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BENJAMIN J. CAYETANO  
GOVERNOR

OFC. OF ENVIRONMENTAL  
QUALITY CONTROL  
February 1, 1995

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1	Area P & Engr Approval
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2	Planning Sr <i>AA</i> File
---	Proj. Mgmt. Bt See me
---	Design B Comments
---	Info Bt Invest &
---	Qual. Cont. Engr Rept
---	Comm. Serv. Bt

TO: Eugene Imai, Comptroller  
Department of Accounting and General Services

SUBJECT: Final Environmental Impact Statement Acceptance for Hookena  
Elementary School Expansion, South Kona, Island of Hawaii

I am pleased to accept the Final Environmental Impact Statement for the Hookena Elementary School Expansion, South Kona, Island of Hawaii as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding if the action described therein should be allowed to proceed. 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.

When the decision is made regarding the proposed action itself, I expect the appropriate legislative bodies and governmental agencies to consider if the societal benefits justify the economic, social and environmental impacts which will likely occur. These impacts are adequately described in the statement which, together with the comments made by reviewers, provides useful analysis of the proposed action.

*Benjamin J. Cayetano*  
BENJAMIN J. CAYETANO

c: Lawrence Miike

1994 FEIS HAWAII  
HOOKENA ELEMENTARY

**FILE COPY**

**SCHOOL EXPANSION**

**SITE SELECTION REPORT  
AND  
FINAL  
ENVIRONMENTAL IMPACT STATEMENT  
FOR THE  
HOOKENA ELEMENTARY SCHOOL EXPANSION**

Prepared for:  
**State of Hawaii  
Department of Accounting and General Services**

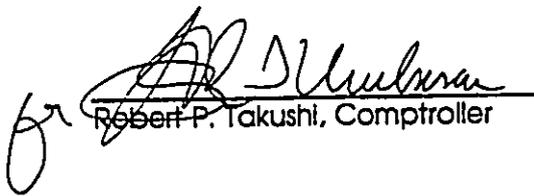
Prepared by:  
**GIMA-YOSHIMORI-MIYABARA-DEGUCHI  
ARCHITECTS, INC.**

December 1994

**SITE SELECTION REPORT AND  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
FOR THE  
HOOKENA ELEMENTARY SCHOOL EXPANSION  
KONA, HAWAII**

Prepared for: State of Hawaii  
Department of Accounting and General Services  
1151 Punchbowl Street  
Honolulu, Hawaii 96813  
DAGS Job No. 11-16-4940

Responsible  
Official:

  
Robert P. Takushi, Comptroller

DEC 13 1994  
Date

Accepting  
Authority:

Benjamin J. Cayetano, Governor State of Hawaii

Prepared by:

GIMA YOSHIMORI MIYABARA DEGUCHI ARCHITECTS INC.  
1357 Kapiolani Boulevard, Suite 1230  
Honolulu, HI 96814

December, 1994

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## PREFACE

This Environmental Impact Statement (EIS) document was prepared pursuant to the requirements of Chapter 343, Hawaii Revised Statutes (HRS), including Act 241, SLH 1992 revisions, and Title 11, Chapter 200, Hawaii Administrative Rules, Department of Health Environmental Impact Statement (EIS) Rules.

This EIS document was prepared to examine and evaluate the environmental impacts which are expected to result from expanding the existing Hookena Elementary School site and improving the school's existing facilities. The purpose of this study was to determine whether the proposed action would have a significant adverse impact on the affected environment.

The preparers of this document conducted background research and analyzed the economic and social conditions of the South Kona District, examined the affected environment, and considered two alternatives to the proposed action. The impacts which are expected to result from the proposed action, and the alternatives to the proposed action, were identified and are provided in this EIS document, and mitigative measures which will avoid or minimize anticipated impacts are recommended herein.

In addition, this EIS document incorporates the methodology and results of a Site Selection Study which was undertaken to identify candidate sites for the proposed expansion of Hookena Elementary School; and it discusses and compares the potential environmental impacts which would result from developing each of the three candidate sites as identified by the Site Selection Study. The size for an expanded school site (about 9 acres) was estimated from conceptual masterplan layouts. The size and shape of the expanded school site will be dependant on the Ultimate Masterplan layout which will be developed at a later date.

