25% slopes. Specifically, the waterline construction corridor is located within the area of "Puawela Clay" on predominately flatter ground ("Appendix G – Soils" and "Appendix E – Photos"). Runoff is slow and erosion slight to moderate. This soil was used primarily for pineapple growing and pasture.

Potential Impacts and Mitigation Measures. The proposed project will require excavation for installation of the underground waterline. Short-term environmental impacts to the topography and landform will be limited to those associated with roadwork and excavation. As the site has been previously graded and because the work will occur alongside the existing roadways with no impact to pavement surfaces there will be no significant long-term impacts topography or soils.

There are no significant topographic constraints at the proposed project site. Clearing and grading activities will be minimal and will therefore produce no significant impact to the soil or topography.

3. FLOOD AND TSUNAMI HAZARD

Existing Conditions. The Flood Insurance Rate Map for the area indicates that the property is in the Zone C, attached herewith in "Appendix D". The subject parcel is located out of the Tsunami Hazard zone.

Potential Impacts and Mitigation Measures. The Property is at elevation ranges from 450-600 feet higher than the flood and tsunami hazard zone. The proposed action will not involve any construction within a flood hazard zone.

4. TERRESTRIAL BIOTA (FLORA AND FAUNA)

Existing Conditions. There are no known significant habitats of rare, endangered or threatened species of flora and fauna located on the subject property previously cultivated in pineapple. Animal life on this heavily cultivated land includes common myna, several species of dove, cardinal, house finch, and house sparrows. Mammals common to this area include cats, rodents, and mongoose.

Potential Impacts and Mitigation Measures. There are no known significant habitats of rare, endangered or threatened species of flora and fauna on the subject parcel, nor any animal life that would be threatened by the proposed new waterline project. Thus, there will be no impact to rare, threatened, or endangered species as a result of the proposed action. Existing vegetation will be removed to accommodate the project. Please also refer to Appendix F for Best Management Practices to be utilized during the life of the project.

5. ARCHEOLOGICAL, CULTURAL AND HISTORICAL RESOURCES

Existing Conditions. The project area is located on the northern coast of East Maui, straddling Ulumalu and Opana ahupua'a, seaward of the Hana Highway. Boundaries are defined by the Hana Highway on the south, the center of Manawai Stream on the east and uncultivated pineapple fields on the west. The area ranges in elevation from 400 ft. to 600 ft. Abandoned pineapple fields cover approximately 80% of the project area west of Manawai Stream Gulch. This plateau area has been extensively altered by compounded pineapple cultivation activities.

In 1996, full historic inventory survey was taken of the subject parcel and adjacent parcel, TMK: (2) 2-8-003:017 & 059, and no sites were located within the boundaries of the subject parcel. The report documenting the findings of the inventory survey was accepted by the State of Hawaii, State Historic Preservation Division (SHPD) (SHPD DOC NO: 9606SC18/LOG NO: 17371). During this inventory survey, 4 historic sites were identified and all were located within the boundaries of TMK: (2) 2-8-003:017, a separate arm of the Manawai Stream and not within the boundaries of the subject parcel or waterline improvement project area.

Potential Impacts and Mitigation Measures. The proposed project will occur within existing developed roadway corridors of Hana Highway and Kai Huki Road (Please refer to "Appendix E – Photos"). The subject parcel, the location of the proposed waterline improvements, is previously developed in pineapple production and related grading and grubbing activities to create roadway corridors. The depth of cut for the waterline will range from four (4') to six (6') feet. From discussion with previous SHPD archaeologist, Melissa Kirkendale, 'lands previously developed in pineapple fields are known to have soil disturbances from plowing to depths of six (6') feet. As such, it is highly unlikely historic and cultural sites will be present.

In addition, a previous historic inventory survey performed on the subject parcel and accepted by SHPD (LOG 17371/DOC 9605SC180 and resulting preservation plan accepted by SHPD (LOG 2004.3040/DOC 0102MK06) found no historic sites located in or around the proposed construction area for the subject waterline.

Based on the above, it is highly unlikely historic and cultural sites will be present or impacted.

6. CLIMATE

Existing Conditions. The climate in the windward, north shore side of the island is influenced by persistent (north-northeasterly) trade winds. The subject parcel is located at the edge of the wetter area of Maui. Average monthly high temperatures vary between about 79.9 degrees and 86.6 degrees Fahrenheit between the coolest and warmest months with low temperatures from 63.3 to 70.9 degrees Fahrenheit. The annual rainfall ranges from 50 -70 inches.

Potential Impacts and Mitigation Measures. The proposed project will not be impacted by climatic conditions in the area, nor induce changes to the local climate. Construction will utilize erosion control measures to avoid runoff during construction activities, herewith attached in "Appendix F".

7. VIEW PLANES, SCENIC AND OPEN SPACE RESOURCES

Existing Conditions. "Maui Coastal Scenic Resources Study" prepared for County of Maui, Department of Planning dated 1990, did not include this region in its assessment of open space or view plane corridors of importance. From the Hana Highway, views to the shoreline are obscured and obstructed due to steep topography, vegetation and hills. The subject property does not include any visible scenic resources. The land use designations for the subject parcel and surrounding parcels are State, County and Community Plan Agriculture. There is no Open Space zoning near or around the subject parcel.

Potential Impacts and Mitigation Measures. Due to the subsurface nature of the project, the proposed waterline construction will not have any effect on any view planes, scenic, and open space resources. Further, all proposed construction will be placed in areas with no view planes, scenic areas, or open space resources.

8. AIR QUALITY

Existing Conditions. Air quality refers to the presence or absence of pollutants in the atmosphere. It is the combined result of the natural background and emissions from many pollution sources. The impact of land development activities on air quality in proposed development's locale differs by project phase (site preparation, construction, occupancy) and project type. Maui has one air quality monitoring station and it is located in Kihei. Air Quality is undocumented for the North shore area, in which the subject project is located. (DOH, Hawaii Air Quality Data, 2004).

The project is located on the north shore where trade winds provide a constant influx of clean air from the off-shore areas. Air quality is exceptionally good most of the year. During southerly trades, VOG from the volcano of the island of Hawaii (Big Island) are the only negative effect on the air quality in the area. At times there is also air quality degradation from burning of sugar cane.

Potential Impacts and Mitigation Measures. Air quality impacts attributed to the proposed project may include dust generated by the short-term construction related activities. Site work such as grading and trenching, for example, could generate airborne particulate. Adequate dust control measures that comply with the provisions of the Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust, will be implemented during all phases of construction. Some of these measures will include, but not be limited to:

• 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 areas of least impact;

• Providing adequate water source on site prior to start-up of construction activities; and

• Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities.

Thus, the proposed action is not anticipated to be detrimental to local air quality. In addition, to the aforementioned controls the project will employ Best Management Practices as outlined in "Appendix F".

9. NOISE

Existing Conditions. The noise level is an important indicator of environmental quality. Noise levels in the vicinity of the project area are generally low. Vehicular traffic along Hana Highway is the predominant source of background noise in the vicinity of the subject property.

Potential Impacts and Mitigation Measures. In the short-term, the proposed project could generate some adverse impacts during construction. Noise from heavy construction equipment would be the dominant source of noise during the construction period. To minimize construction related impacts to the surrounding neighbors, the project will limit construction activities to normal daylight hours, and adhere to the State Department of Health's noise regulations for construction equipment. In the longer-term, the proposed project should not significantly impact existing noise conditions in the area since the project will not generate significant traffic or produce an increase in ambient noise levels.

B. SOCIO-ECONOMIC ENVIRONMENT

1. POPULATION

Existing Conditions. Maui County experienced relatively strong population growth in the last decade with the 2000 resident population expanding to 128,241, an 80.6% increase over the 1980 population of 70,991 (United States Department of the Census, 2000 and Maui County Data Book, 2005). Population growth is projected to continue with the year 2020 resident population projected to reach 229, 700. Similarly, visitor growth has growth has increased significantly in the County over the last decade with the average daily visitor count increasing from 15,363 in 1980 to 43,854 in 2000, a 285% increase in visitors per day. Thus, the County's defacto population, defined as all persons physically present in an area, grew to 168,544 in 2000, an 88% increase over 1990 levels (SMS Research and Marketing Services, Inc., June 2002).

Potential Impacts and Mitigation Measures. The proposed project will not induce any significant change in the region's population.

2. ECONOMY

Existing Conditions. Tourism and agriculture are the predominate components of Maui County's economy. Maui County hosted 2,207,826 visitors in the year 2004 and hotels experienced a 78.69 percent occupancy rate. In Central Maui, economic activity centers on sales and service industries, including air and water transportation, as well as various branches of state and county government.

The Pa`ia-Haiku area economy is based on the visitor industry and agriculture, which continues to have an impact on the regions physical and socio-cultural environment. However, agriculture continues to diminish in importance as more and more mono-culture agriculture fields are left fallow for more fertile agricultural subdivisions to be seeded to blossom into high end subdivisions with full-on transient vacation accommodations. The Pa`ia-Haiku area is internationally known as the "north shore' of Maui for its windsurfing and surfing as major recreational destination for the island. Pa`ia town, which is over 10 miles away from the subject property, is a historic plantation town. Although there are no hotels in the area, there are many and homes in the area used to accommodate visitors. The commercial areas of Pa`ia town and surrounding areas in the Pa`ia-Haiku Community Plan area are heavily dependent on the tourist industry.

Potential Impacts and Mitigation Measures. The proposed project will have minimal immediate impact on the economy of the region. The temporary construction activity will create short-term employment opportunity for a small number of people in the trade/services,

construction employment in support of construction. The proposed project will have little long-term impact on the economy of the county or state.

C. PUBLIC SERVICES

1. RECREATIONAL RESOURCES AND FACILITIES

Existing Conditions. The recreational areas that provide outdoor activities for the Haiku area residents are most noticeably the 4th. Marine Division Park, Ulumalu and Maliko Gulch rodeo arenas, Ho'okipa Beach Park and Baldwin and Pa'ia Beach parks.

Potential Impacts and Mitigation Measures. The proposed project will not significantly increase demand for the region's recreational facilities since it will have little effect on regional population.

2. POLICE AND FIRE PROTECTION

Existing Conditions. The County of Maui Fire Department provides fire protection in the area. The Pa`ia Fire station is approximately 11 miles away from the subject property.

The Wailuku Police Station covers the entire Central Maui, North shore, and Upcountry area of Maui. A substation is located at the Pa`ia Community Center approximately 11 miles northwest of the subject property.

Potential Impacts and Mitigation Measures. Since the proposed development will not result in an overall significant increase in population levels, the proposed project is not anticipated to have any significant impact upon existing emergency response, 991 calls, and other police and fire protection services. Implementation of the project will improve water system reliability and provide adequate fire flow protection for the existing uses in the area by increasing the existing waterline from a four (4") inch to an eight (8") waterline resulting in greater fire flow.

3. SCHOOLS

Existing Conditions. The Pa'ia-Haiku region is served by both private and public schools. Public schools include Ha'iku Elementary School for grades pre-school, kindergarten through fifth grade, Kalama Intermediate School for grades six to eight, and King Kekauliki High School for grades nine through twelve. Private schools for the region are served by Haleakala Waldorf, Maui Montessori School, Doris Todd School varying from pre-school age to eight grades and Seabury Hall High School.

Potential Impacts and Mitigation Measures. The proposed project will not produce a significant increase in the number of school age children residing in Upcountry Maui and will therefore not have an impact upon schools.

4. HEALTH AND OTHER PUBLIC SERVICES

Existing Conditions. The residents of this district are served by the only hospital on Maui in Wailuku, Maui Memorial Medical Center. The 195-bed facility provides acute, general and emergency care services. Limited services are also available at Kula Sanatorium. There are a few private independent allopathic and alternative medical and dental offices located thru-out Haiku, Pa`ia, and Makawao.

The public library that serves the Pa'ia-Haiku and Makawao-Pukalani-Kula Community Plan districts is located in Makawao town.

Potential Impacts and Mitigation Measures. As noted, since the proposed project will not induce an increase in population levels, the project is not anticipated to produce an adverse impact upon existing medical facilities.

D. INFRASTRUCTURE

1. WASTEWATER AND SOLID WASTE

Existing Conditions. The subject property is not connected to any public waste water system nor is there any private wastewater system serving the subject parcel. Three landfills are currently operating on Maui, the Central Maui Landfill in Pu'unene, the Hana Landfill, and West Maui Landfill. Solid waste generated in the Upcountry region is transported to the Central Maui Landfill in Pu'unene.

Potential Impacts and Mitigation Measures. Since the volume of waste generated will be minimal it will not produce a significant impact upon the Central Maui Landfill. The contractor will deposit any solid waste generated during construction into the Central Maui Landfill.

The proposed project will adhere to the following Solid Waste Management, Recycling and Diversion Plan:

1. Prepare a job-site green waste and construction materials recycling plan and post it at the job-site office.

2. Conduct pre-construction waste minimization and recycling training for employees and sub-contractors.

3. Use a central area for all green waste cutting and collection for recycling.

4. Establish a dedicated waste separation/diversion area. Include Waste/Compost/Recycling collection areas and systems for use during site clearing, construction process and during the operational life cycle of the building.

5. Separate and divert all unused or waste cardboard, ferrous scrap, construction materials and fixtures for recycling and/or forwarding to a salvage exchange facility or reuse within the proposed construction. Information on "Minimizing construction waste in Hawai`i" is available through Department of Health, Office of Solid Waste Management, Tel. (808) 586-4240.

6. Carefully manage and control waste solvents, sealants, and their used containers. Separate these materials from construction waste and store and dispose them of them carefully.

7. Donate unused solvents, sealants to non-profit organizations or list on HIMEX (Hawai`i Materials Exchange). HIMEX is a free service operated by Maui Recycling Group, that offers an alternative to landfill disposal of usable materials, and facilitates no-cost trades. See web site, www.himex.org.

8. Use suppliers that re-use.

Please also refer to "Appendix E" of this DEA for Best Management Practices to be utilized during the life of the project.

2. WATER

Existing Conditions. The Upcountry water system is supplied by surface water runoff collected on the windward slopes of Haleakala and several water wells. This portion of the Upcountry water system is served by the Kapakulua well, located near the intersection of West Kuiaha Road and Kapakulua Road.

The existing water system within the project area includes:

- An eight (8") inch waterline on Ulumalu Road;
- A four (4") inch cast iron water line fronts the subject parcel on the mauka side of Hana Highway;
- The property is not presently serviced by a water meter from the County of Maui, Department of Water Supply;
- There are two fire standpipes along Hana Highway (SP#129 and SP#307);
- The nearest water tank, Opaepilau (100,000 gallon tank at 1012.5' msl.), located on Kapakulua.

Potential Impacts and Mitigation Measures. Over the long-term, surrounding uses will benefit by the improved water service and fire protection. However, although distribution and fire protection efficiency will be enhanced, the proposed project will not result in an increase in water source capacity to Upcountry Maui.

3. ROADWAY AND TRAFFIC

Existing Conditions. Hana Highway provides access to the property. Hana Highway is a paved two-lane State roadway with no curbs, gutters or sidewalks. The traffic along this stretch of Hana Highway fronting the subject property is rarely affected by the major congestion during peak hours.

Potential Impacts and Mitigation Measures. The proposed project has no anticipated negative effect on the roadway. Truck traffic turning in and out of the subject property will not be during peak hours. Please also refer to Appendix F of this EA for Best Management Practices and traffic mitigation procedures during the construction phase of this proposed project.

4. DRAINAGE

The proposed project will have no impact or need for drainage, or wastewater disposal.

5. UTILITIES

Existing Conditions. Overhead electrical and telephone services are provided from Hana utility poles along Hana Highway.

Potential Impacts and Mitigation Measures. No electrical or telephone services will be affected by the proposed project.

VI. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE LAWS

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes four major land use districts into which all lands in the State are placed. These districts are designated Urban, Rural, Agricultural, and Conservation. The project area is within the Agricultural District and adjacent lands east and west of the property are also in the Agricultural District. To the north/makai side of the subject property is in the Agricultural District and lands mauka of Hana Highway are in the Agricultural District. The lands the Agricultural Districts are administered by the State and the County and the proposed project is permitted as a "public utility.

B. MAUI COUNTY ZONING

The proposed project is situated within the County's Agricultural District and is permitted as a "minor utility facility".

C. MAUI COUNTY GENERAL PLAN

The Maui County General Plan, 1990 update (adopted September 27, 1991, Ordinance No. 2039) sets forth broad goals, objectives and policies to help guide the long term development of

the County. The following general Plan Objectives and Policies are applicable to the proposed project:

GOAL: <u>WATER</u>

Objective No. 1 To provide an adequate supply of potable and irrigation water to meet the needs of Maui County's Residents.

Policy: a. Support the improvement of water distribution systems to those areas that historically experience critical water supply problems provided the improvements are consistent with the water priorities and the County's Water Use and Development Plan provisions for the applicable community plan area.

c. Develop improved systems to provide better fire protection.

D. PAIA-HAIKU COMMUNITY PLAN

Nine community plan regions have been established in Maui County. Each region's growth and development is guided by a community plan which contains goals, objectives and policies in accordance with the Maui County General Plan. The goals, objectives, and policies contained in the community plan expresses the long-term visions for the region.

The subject property is located within the Pa`ia-Ha`iku Community Plan region. The Community Plan was amended by ordinance No. 2415 and became effective on May 17, 1995. The Community Plan land use designation for the subject property is Agriculture. In addition to consistency with land use designation, consistency with the Pa`ia-Ha`iku Community Plan Goals, Objectives, and Policies are also mandated by the State's Coastal Zone Management program and by the County's Special Management Area Rules. The proposed project is consistent with the "Agricultural" designation. The proposed water system improvement project is consistent with the following Pa'ia-Haiku Community Plan goals and objectives and policies:

<u>WATER</u>

Goal *An adequate supply of potable and irrigation water to meet the needs of the region.*

Objectives and PolicieS

5. Improve the existing potable water distribution system and develop new potable water sources prior to further expansion of the State Urban District boundary or major subdivision of land in the State Agricultural or Rural Districts.

E. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES

Chapter 205A, HRS, requires that any "development" within the Special Management Area obtain a SMA permit. Since the proposed waterline improvement project will be constructed in the SMA, a SMA permit is required. Special Management Area permits are administered by the Maui Planning Department and acted upon by the Maui Planning Commission for the Island of Maui.

The following is a review of the proposed project within the context of the Special Management Area objectives, policies, and guidelines, pursuant to HRS Chapter 205A and Chapter 202 Special Management Area Rules for the Maui Planning Commission.

(1) RECREATIONAL RESOURCES;

Objective: Provide coastal recreational resources accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

(ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand 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;

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

(viii) 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, and county authorities; and crediting such dedication against the requirements of section 46-6.

Analysis. The proposed development will have no impact on recreational resources.

(2) HISTORIC RESOURCES;

Objective: Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

(i) Identify and analyze significant archaeological resources;

(ii) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(iii) Support state goals for protection, restoration, interpretation, and display of historic structures.

Analysis: The proposed project will completely occur within existing developed roadway corridors. The subject parcel, the location of the proposed waterline improvements, is previously developed in pineapple production and related grading and grubbing activities to create roadway corridors. The depth of cut for the waterline will range from four (4') to six (6') feet. From discussion with previous State of Hawaii, State Historic Preservation Division (SHPD) archaeologist, Melissa Kirkendale, 'lands previously developed in pineapple fields are known to have soil disturbances from plowing to depths of six (6') feet.

In addition, a previous historic inventory survey has been performed on the subject parcel and accepted by SHPD (LOG 17371/DOC 9605SC18). The resulting preservation plan has also been accepted by SHPD (LOG 2004.3040/DOC 0102MK06). There were no historic sites located in or around the proposed construction area for the subject waterline.

Based on the above, it is highly unlikely historic and cultural sites will be impacted.

(3) SCENIC AND OPEN SPACE RESOURCES;

Objective: Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

(A) Identify valued scenic resources in the coastal zone management area;

(B) Ensure 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;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(D) Encourage those developments that are not coastal dependent to locate in inland areas.

Analysis: The subject project will occur underground with only three above ground fire standpipes. The subject project will result in no impact to scenic and open space resources.

(4) COASTAL ECOSYSTEMS;

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(B) Improve the technical basis for natural resource management;

(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Analysis. The proposed project is located over 6000 ft. from the shoreline and all Best Management Practices listed in 'Appendix F' shall be in place thru the life of the project. The project will have no impact to coastal ecosystem.

(5) ECONOMIC USES;

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related

development such as 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

(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:

(i) Use of presently designated locations is not feasible;

(ii) Adverse environmental effects are minimized; and

(iii) The development is important to the State's economy.

Analysis. Public benefits will include the increase in fire protection to areas surrounding the project area.

(6) COASTAL HAZARDS;

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(D) Prevent coastal flooding from inland projects.

Analysis: The proposed project will protect the subject property, as well as adjacent properties from storm waves and erosion. The stabilization will also protect the beach and near shore3 waters from impacts related to eroded earthen soils transported by wave action or inland runoff.

(7) MANAGING DEVELOPMENT;

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

(C) Communicate the potential short and long-term impacts of proposed significant coastal

developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Analysis: The proposed waterline project is not located within area subject to tsunami, storm waves, stream flooding or subsidence. In addition, best management practices will be utilized to minimize impacts of construction activities that may create erosion or pollution problems (i.e. siltation fences and dust control measures). All Best Management Practices listed in 'Appendix F' shall be in place thru the life of the project.

(8) PUBLIC PARTICIPATION;

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

(A) Promote public involvement in coastal zone management processes;

(B) 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 issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Analysis: Prior to project approval, the public will be informed by the following public notification requirements:

1. Publication of Notice in the Office of Environmental Quality Control Bulletin notifying the public about the Draft Environmental Assessment (DEA) and the forth coming Final Environmental Assessment (EA) on the proposed project.
2. A copy of the DEA and EA will be made available at public library's in Central Maui and Upcountry for public comment.
3. All comments received during the comment period's of both DEA and EA, must be addressed prior to the issuance of a FONSI for the subject project.

(9) BEACH PROTECTION;

Objective: Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

(B) 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

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Analysis. There are no beaches located in the vicinity of the subject project.

(10) MARINE RESOURCES;

Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

(C) 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;

(D) 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

(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Analysis. It is unlikely that the proposed waterline will result in a significant change to coastal area or marine resources.

F. ENVIRONMENTAL ASSESSMENT SIGNIFICANCE CRITERIA

In accordance with Title 11, Department of Health, Chapter 200 and Subchapter 6, Section 11-200-12, Environmental Impact State Rules, and based on the detailed analysis contained within this document, the following conclusions are supported:

1. The proposed action will not result in an irrevocable commitment to loss or destruction of natural or cultural resources.