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SUMMARY SHEET

HOOKENA ELEMENTARY SCHOOL EXPANSION  
Kona, Hawaii

Proposing  
Agency:

State of Hawaii  
Department of Accounting and General Services  
1151 Punchbowl Street, Rm. 430  
Honolulu, Hawaii 96813  
Contact: Brian Isa

EIS Preparer:

Gima Yoshimori Miyabara Deguchi Architects, Inc  
1357 Kapiolani Blvd., Suite 1230  
Honolulu, Hawaii 96813

Accepting  
Authority:

Benjamin J. Cayetano, Governor State of Hawaii

Candidate Sites  
Tax Map Keys:

8-6-10: 09, 8-6-10: 12, 8-6-11: portion 02

Location:

Kona, Hawaii

Proposed Action:

To expand the existing Hookena Elementary School site,  
and to improve existing facilities to accomodate the  
projected enrollment of 310 students, with 16 permanent  
and 4 portable classrooms.

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SUMMARY

1. Description of the Proposed Action: The State of Hawaii, Department of Education proposes to expand the existing 4.033 acre Hookena Elementary School site (TMK 8-6-10: 09 and 12) to approximately 9 acres. Furthermore, the DOE proposes to improve existing facilities to accommodate a projected student population of 310, grades K - 5, to the year 2010. The TMK for the additional land is 8-6-11: portion 02.

Name of the Proposed Project - Hookena Elementary School Expansion

Project Location - State of Hawaii, Island of Hawaii, South Kona District, in Kauhako between Hookena and Kalahiki

Proposing Agency - State of Hawaii, Department of Accounting and General Services

Accepting Authority - Benjamin J. Cayetano, Governor State of Hawaii

Purpose of the Project. - The purpose of this project is to provide additional land on which to expand the existing Hookena Elementary School, and to provide adequate and accessible educational services and facilities for the children who reside in the Hookena Elementary School District. Upon selection of a final site, the State will begin negotiations with McCandless Ranch (aka McCandless Estate) for land acquisition.

Need for the Project. - The existing school is overcrowded due to increased student enrollment; and the existing facilities do not meet the educational and administrative needs of the district's students, faculty and staff. Population projections indicate continued increases in student enrollment are expected. The school urgently needs the additional land to complete a master plan to allow development of adequate facilities for the children of South Kona.

Project Cost. - The expansion project is expected to cost between \$5,525,000 and \$8,118,000, depending on the site selected.

2. Significant Beneficial and Adverse Impacts:

A. Significant Beneficial Impacts. - It is anticipated that the proposed action will have a direct positive impact on the quality of educational services which are delivered to students who attend Hookena Elementary School.

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It is anticipated that as an indirect result of the proposed action, the residents of the South Kona District will realize short term economic benefits from increased sales receipts and wages associated with the construction phase of the project.

In addition, the proposed action is expected to help to the State achieve its sociocultural advancement - education objective of providing adequate and accessible educational services and facilities that are designed to meet individual and community needs.

The users of the facility are expected to derive increased satisfaction from the enhanced appearance and improved operation of the Hookena Elementary School.

B. Significant Adverse Impacts. - Many potentially adverse impacts which would result from the proposed expansion project were identified during the environmental assessment and site evaluation processes, and it is anticipated they can be avoided as a result of the site selection process, and employing prudent management practices, and utilizing the best demonstrated technology available (BDTA). It is anticipated that unavoidable adverse impacts will be temporary and minor, and mitigable through enforcement of adequate control measures.

The proposed project would require the long-term, irreversible commitment of resources such as: land, fuel, capital, building materials, and labor; however, the overall, long term beneficial impacts which are anticipated to be derived by the community as a result of expanding the site and improving the facilities are expected to outweigh and override the anticipated adverse impacts.

3. Proposed Mitigative Measures: To avoid or minimize short term impacts to the environment from construction-related activities, the contractor will: employ the BDTA, such as mufflers to reduce emissions from construction equipment and attenuating devices on machinery to reduce noise; use prudent management techniques such as proper maintenance of equipment; and schedule construction-related activities and traffic to avoid creating hazards to public safety. Long-term impacts to natural resources will be avoided by preventing construction-related wastes such as fuels, grease and oils, paints and solvents, or chemicals which are used in landscaping from entering the soil and migrating to surface waters. Barriers will be erected to prevent soil erosion and sedimentation from occurring during excavation, and appropriate landscaping will replace lost vegetation, and to attract and reestablish a similar biota as existed on the site prior to the project. In addition, all applicable federal, state, and local laws will be enforced regarding environmental protection, clean air and clean water, hazardous and toxic wastes, including the following federal acts: the National Environmental Protection Act of 1970, the Clean Air Act, the Clean Water Act of 1977, the Endangered Species Act of 1973, the Federal Water Pollution

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Control Act of 1972, the National Historic Preservation Act of 1966 and all subsequent amendments' and the State's Administrative Rules including the Historic Preservation Program rules and regulations.