Analysis. As documented in this report, the proposed project will not involve the loss or destruction of any natural or cultural resources (See Section V. A.B.C.D.).

2. The proposed action will not curtail the range of beneficial uses of the environment.

Analysis. The proposed project will be located within the existing road right-of-way and will not negatively impact future land use opportunities for adjacent properties. There will be no curtailment of beneficial uses of the environment. The project will enhance safety in the immediate area by the improvement of fire protection. All Best Management Practices listed in "Appendix F" shall be in place thru the life of the project further curtailing adverse impacts to the environment.

3. The proposed action will not conflict with State or County long-term environmental policies and goals as expressed in Chapter 344, HRS, and those which are more specifically outlined in the Conservation District Rules.

Analysis. The proposed project is required to obtain approvals and permits as mandated by State and County laws prior to initiation of construction. Therefore, the project will conform to State and County long-term environmental policies and goals as expressed in Chapter 344, HRS. All Best Management Practices listed in "Appendix F" shall be in place thru the life of the project.

4. The proposed action will not substantially affect the economic or social welfare and activities of the community, county or state.

Analysis. The proposed project will provide improved water transmission, distribution and fire protection service for residents and businesses along this stretch of Hana Highway. The affected community has expressed concern over inadequate fire protection, water pressure, and water quality due to the existing inadequate lines. Implementation of the project will improve

system reliability and provide adequate fire flow protection for the existing uses in the area thereby improving the economic and social welfare and activities of this portion of the Haiku area.

5. The proposed action will not substantially affect public health.

Analysis. The proposed development will be built in accordance with all State and County water quality standards. In addition, implementation of the project will improve system reliability and provide adequate fire flow protection for the existing uses in the area thereby improving public health for area residents.

6. The proposed action will not result in substantial secondary impacts.

Analysis. As discussed, over the long-term, surrounding uses will benefit by the improved water service. Although regional distribution efficiency will be enhanced, the proposed project will not result in an increase in water source capacity to Upcountry Maui. As such, the proposed project is not anticipated to induce population growth or cause any other affects that would induce a change in the pattern of land use within the area.

All Best Management Practices listed in "Appendix F" shall be in place thru the life of the project. In addition, traffic impacts will be mitigated as outlined in "Appendix F". As a result the proposed action will not result in substantial secondary impacts.

7. The proposed action will not involve substantial degradation of environmental quality.

Analysis. With the incorporation of the previously identified short-term construction mitigation measures, there should be minimal construction related impacts. All Best Management Practices listed in "Appendix F" shall be in place thru the life of the project. Other environmental resources such as endangered species of flora and fauna, air and water quality, and archaeological resources will not be significantly impacted by the subject project.

8. The proposed project will not produce cumulative impacts and does not have considerable effect upon the environment or involve a commitment for larger actions.

Analysis. The proposed project does not involve a commitment for larger action on behalf of the applicant or any public agency. In addition, the project is not anticipated to induce population growth and will therefore not produce considerable effect on the environment nor require a commitment for larger actions by governmental agencies. Best Management Practices

listed in "Appendix F" shall be in place thru the life of the project. No cumulative impacts are anticipated by the preferred alternative.

9. The proposed project will not affect a rare, threatened, or endangered species, or habitat.

Analysis. As described in Section V.A.4, of this report, there are no known rare, threatened, or endangered species, or habitat at the subject site or in the area.

10. The proposed action will not substantially or adversely affect air and water quality or ambient noise levels.

Analysis. As described in Sections V.A.8.9.B.2, there is a potential for impacts on air and water quality or ambient noise levels associated with this project. The impacts will be mitigated through implementation of standard mitigation measures as identified in this report and listed in "Appendix F - Best Management Practice" shall be in place thru the life of the project. The proposed project will meet all required State and County water, air, and ambient noise quality standards prior to and during construction.

11. The proposed action will not substantially affect or be subject to damage by being located in an environmentally sensitive area, such as flood plain, shoreline, tsunami zone, erosion-prone areas, estuary, fresh waters, geologically hazardous land or coastal waters.

Analysis. As described in Section V.A.3 and Section V.E. of this report, the proposed project lies within Flood Zone C, an area of minimal flood and tsunami Hazard, as determined by the Flood Insurance rate Map for the region. The proposed project will have no effect upon the existing flood tsunami areas.

12. The proposed action will not substantially affect scenic vistas or view planes identified in county or state plans or studies.

Analysis. As described in Section V.A.7 of this report, the proposed project is not located in an area identified by the State or County as containing scenic vistas or view planes. Further, due to the subsurface nature of the project, the proposed waterline improvement project will not have any impact upon the visual character of the site and its immediate environs.

13. The proposed action will not require substantial energy consumption.

Analysis. The proposed project will not require hook-up to Maui Electric Company facilities and will therefore not require substantial energy consumption..

VII. FINDINGS AND CONCLUSIONS

The purpose of the Kevin Davison Waterline improvement project is to provide imporved water transmission, distribution, and fire protection service for area residents. The water system in this area is substandard and inadequate based on County water system standards. Implementation of the project will improve system reliability and provide adequate fire flow protection for the existing uses in the area.

The project involves installation of underground utilities and appurtenant aboveground fixtures less than four feet in height (standpipes) along existing corridors of Hana Highway and Kai Huki Road, please refer to "Appendix H – Construction Plans". The new waterline will be connected to an existing eight (8") inch waterline stub-out traversing Hana Highway and further connected to an eight (8") inch transmission waterline on Ulumalu Road.

The proposed improvements will require construction related work along Hana Highway and Kai Huki Road within State rights-of-way. Trenching will be required along the length of the project and will require the use of heavy construction equipment.

This environmental assessment has examined the environmental and socio-economic impacts associated with the construction of a new waterline and related improvements. The environmental assessment concludes that the project should not result in significant environmental impacts to surrounding properties, nearshore waters, agricultural resources and users, natural resources, or archaeological or historic resources on the site or in the immediate area. The subject project will not induce population growth and will therefore not impact public services and infrastructure systems such as police and fire protection, medical services, schools, roadways, water, wastewater, electrical, and telephone facilities. Further, the proposed project will not impact public view corridors, visual character of the site or its immediate environs.

In light of the foregoing, it is hereby concluded that the proposed project will not result in significant impacts to the environment and a Finding of No Significant Impact (FONSI) is warranted.

VIII. LIST OF PREPARERS

Owner:	Maui Integrated Solutions
Applicant:	Kevin Davison, Managing Member
Linda Taylor Engineer, Inc.:	Linda Taylor, Civil Engineer
Newcomer-Lee Land Surveyors, Inc.	Bruce Lee, Surveyor
Land and Water Planning and Consulting	Maria N. Isotov-Chang, Planning Consultant

IX. REFERENCES

County of Maui, Department of Planning. 1991. *The General Plan of the County of Maui, 1990 Update.* Wailuku, Hawaii.

County of Maui, Department of Planning. 1995. *Paia-Haiku Community Plan.* Wailuku, Hawaii.

County of Maui, Office of Economic Development. 2003. *Maui County Data Book*. Wailuku, Hawaii.

Federal Emergency Management Agency. *Flood Insurance Rate Map.* Community Panel Map Number 15000 0225 B. Revised June 1, 1981.

SMS Research and Marketing Services, *Maui County Community Plan Update Program: Socio Economic Forecast*. Prepared for the Planning Department County of Maui, June 14, 2002. Wailuku, Hawaii.

U.S. Department of Agriculture, Soil Conservation Service in Cooperation with the University of Hawaii, Agricultural Experiment Station. 1972. *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* Washington D.C.

USGS in GIS format for Hawaii ZONE 2, State Plane Coordinate NAD 83, 2003, U.S. Government, 2003 – Map copies

APPENDIX A – RELATED DOCUMENTS

Apr 08 08 08:05a DrKevinDavison 808 575 9656 p.2

We hereby certify that this is a true copy of the original filed as Land Court Document No. 2940004 and / or recorded in the Bureau of Conveyances as Document No. _____ on June 10, 2003 at 8:01 o'clock am.
TITLE GUARANTY OF HAWAII, INCORPORATED
TCT NO. 648,743

LAND COURT SYSTEM | REGULAR SYSTEM

Return by Mail (X) Pickup ( ) To:

MANCINI, WELCH & GEIGER (TMW)
33 LONO AVENUE, SUITE 470
KAHULUI, HI 96732

TG-228027C
LC 3

Tax Key: (2) 2-8-003:059 (por.) Total No. of Pages: 6

QUITCLAIM DEED

KNOW ALL MEN BY THESE PRESENTS:

That PAPANUI LLC, a Hawaii limited liability company, whose address is 2310 Umi Place, Haiku, Maui, Hawaii 96708, hereinafter called the "Grantor," for and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable consideration to Grantor paid by MAUI INTEGRATED SOLUTIONS, a Hawaii limited partnership, whose address is 2310 Umi Place, Haiku, Maui, Hawaii 96708, hereinafter called the "Grantee," the receipt whereof is hereby acknowledged, does hereby give, grant, convey, release and forever quitclaim unto the said Grantee, as

27696A-1/Papanui-Maui/TDW/ssu/5/5/03 -1-

a tenant in severalty, all of Grantor's right, title and interest in and to the real property described in Exhibit "A" attached hereto and by this reference incorporated herein; subject, however, to all encumbrances noted on said Exhibit "A".

TO HAVE AND TO HOLD the same, together with all buildings and other improvements, rights, easements, privileges and appurtenances thereon or thereunto belonging or in anywise appertaining or held and enjoyed therewith, unto the said Grantee, forever.

The terms "Grantor" and "Grantee", as and when used herein, or any pronouns used in place thereof, shall mean and include the masculine or feminine, or neuter, the singular or plural number, individuals or corporations, and their and each of their respective successors, heirs, personal representatives, and permitted assigns, according to the context hereof. If these presents shall be signed by two or more Grantors or by two or more Grantees, all covenants of such parties shall for all purposes be joint and several.

Apr 08 08 08:06a DrKevinDavison 808 575 9656 p.4

IN WITNESS WHEREOF, the Grantor has executed these presents on this 15th day of May, 2003.

APPROVED AS TO FORM:
MANCINI, WELCH & GEIGER

By Peter A. Horovitz

PAPANUI LLC

By _____
John P. Cahill
Its manager

By _____
Its _____

Grantor

STATE OF HAWAII)
) SS.
COUNTY OF MAUI)

On this 15th day of May, 2003, before me personally appeared John P. Cahill (John Price Cahill), to me personally known, who, being by me duly sworn or affirmed, did say that such person(s) executed the foregoing instrument as the free act and deed of such person(s), and if applicable, in the capacity shown, having been duly authorized to execute such instrument in such capacity.

Kristi Lynne Suzuki
Print Name: Kristi Lynn E. Suzuki
Notary Public, State of Hawaii.

My commission expires: May 1, 2005

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3

EXHIBIT "A"

All of that certain parcel of land situate at Opana and Ulumalu, Hamakualoa, Island and County of Maui, State of Hawaii, described as follows:

LOT 58, area 20.058 acres, more or less, as shown on Map 31 of Land Court Application No. 960.

Being a portion of the land(s) described in Transfer Certificate of Title No. 559,778 issued to the Grantor herein.

Being a portion of the premises acquired by the Grantor herein by Warranty Deed from Haiku Development, Inc., a Hawaii corporation, dated July 27, 2000, filed in the Office of the Assistant Registrar of the Land Court of the State of Hawaii as Land Court Document No. 2641255, and also recorded in the Bureau of Conveyances of the State of Hawaii as Document No. 2000-105746.

SUBJECT, HOWEVER, to the following:

1. The terms and provisions, including the failure to comply with any covenants, conditions and reservations, contained in Deed and Reservation of Rights and Easements dated February 14, 1995, filed in the said Land Court as Land Court Document No. 2218505, and also recorded in the said Bureau of Conveyances as Document No. 95-020730.

The foregoing includes, but is not limited to, (a) the reservation of a perpetual easement to accommodate drainage and (b) the agreement that neither the grantor, the owners of adjacent properties nor any of their respective successors and assigns shall be held liable for any nuisance, personal injury, illness or other loss, damage or claim which is caused by or related to the presence, operation and/or development of the adjacent properties adjacent to or near the land described herein.

Note: Item 1 on Page 2 of that certain Deed and Reservation of Rights and Easements was released and discharged by said instrument filed as Land Court Document No. 2400848, and also recorded as Document No. 97-118119.

2. Mortgage filed in the said Land Court as Land Court Document No. 2593794 (partial assignments of which are filed as Land Court Documents Nos. 2593795 and 2615158).

3. Mortgage filed in the said Land Court as Land Court Document No. 2767607.

4. Grant to Maui Electric Company, Limited and Verizon Hawaii Inc. filed in the said Land Court as Land Court Document No. 2826122 (subject to assignment of security filed as Land Court Document No. 2826123).

5. The terms and provisions, including the failure to comply with any covenants, conditions and reservations, contained in Declaration of Allocation of Future Subdivision Potential and Reservation of Rights dated June 1, 2000, filed in the said Land Court as Land Court Document No. 2629540.

6. Perpetual covenants as set forth in instrument filed in the said Land Court as Land Court Document No. 2773505.

7. Perpetual covenants as set forth in instrument filed in the said Land Court as Land Court Document No. 2830917.

8. Easement A, Map 1; Subject to Right-of-Way in favor of East Maui Irrigation Company, Limited

9. Easement 43 as shown on Map 28 and as set forth in Land Court Order 134789.

10. Grant to Maui Electric Company, Limited filed in the said Land Court as Land Court Document No. 857550, subject to Assignment of Security filed as Land Court Document No. 857551.

11. Mortgage filed in the said Land Court as Land Court Document No. 2868903.

12. Easement 44 for roadway purposes, as shown on Map 28 and as set forth in Land Court Order 134789.

13. Reservation for roadway and utility purposes and covenant, as set forth in instrument filed in the said Land Court as Land Court Document No. 2629539.

14. Grant of Easement to Naftulin-Serle Partners, LLC for roadway and utility purposes, as set forth in instrument filed in the said Land Court Document No. 2629543.

15. Perpetual covenants as set forth in instrument filed in the said Land Court Document No. 2629539.

END OF EXHIBIT "A"

Tax Key: (2) 2-8-003:059 (por.)

APPENDIX B – HISTORIC REVIEW

Dec 13 07 06:05p DrKevinDavison 808 575 9656 p.10

Oct-27-2006 09:26am From-STATE Hi[illegible]c Preservation 808 692 8020 T-303 P.001/001 F-230

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

October 28, 2006

Ms. Leslie Otani
Department of Public Works and Environmental Management
Development Services Administration
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 2006.3549
DOC NO: 0610MK25
Archaeology

Dear Ms. Otani:

SUBJECT: **Chapter 6E-42 Historic Preservation Review [County/DSA] –**
Preliminary Plat Review for the Proposed Fagerholm-Cahill Subdivision (File No. 2.2874)
Opana and Ulumalu Ahupuaa, Makawao District, Island of Maui
TMK (2) 2-8-003: and 059

Thank you for the opportunity to provide comments on the Preliminary Plat Review. We are responding to a request by Newcomer-Lee Land Surveyors regarding the secondary subdivision cited above. Lot 1 of the Fagerholm-Cahill Subdivision is 20.508 acres, created from Subdivision File NO. 2.2632 granted final approval on August 30, 2002.

An archaeological inventory survey was conducted of the subject property by Scientific Consultant Services in 1996 (Dunn and Spear 1996, *An Archaeological Inventory Survey of Sao Ranch Estates Subdivision, Ulumalu and Opana Ahupuaa, Makawao District, Island of Maui, Hawaii, TMK 2-8-03)* resulting in an accepted report (LOG 17371/DOC 9606SC18). We have also reviewed and accepted the preservation plan (LOG2004.3040/DOC 0102MK06) for State sites SIHP 50-50-06-4092 (the Haiku Ditch), -4094 (lithic scatter), -4095 (historic roadway segments), and -4182 (red ochre quarry). All four sites are within the gulch and will not be affected by the subdivision. None of these sites are located on "Lot 1" discussed above.

Given the above information, we believe that any effect on the known historic properties will be mitigated through adherence to the conditions of the approved preservation plan. Via this letter, the applicant is notified that the conditions in the approved preservation plan shall be adhered to pursuant to Section 6E-42. HRS and HAR 13-277. This includes notifying the State Historic Preservation Division that the interim preservation measures are in place. We have been notified of such by Maria Isotov-Chang, Land & Water Resources Planner (April 5, 2006).

We believe "no historic properties will be affected" by the proposed subdivision. If you have any questions, please contact Dr. Melissa Kirkendall at (808) 243-5169

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

MK:kEgvf

c: Michael Foley, Planning Director, County of Maui FAX 270-7634
Bert Ratte, Engineer, County of Maui, FAX 270-7972
Maui Cultural Resources Commission, Dept. of Planning, 205 S. High Street, Wailuku 96793

APPENDIX C- PRECONSULTATION LETTERS

Land & Water

Maria N. Isotov-Chang, Land Use and Water Resource Planner, 65 Lihiwai Place, Haiku, Hawaii 96708, Phone &Fax: (808) 575-9763
Email: misotov@maui.net

Attention: Milton M. Arakawa, Director **February 26, 2008**
DEPARTMENT OF PUBLIC WORKS
200 South High Street, Room 322
Wailuku, Hawaii 96793

Re:	TMK	:	(2) 2-8-003:059
	PROJECT	:	Davison Waterline Expansion Project
	APPLICANT	:	Maui Integrated Solutions
	SUBJECT	:	Request for Preliminary Comments for the Preparation of an Environmental Assessment

Dear Director Arakawa

On behalf of Maui Integrated Solutions, owner of the subject parcel, I am seeking preliminary comments in the preparation of an Environmental Assessment (EA). The accepting authority for the subject EA is Maui County Department of Water Supply. The applicant proposes, the installation of underground utilities and appurtenant aboveground fixtures less than four feet in height within existing State roadway corridors while utilizing County funds for the proposed work.

The proposed installation of utilities and appurtenant above ground fixtures along existing corridors is herewith described and corresponding SHPD review letter, maps, plans are attached:

1. Within existing corridor of Hana Highway, the proposed utility work is 1300 linear feet of eight (8") inch waterline and one new standpipe less than four feet in height; and
2. Within existing corridor of Kai Huki Road, the proposed utility work is 1200 linear feet of four (4") inch waterline and three new standpipes less than four feet in height.
3. All work will be performed in the existing highway and roadway right of way corridors at a depth no greater than four to six (4'-6') feet.

Thank you for your time and attention to this request. We look forward to your comments. Please call Ms. Maria N. Isotov-Chang if you have any questions at (808) 575-9763.

Kind regards,

MARIA N. ISOTOV CHANG, Land Use Planner
LAND & WATER

Attachments: Construction Map (11x17)

Land & Water

Maria N. Isotov-Chang, Land Use and Water Resource Planner, 65 Lihiwai Place, Haiku, Hawaii 96708, Phone &Fax: (808) 575-9763
Email: misotov@maui.net

Jeffery K. Eng Director
DEPARTMENT OF WATER SUPPLY
200 South High Street
Wailuku, Hawaii 96793-2155

February 26, 2008

Re:	TMK	:	(2) 2-8-003:059
	PROJECT	:	Davison Waterline Expansion Project
	APPLICANT	:	Maui Integrated Solutions
	SUBJECT	:	Request for Preliminary Comments for the Preparation of an Environmental Assessment

Dear Director Eng:

On behalf of Maui Integrated Solutions, owner of the subject parcel, I am seeking preliminary comments in the preparation of an Environmental Assessment (EA). The accepting authority for the subject EA is Maui County Department of Water Supply. The applicant proposes, the installation of underground utilities and appurtenant aboveground fixtures less than four feet in height within existing State roadway corridors while utilizing County funds for the proposed work.

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Kind regards,

MARIA N. ISOTOV CHANG, Land Use Planner
LAND & WATER

Attachments: Construction Map (11x17)

Land & Water

Maria N. Isotov-Chang, Land Use and Water Resource Planner, 65 Lihiwai Place, Haiku, Hawaii 96708, Phone &Fax: (808) 575-9763
Email: misotov@maui.net

BOARD OF LAND AND NATURAL RESOURCES **FEBRUARY 26, 2008**
Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Re:	TMK	:	(2) 2-8-003:059
	PROJECT	:	Davison Waterline Expansion Project
	APPLICANT	:	Maui Integrated Solutions
	SUBJECT	:	Request for Preliminary Comments for the Preparation of an Environmental Assessment

On behalf of Maui Integrated Solutions, owner of the subject parcel, I am seeking preliminary comments in the preparation of an Environmental Assessment (EA). The accepting authority for the subject EA is Maui County Department of Water Supply. The applicant proposes, the installation of underground utilities and appurtenant aboveground fixtures less than four feet in height within existing State roadway corridors while utilizing County funds for the proposed work.

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Kind regards,

MARIA N. ISOTOV CHANG, Land Use Planner
LAND & WATER

Attachments: Construction Map (11x17)

Land & Water

Maria N. Isotov-Chang, Land Use and Water Resource Planner, 65 Lihiwai Place, Haiku, Hawaii 96708, Phone &Fax: (808) 575-9763
Email: misotov@maui.net

DEPARTMENT OF PLANNING
250 South High Street
Wailuku, Hawaii 96793

February 26, 2008

Re: TMK : (2) 2-8-003:059
PROJECT : Davison Waterline Expansion Project
APPLICANT : Maui Integrated Solutions

Attention: Paul Fasi, Staff Planner:

On behalf of Maui Integrated Solutions, owner of the subject parcel, I am seeking preliminary comments in the preparation of an Environmental Assessment (EA). The accepting authority for the subject EA is Maui County Department of Water Supply. The applicant proposes, the installation of underground utilities and appurtenant aboveground fixtures less than four feet in height along existing corridors.