4. Alternatives Considered: This EA considered two alternatives to the proposed action: the "No Action" alternative; and expanding an existing school site other than the Hookena Elementary School site. It was determined that the consequences of the "no action" alternative would be to exacerbate conditions and hamper the DOE's ability to accomplish its goals. Expanding another existing school site would not meet the district's need to provide adequate classroom space and facilities for students who reside in the central and southern portions of the South Kona District.
5. Unresolved Issues: The selection of the site for the proposed expansion project has not been finalized; however, it is anticipated that the ultimate site will consist of one, or a combination, of the candidate sites. Depending on the amount of grading and preparation required, projected development costs vary. Capital Improvement Project funds for the development project must be requested and approved before land can be purchased and construction of new classrooms can begin.

Members of the Ho'okena School SCBM Council raised questions regarding the following four issues: 1) upgrading the water system; 2) timeliness with which the process proceeds, 3) the planned reorganization of Hookena Elementary School; and 4) the amount and placement of land to be acquired. Once a site is selected, SCBM's concerns can be addressed during the masterplan and first increment design phase.

It is anticipated that as the master plan and design of the classroom building progresses, a more accurate projection of the costs will become evident.

The Hookena School SCBM Council notes advantages from acquiring and utilizing all three sites: the western site would be the safer of the three candidate sites, because the children would be farther from the highway; routing delivery trucks through the southern site, would make the campus safer for the children; and that acquisition of the northern site would expand the playing field for the the children. The Council therefore recommends the Board of Education consider acquiring part of the south parcel plus the full west parcel and as much of the north parcel as can be obtained.

Some of the comments received did not pertain to the site selection or environment assessment processes; therefore, they are not discussed in this document. However, copies of all written comments received during the consultation and public review phases are contained in Appendices "E" and "F" of this EIS document.

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6. Compatibility with Land Use Plans and Policies, and Listing of Permits or Approvals Required:

A. Compatibility with Land Use Plans and Policies. - The three candidate sites are vacant, but still used by McCandless Ranch for grazing. The candidate sites are in a County "Unplanned" district. Community, public and public service buildings are permitted land uses in Unplanned districts, provided they conform to the County of Hawaii General Plan.

B. Listing of Permits and/or Approvals Required. - Expanding the existing Hookena Elementary School site, and adding and improving the school's facilities will be subject to various governmental permits and approvals. The section below lists the permits and approvals which are necessary prior to construction activity.

<u>Approval/Permit</u>	<u>Responsible Agency</u>
Concept	State of Hawaii Department of Accounting and General Services (DAGS)
Land Acceptability	State of Hawaii Department of Land and Natural Resources, Land Management Division
Land Transfer	McCandless Estate (to State)
Land Subdivision	County of Hawaii, Planning Department
Amendment to Special Permit No. 406	County of Hawaii Planning Commission
Building Permit	County of Hawaii
Highway Right-of-Way work	State, Department of Transportation
Fire-flow requirements	County, Fire Department and Building Division of the Department of Public Works

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Wastewater Systems

State, Department of  
Health, Wastewater  
Branch

NPDES Permit

State, Department of  
Health, Clean Water  
Branch

7. Site Selection Study: The Site Selection Study discusses the need for expanding the Hookena Elementary School site, the project objectives and description, the broadscale analysis used to identify the three suitable sites for the proposed expansion project, and detailed site evaluation of the candidate sites. The Site Selection Study does not recommend a preferred site; it identifies the relative advantages and disadvantages of the three candidate sites to facilitate discussion and aid in the decision making process. For ease of comparison, the preparer of the Site Selection Study identified and rated the three sites based on detailed site evaluation criteria: physical, social, and cost considerations. Hierarchical ranking of the sites is the responsibility of the decision makers as it requires placing value judgements on the the three categories of evaluation criteria.

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I. PROJECT DESCRIPTION

A. Study Purpose

The purpose of this study was to examine the land adjacent to the existing Hookena Elementary School property to determine whether or not an expansion of the existing site and its facilities would have significant adverse impacts on the environmental quality of the area.