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Kind regards,

MARIA N. ISOTOV CHANG, Land Use Planner
LAND & WATER

Attachments: Construction Map (11x17)

Land & Water

Maria N. Isotov-Chang, Land Use and Water Resource Planner, 65 Lihiwai Place, Haiku, Hawaii 96708, Phone &Fax: (808) 575-9763
Email: misotov@maui.net

HAWAII DEPARTMENT OF TRANSPORTATION
650 Palapala Drive
Kahului, Hawaii 96732-2321

February 26, 2008

Re:	TMK	:	(2) 2-8-003:059
	PROJECT	:	Davison Waterline Expansion Project
	APPLICANT	:	Maui Integrated Solutions
	SUBJECT	:	Request for Preliminary Comments for the Preparation of an Environmental Assessment

On behalf of Maui Integrated Solutions, owner of the subject parcel, I am seeking preliminary comments in the preparation of an Environmental Assessment (EA). The accepting authority for the subject EA is Maui County Department of Water Supply. The applicant proposes, the installation of underground utilities and appurtenant aboveground fixtures less than four feet in height within existing State roadway corridors while utilizing County funds for the proposed work.

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Thank you for your time and attention to this request. We look forward to your comments. Please call Ms. Maria N. Isotov-Chang if you have any questions at (808) 575-9763.

Kind regards,

MARIA N. ISOTOV CHANG, Land Use Planner
LAND & WATER

Attachments: Construction Map (11x17)

CHARMAINE TAVARES
Mayor

JEFFREY K. ENG
Director

ERIC H. YAMASHIGE, P.E., L.S.
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

January 28, 2008

Ms. Maria Isotov-Chang
Land & Water
65 Lihiwai Place
Haiku, Hawaii 96708

Dear Ms. Isotov-Chang:

Subject: FAGERHOLM-CAHILL SUBDIVISION SD 04-94 DSA 2.2874
Environmental Assessment for New Waterline Along Hana Highway
TMK 2-8-003:059 Haiku, Maui, Hawaii

Your request is approved to have the department as the authorizing agency for the environmental assessment to construct a new 8-inch waterline along Hana Highway in Haiku. The new waterline is required by the department to provide fire protection and water service to the subject subdivision. The new waterline will be dedicated to the department. The department will be paying fifty percent of the construction cost of the waterline extension. The department plans to pay for the cost to up size the waterline from a six-inch to an eight-inch.

Relating to the environmental assessments, the subdivider will be responsible but not limited to the following:

1. Prepare the draft environmental assessment, final environmental assessment and all related forms for submittal to the Office of the Environmental Quality Control (OEQC).
2. Provide responses to public comments.
3. Provide all community consultations.
4. Pay for all costs required to complete the assessments.

The department will need to review all documents prior to submittal to the OEQC. If you have any questions, please contact the department at 270-7835.

Sincerely,

Jeffrey K. Eng
Director

JE/an/hc

"By Water All Things Find Life"

The Department of Water Supply is an Equal Opportunity provider and employer. To file a complaint of discrimination, write: USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington DC 20250-9410. Or call (202) 720-5964 (voice and TDD)

Printed on recycled paper

APPENDIX D - MAPS

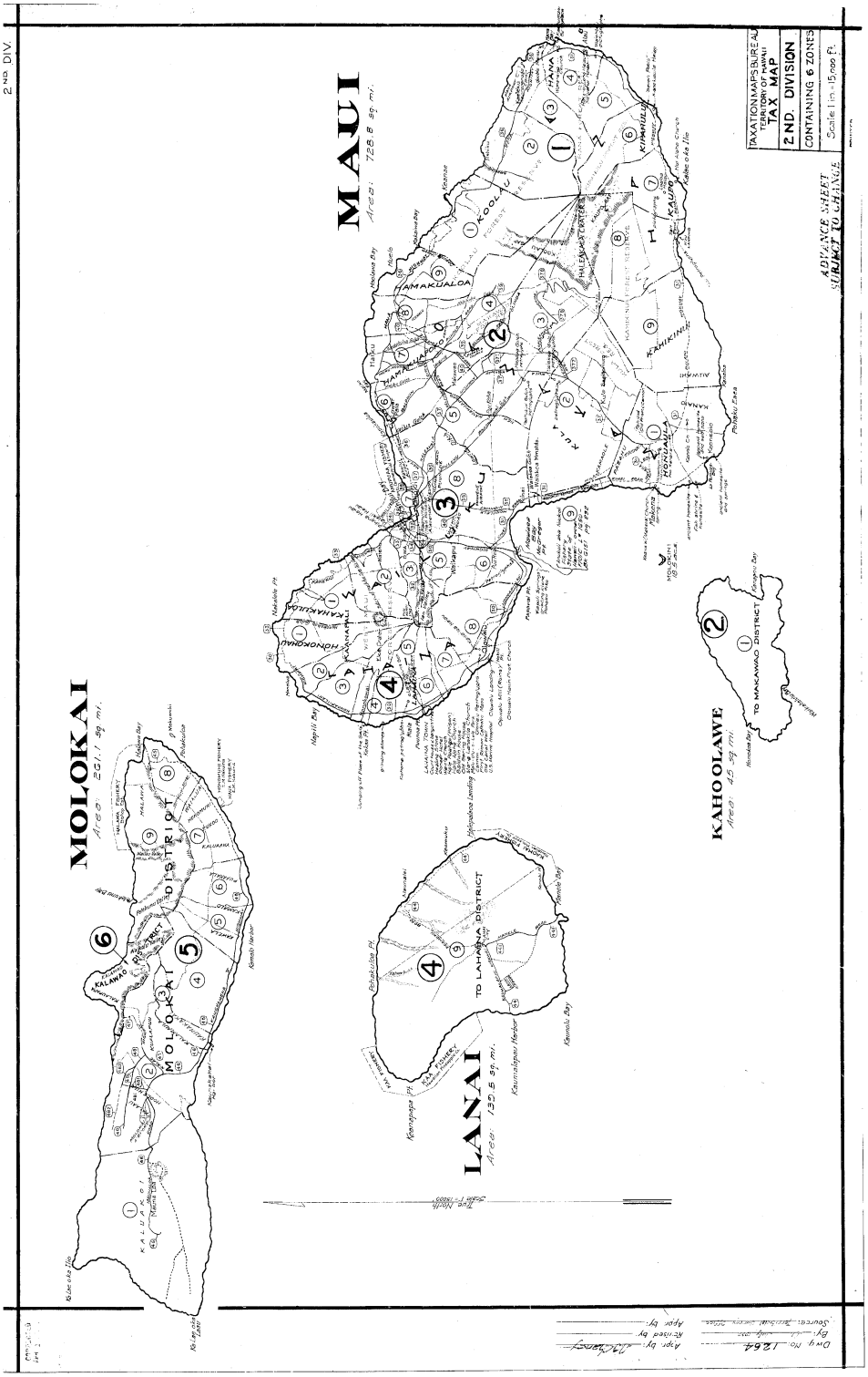


Figure 1: Location Map, not to scale.

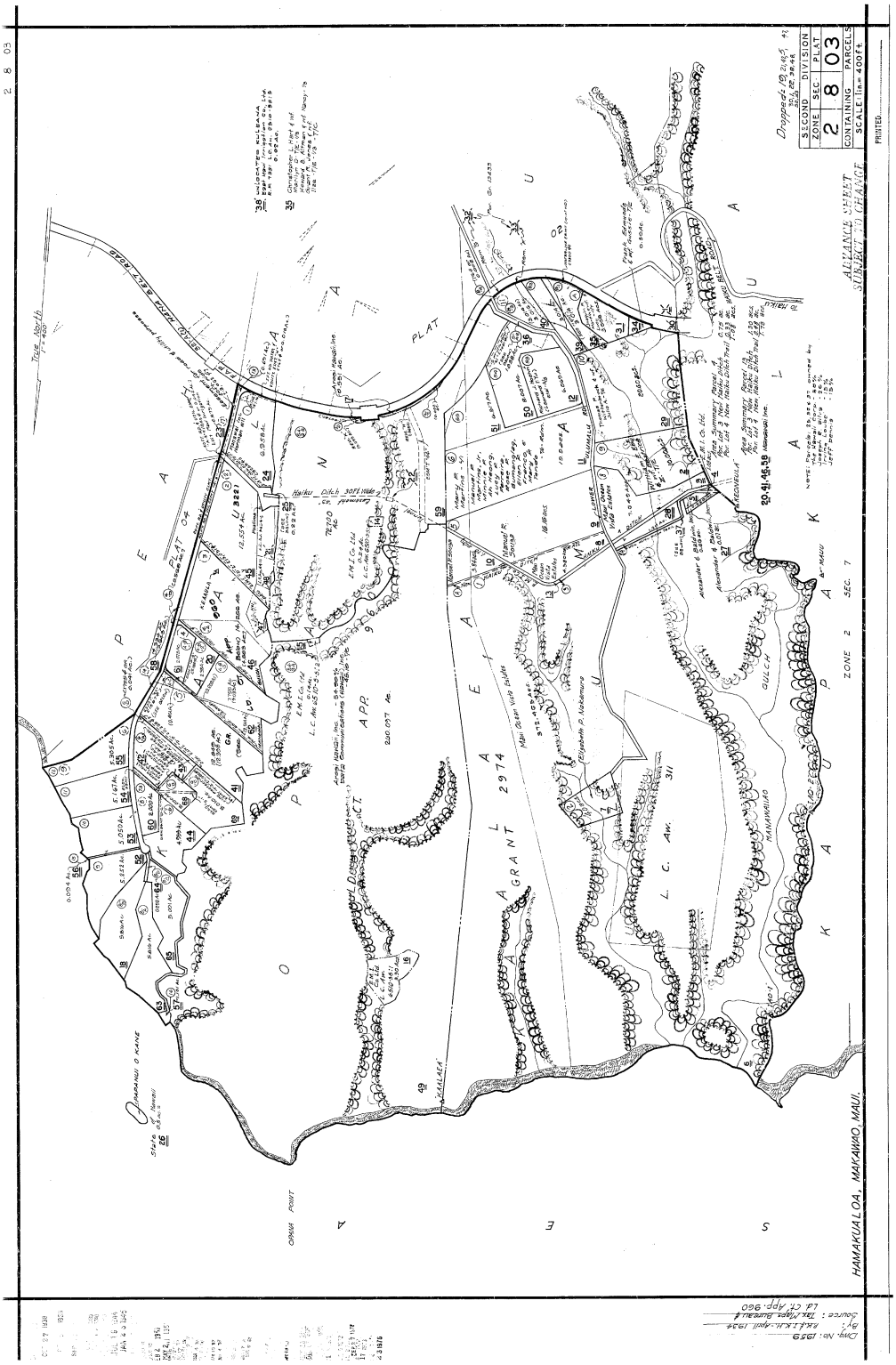


Figure 2: TMK Map, not to scale.

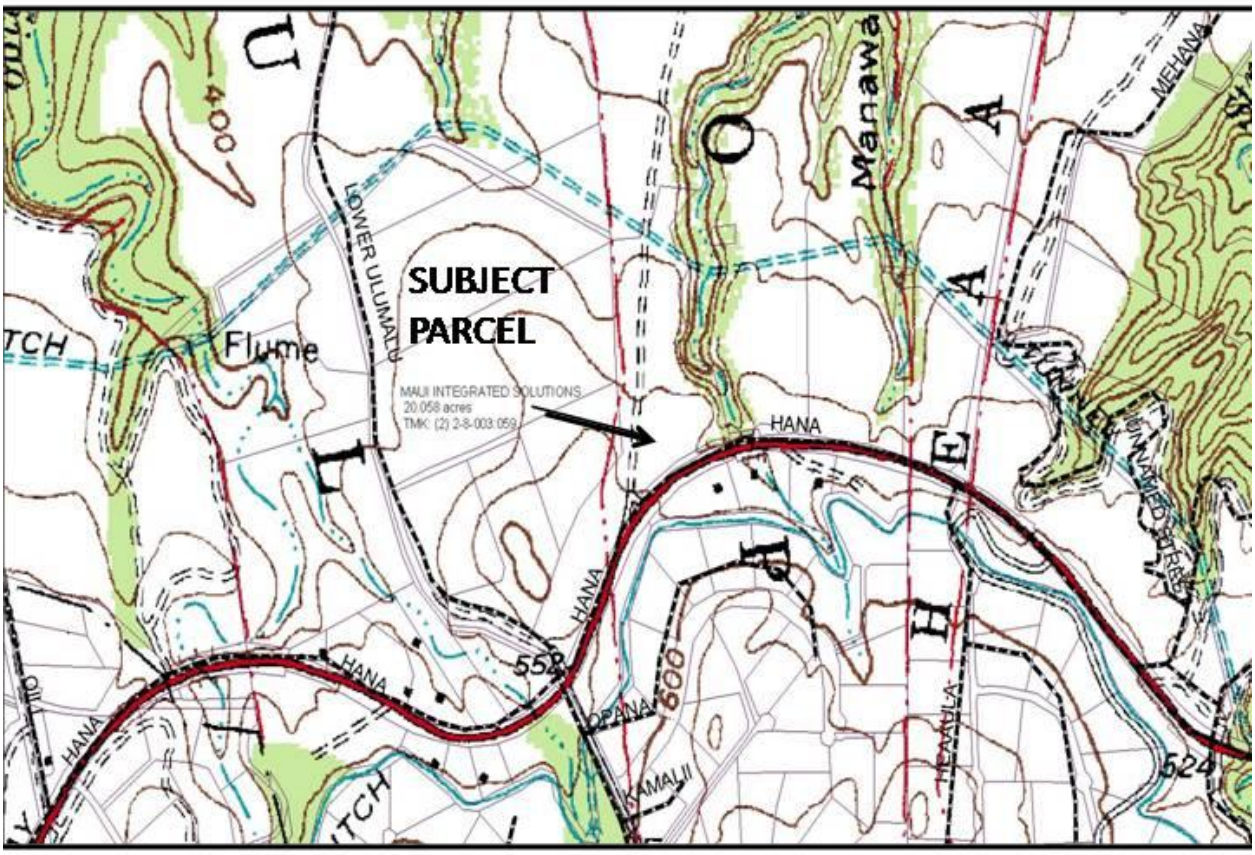
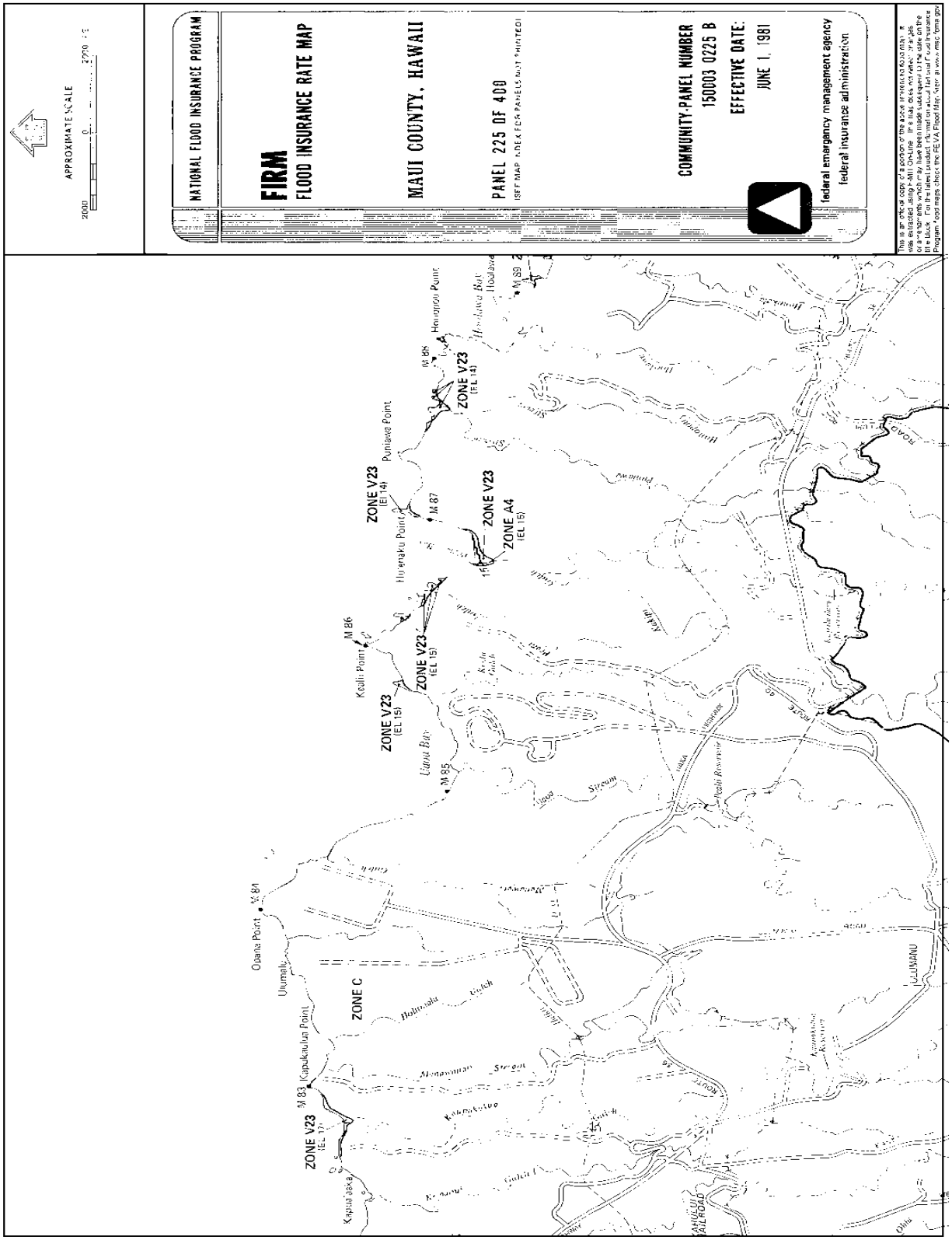

SUBJECT
PARCEL
MAUI INTEGRATED SOLUTIONS
20.058 acres
TMK: (2) 2-8-003:059
LOWER ULUMALU
Flume
HANA
Manawa
MEHANA
KAMALII
OPANA
HEAHULA
552
600
524
400

FIGURE 3


APPROXIMATE SCALE
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
MAUI COUNTY, HAWAII
PANEL 225 OF 400
COMMUNITY-PANEL NUMBER
150003 0225 B
EFFECTIVE DATE:
JUNE 1, 1981
federal emergency management agency
federal insurance administration
ZONE V23
(EL 14)
ZONE V23
(EL 15)
ZONE A4
(EL 15)
ZONE C
Punlawa Point
Kealia Point
Olpana Point
Kapukaulua Point
Kapualaeka
Ulumalu
Hanapepe Point
Hanapepe Bay
Kealia Bay
Kealia Pond
Kealia Reservoir
Ulupalakua
Kaupo Gap
Kaupo Ranch
Kaupo Stream
Kaupo Gulch
Kaupo Road
Kaupo Ranch Road
Kaupo Ranch Reservoir
Kaupo Ranch Gulch
Kaupo Ranch Stream
Kaupo Ranch Road
Kaupo Ranch Road
Kaupo Ranch Road

APPENDIX E - PHOTOS

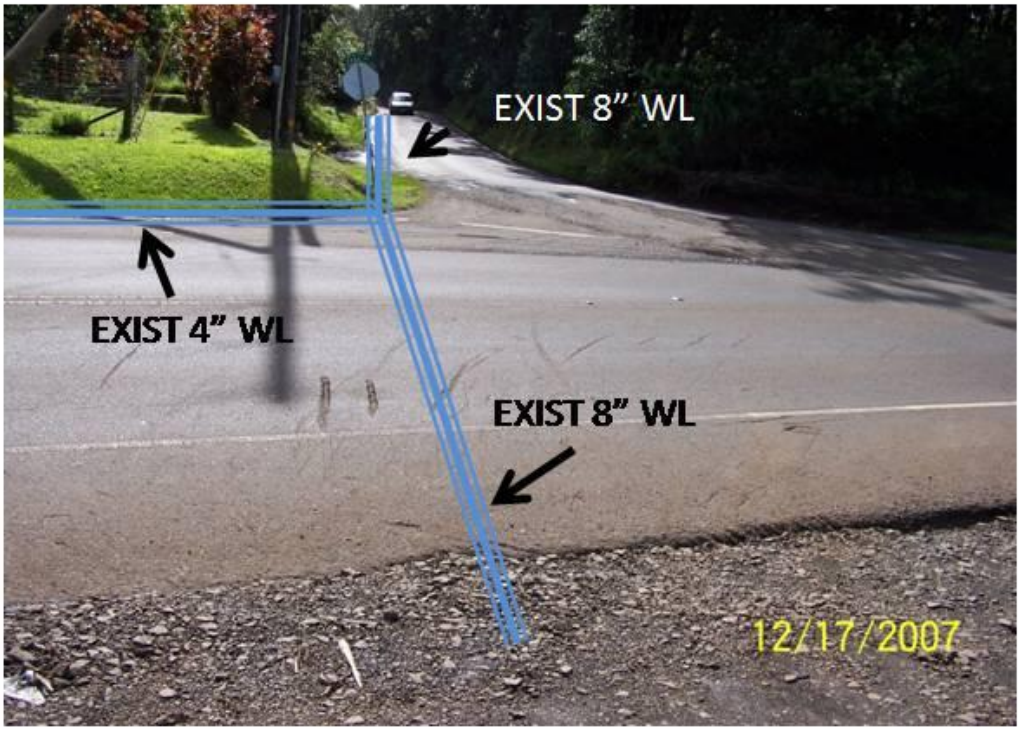


PHOTO 1 = ULUMALU ROAD AND HANA HWY. INTERSECTION. AREA OF EXISTING DEPARTMENT OF WATER SUPPLY WATERMAIN STUBB-OUT FOR PROPOSED WATERLINE

PHOTO 2 = ULUMALU ROAD AND HANA HWY. INTERSECTION LOOKING NORTH, AREA OF PROPOSED WATERLINE ADJACENT TO ROADWAY ON THE LEFT.

PHOTO 3 = ULUMALU ROAD AND HANA HWY. INTERSECTION LOOKING SOUTH

PHOTO 4 = MAUI GROWN STORE - ULUMALU ROAD AND HANA HWY. INTERSECTION LOOKING NORTH

PHOTO 5 = KAI HUKI ROAD AND HANA HWY. INTERSECTION LOOKING NORTH. AREA OF PROPOSED WATERLINE ADJACENT TO ROADWAY, ON LEFT.

PHOTO 6 = KAI HUKI ROAD LOOKING NORTH TOWARD OCEAN, AREA OF PROPOSED WATERLINE ADJACENT TO ROADWAY ON THE LEFT.

PHOTO 7 = KAI HUKI ROAD LOOKING SOUTHWEST, AREA OF PROPOSED WATERLINE ADJACENT TO ROADWAY.

PHOTO 8 = KAI HUKI ROAD LOOKING NORHTEAST TOWARD GULCH LAND

PHOTO 9 = KAI HUKI ROAD LOOKING NORTH TOWARD OCEAN, AREA OF PROPOSED WATERLINE ADJACENT TO ROADWAY ON THE LEFT. Middle of subject parcel.

PHOTO 10 = KAI HUKI ROAD LOOKING NORTH TOWARD OCEAN, AREA OF PROPOSED WATERLINE ADJACENT TO ROADWAY ON THE LEFT. End of subject parcel & Peahi Farms Begins

PHOTO 12 – LOOKING UP KAI HUKI ROAD TOWARD HANA HWY. FROM END OF PROPERTY BOUNDARY, WATERLINE TO BE PLACED TO THE RIGHT OF ROADWAY.

APPENDIX F – BMP'S

BEST MANAGEMENT PRACTICES
NOTES & DETAILS

1. STABILIZED CONSTRUCTION ENTRANCE

ALL POINTS OF EGRESS AND INGRESS TO A SITE SHALL BE PROTECTED WITH A STABILIZED CONSTRUCTION ENTRANCE. 20' x 20' MIN.

2. STOCKPILES

STOCKPILES SHALL NOT BE LOCATED IN DRAINAGE WAYS OR OTHER AREAS OF CONCENTRATED FLOWS. DURING PERIODS OF WET WEATHER, SUCH AS THE RAINY SEASON, STOCKPILES SHALL BE STABILIZED. STOCKPILES COVERED IN PLASTIC WHEN NOT IN USE. SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAPS, BASINS OR BARRIERS SHALL BE USED AROUND THE BASE OF ALL STOCKPILES.

3. DUST CONTROL

DUST CONTROLSHOULD BE APPLIED TO REDUCE DUST EMISSIONS. THE CONTRACTOR SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONSTROL STANDARDS CONTAINED IN HAWAII AMINISTRATIVE RULES: CHAPTER 11-60, "AIR POLLUTION CONTROL".

4. SEDIMENT BARRIERS OR TRAPS

SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAP BASINS OR BARRIERS SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS AND AROUND THE BASE OF ALL MATERIAL STOCKPILES. STOCKPILES TO BE COVERED WITH PLASTIC.

5. SLOPE PROTECTION

SURFACE FLOW FROM ABOVE AN EXPOSED SLOPE SHALL NOT BE ALLOWED TO FLOW OVER THE SLOPE WITHOUT PROTECTION. SLOPE PROTECTION SHALL BE USED ON AREAS WITH SLOPES GREATER THAN 50% AND ON AREAS OF MODERATE SLOPES THAT ARE PRONE TO EROSION.

6. INLET PROTECTION

ALL STORM DRAIN INLETS ON SITE, AND THOSE OFFSITE THAT MAY RECEIVE RUNOFF FROM THE SITE SHALL USE AN INLET PROTECTION DEVICE.

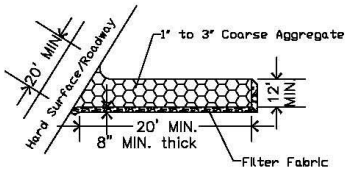
7. TEMPORARY STABILIZATION

IS NOT REQUIRED WHEN THE DISTURBED AREA WILL BE WORKED WITHIN A 14 DAY PERIOD. STABILIZATION IS REQUIRED FOR DISTURBED AREAS AT FINAL GRADE AND FOR THOSE AREAS THAT WILL NOT BE WORKED WITHIN A 14 DAY PERIOD.

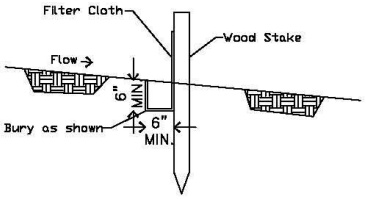
8. PERMANENT STABILIZATION

ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY PERMANENTLY STABILIZED. AREA TO BE PERMANENTLY SEEDED/MULCHED WITHIN 14 DAYS OF FINAL GRADE EXCEPT HOUSE AREA WHICH WILL BE FORMED AND SLABBED WITHIN 14 DAYS.

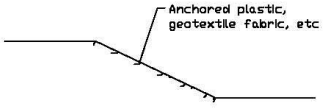
Stabilized Construction Entrance



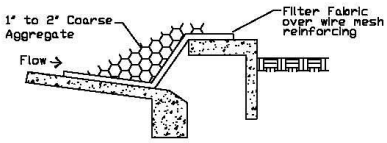
Sediment Barrier



Slope Protection



Inlet Protection



Linda Taylor Engineering, Inc.
Post Office Box 779, Makawao, Maui, Hawaii

DAVISON WATERLINE
IMPROVEMENT PROJECT
SMA Application

GENERAL NOTES FOR TRAFFIC CONTROL PLAN:

1. THE PERMITTEE SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
4. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
6. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITTEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS.
7. SIGN SPACINGS (L), TAPER LENGTHS (T) AND SPACINGS OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
8. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
9. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
10. THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
11. AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED, THE PERMITTEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION.
12. REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.

GENERAL NOTES ON THE EROSION CONTROL PLAN:

THE FOLLOWING MEASURE WILL BE TAKEN TO CONTROL EROSION DURING THE CONSTRUCTION PERIOD.

1. MINIMIZE CONSTRUCTION TIME.
2. RETAIN EXISTING GROUND COVER AS LONG AS POSSIBLE.
3. EARLY INSTALLATION OF EROSION CONTROL MEASURES.
4. USE TEMPORARY AREA SPRINKLERS IN NON-ACTIVE AREAS WHEN GROUND COVER IS REMOVED.
5. PROVIDE WATER FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE AREAS.
6. USE TEMPORARY EROSION CONTROL MEASURES WHERE NEEDED.
7. THOROUGHLY WATER GRADED AREAS AT THE END OF EACH WORK DAY AND WEEKENDS.
8. PROVIDE TEMPORARY IRRIGATION SYSTEM, AND GRASS ALL CUT AND FILL SLOPES WITHIN 30 DAYS AFTER GRADING WORK IS COMPLETED.

Linda Taylor Engineering, Inc.
Post Office Box 779, Makawao, Maui, Hawaii

DAVISON WATERLINE
IMPROVEMENT PROJECT
SMA Application

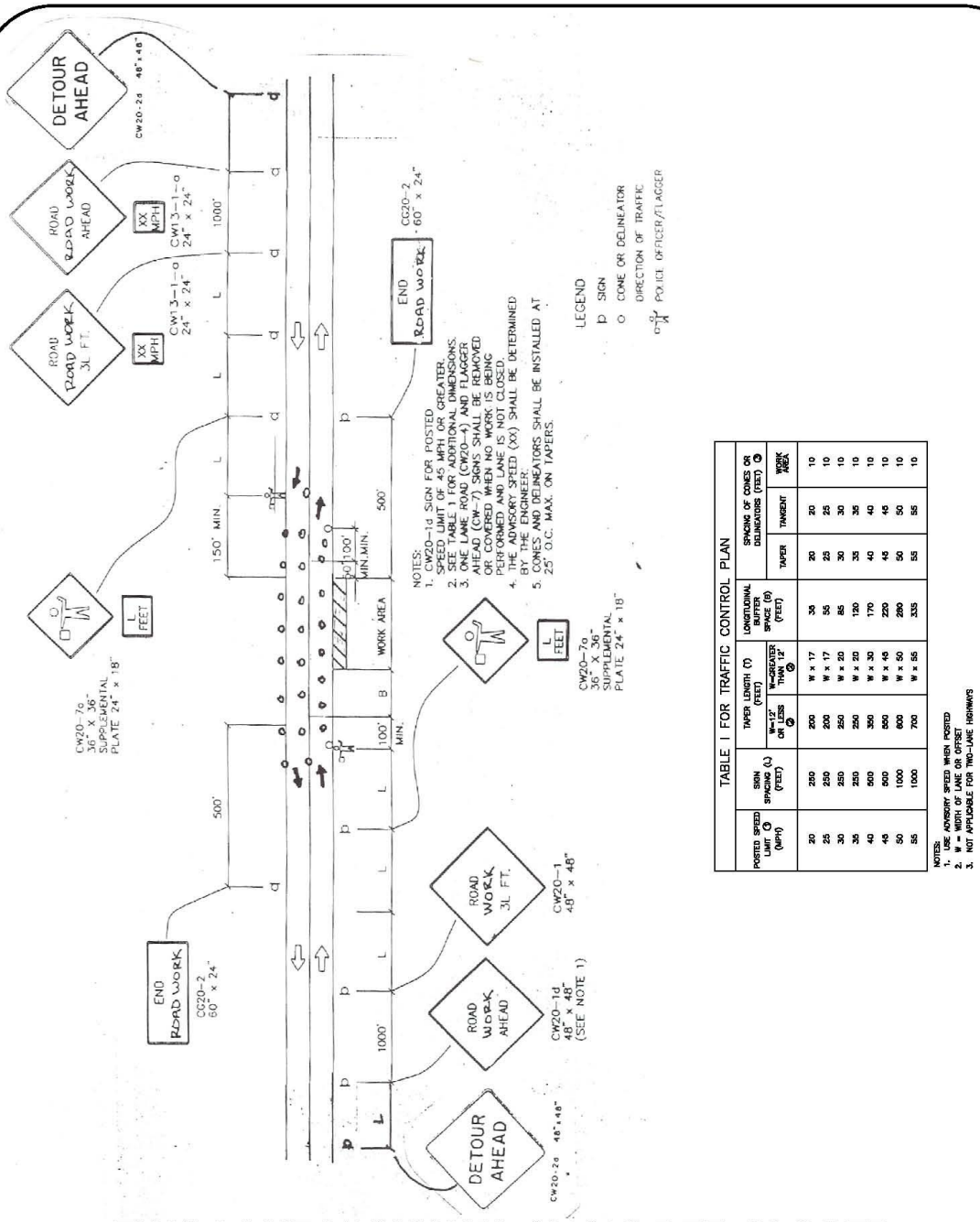


TABLE I FOR TRAFFIC CONTROL PLAN

POSTED SPEED LIMIT (MPH)	SIGN SPACING (L) (FEET)	TAPER LENGTH (T) (FEET) W=12' OR LESS	TAPER LENGTH (T) (FEET) W=GREATER THAN 12'	LONGITUDINAL BUFFER SPACE (B) (FEET)	SPACING OF CONES OR DELINEATORS (FEET) TAPER	SPACING OF CONES OR DELINEATORS (FEET) TANGENT	SPACING OF CONES OR DELINEATORS (FEET) WORK AREA
20	250	200	W x 17	35	20	20	10
25	250	200	W x 17	55	25	25	10
30	250	250	W x 20	85	30	30	10
35	250	250	W x 20	120	35	35	10
40	500	350	W x 30	170	40	40	10
45	500	500	W x 45	220	45	45	10
50	1000	600	W x 50	280	50	50	10
55	1000	700	W x 55	335	55	55	10

NOTES:
1. USE ADVISORY SPEED WHEN POSTED
2. W = WIDTH OF LANE IN FEET
3. NOT APPLICABLE FOR TWO-LANE HIGHWAYS

TWO-LANE HIGHWAY: SHOULDER CLOSED

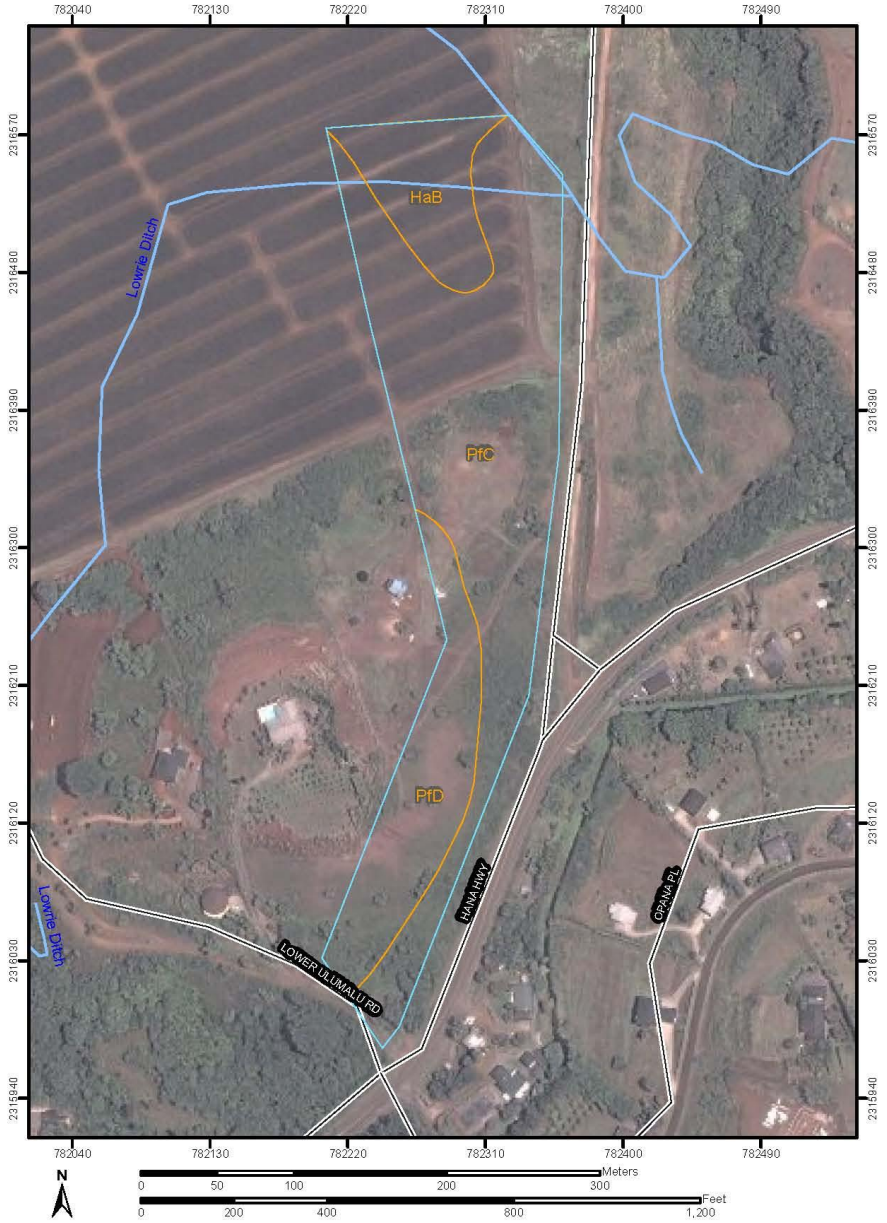
FIGURE 1 - TRAFFIC CONTROL PLAN

Linda Taylor Engineering, Inc.
Post Office Box 779, Makawao, Maui, Hawaii

DAVISON WATERLINE
IMPROVEMENT PROJECT
SMA Application

APPENDIX G - SOILS

Soil Map–Island of Maui, Hawaii
(Davison Waterline - Soils Map)



Natural Resources Conservation Service
Web Soil Survey 2.0
National Cooperative Soil Survey
3/27/2008
Page 1 of 3

Soil Map–Island of Maui, Hawaii
(Davison Waterline - Soils Map)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 4N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Island of Maui, Hawaii
Survey Area Data: Version 7, Dec 31, 2006

Date(s) aerial images were photographed:

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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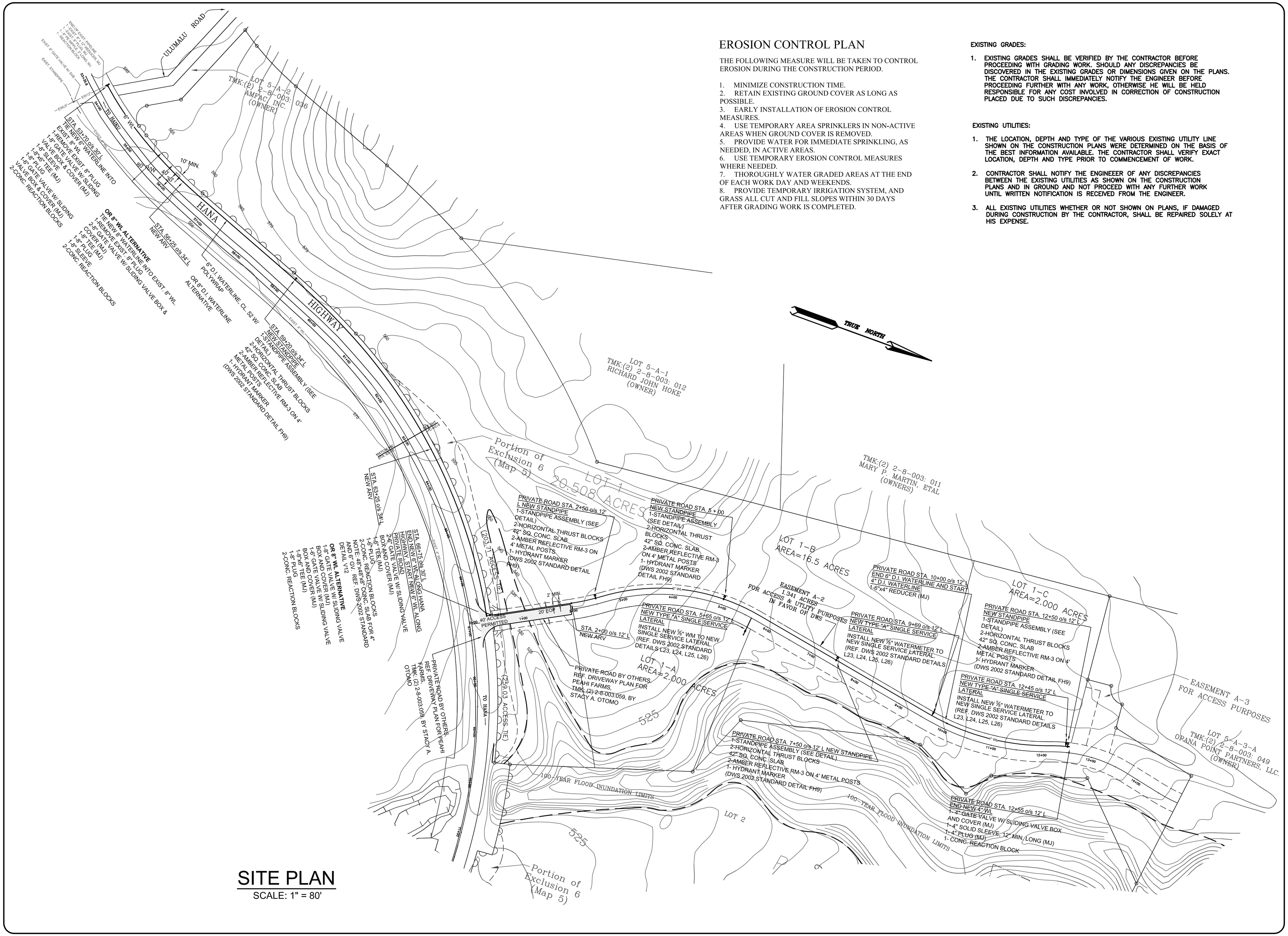
Map Unit Legend

Island of Maui, Hawaii (HI980)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
HaB	Haiku silty clay, 3 to 7 percent slopes	1.8	13.3%
PfC	Pauwela clay, 7 to 15 percent slopes	8.6	65.0%
PfD	Pauwela clay, 15 to 25 percent slopes	2.9	21.8%
Totals for Area of Interest (AOI)		13.2	100.0%

APPENDIX H – CONSTRUCTION PLANS



SITE PLAN

SCALE: 1" = 80'

EROSION CONTROL PLAN

THE FOLLOWING MEASURE WILL BE TAKEN TO CONTROL EROSION DURING THE CONSTRUCTION PERIOD.

1. MINIMIZE CONSTRUCTION TIME.
2. RETAIN EXISTING GROUND COVER AS LONG AS POSSIBLE.
3. EARLY INSTALLATION OF EROSION CONTROL MEASURES.
4. USE TEMPORARY AREA SPRINKLERS IN NON-ACTIVE AREAS WHEN GROUND COVER IS REMOVED.
5. PROVIDE WATER FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE AREAS.
6. USE TEMPORARY EROSION CONTROL MEASURES WHERE NEEDED.
7. THOROUGHLY WATER GRADED AREAS AT THE END OF EACH WORK DAY AND WEEKENDS.
8. PROVIDE TEMPORARY IRRIGATION SYSTEM, AND GRASS ALL CUT AND FILL SLOPES WITHIN 30 DAYS AFTER GRADING WORK IS COMPLETED.

EXISTING GRADES:

1. EXISTING GRADES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH GRADING WORK. SHOULD ANY DISCREPANCIES BE DISCOVERED IN THE EXISTING GRADES OR DIMENSIONS GIVEN ON THE PLANS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER BEFORE PROCEEDING FURTHER WITH ANY WORK, OTHERWISE HE WILL BE HELD RESPONSIBLE FOR ANY COST INVOLVED IN CORRECTION OF CONSTRUCTION PLACED DUE TO SUCH DISCREPANCIES.

EXISTING UTILITIES:

1. THE LOCATION, DEPTH AND TYPE OF THE VARIOUS EXISTING UTILITY LINE SHOWN ON THE CONSTRUCTION PLANS WERE DETERMINED ON THE BASIS OF THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL VERIFY EXACT LOCATION, DEPTH AND TYPE PRIOR TO COMMENCEMENT OF WORK.
2. CONTRACTOR SHALL NOTIFY THE ENGINEEER OF ANY DISCREPANCIES BETWEEN THE EXISTING UTILITIES AS SHOWN ON THE CONSTRUCTION PLANS AND IN GROUND AND NOT PROCEED WITH ANY FURTHER WORK UNTIL WRITTEN NOTIFICATION IS RECEIVED FROM THE ENGINEER.
3. ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON PLANS, IF DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, SHALL BE REPAIRED SOLELY AT HIS EXPENSE.

REVISION	BY

Linda Taylor Engineering, Inc.
Post Office Box 779
Makawao, Maui,
Hawaii

SIGNATURE
THIS WORK WAS PREPARED BY 04/30/06
ME OR UNDER MY SUPERVISION.

VANDEGRAAFF TAYLOR
LICENSED PROFESSIONAL ENGINEER
No. 6507-C
HAWAII, U.S.A.

SITE PLAN

FAGERHOLM-CAHILL SUBDIVISION
HANA HIGHWAY
HAIKU, MAUI, HAWAII
T.M.K. (2) 2-8-003:059

SUBDIVISION FILE NO. 2.2874

DRAWN	FvA
CHECKED	LVT
DATE	APRIL 24, 2006
SCALE	AS NOTED
JOB	DAVISON
SHEET	C-3

OF 8 SHEETS