The study is intended to provide DOE officials and District administrators a contextual framework within which to discuss and decide such issues as: site selection, land acquisition, development schemes and site layouts, with regard to the proposed Hookena Elementary School site expansion and facilities improvements project.

To provide Department of Education officials and District administrators with data sufficient for them to determine which site in the subject area would be most appropriate for the planned expansion, preparers of this study:

- \* Conducted research regarding school site-specific issues such as environmental conditions and characteristics, roadways, utilities and accessibility;
- \* Examined community-specific issues such as governmental rules and regulations, existing and planned land use in the community;
- \* Researched and described existing social, economic and physical conditions in the State of Hawaii, County of Hawaii, South Kona District and Hookena Elementary School service area;
- \* Examined and discussed the existing educational facilities and projected needs of the South Kona community;
- \* Identified and discussed some of the short-term and long-term social, economic and cultural impacts of the proposed development on the community;
- \* Identified candidate sites for the proposed school facilities expansion;
- \* Discussed probable impacts to the nearby community which might result from construction and proposed appropriate mitigative measures;

- 
- \* Discussed the consequences of not acting on the proposal to expand the educational facility; and
  - \* Developed a site evaluation criteria.

Socioeconomic conditions such as resident population, student enrollment and existing facilities; and physical characteristics such as adjacent land use, utilities, traffic and pollution, factors which are known to contribute to the environmental quality of a study area were compared and evaluated.

The results of both the quantitative and qualitative analyses are contained elsewhere in this report.

#### B. Present Conditions

Student enrollment in Hookena Elementary School has increased steadily since 1979. According to a "Facilities Assessment and Development Schedule," dated March 27, 1994, the school was operating beyond DOE "Educational Specifications and Standards for Facilities" space recommendations.

The space deficiencies, as identified by the assessment, are summarized below:

Table 1.

---

**Hookena Elementary School  
Summary of Existing Space by  
Area and Function**

<u>Area/Function</u>	<u>Percentage Below DOE Space Recommendation</u>
Administration Facility	43%
Cafeteria Kitchen	72%
Cafeteria Dining	57%
Computer Resource Center	67%
Custodial Service Center	100%
Facility Center	76%
Library	88%

Source: District of Hawaii. "Facilities Assessment and Development Schedule." March 27, 1994.

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The largest building on the Hookena campus is a 5,710 sq. ft. structure that contains the kitchen, dining room, library, and the school's only four permanent classrooms. The building was constructed in 1931. Its construction predates adoption of DOE

"Educational Specifications and Standards for Facilities." (Figure 7.)

The assessment also identified which of the institution's facilities were "below standards."

The DOE recommends classrooms be a minimum of 918 sq. ft. each. According to this recommendation, the amount of space at Hookena dedicated to classrooms is deficient, as the table below illustrates:

Table 2.

Summary of Hookena Elementary School Facilities Assessment			
(In Square Feet)			
Type Facility:	Existing Space	Recommended Space	Space Deficiency
Classrooms			
Ed Spec (918 sq. ft. per classroom rec.)	9,209	11,016	-1,807
Administration	1,608	2,822	-1,214
Library	468	4,000	-3,532
Food Service	1,663	4,670	-3,007
Custodial Cntr.	0	251	-251
ComputerRsr.Cntr	294	900	-606
Faculty Center	183	770	-587
Physical Education	55,000	105,712	-50,712
Totals	68,425	130,141	-61,716

Source: District of Hawaii. "Facilities Assessment and Development Schedule." March 27, 1994.

### C. Project Need

The Hookena Elementary School is located in the South Kona District on the Island of Hawaii, sometimes referred to as the Big Island. Its service area is an irregular, pie-shaped wedge. The area's northern boundary lies between Honaunau and Keokea, extends mauka and south, and includes the communities situated between Keokea and Ahuloa, terminating at the Kau District boundary line. (Figure 1.)

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Currently, the Hookena and Honaunau Elementary Schools are the only public schools which serve students, enrolled in grade levels kindergarten through eight (K-8), who reside in the South Kona District. The Konawaena Elementary School serves students in grade levels K-6, while the Konawaena Intermediate and High School continues from 7 through 12 grades.

Hookena Elementary School presently provides a kindergarten (K) through eighth grade (8) level curriculum to students who live in the central and southern portions of the South Kona District of the Big Island. The proposed expansion plan includes reorganizing the school to serve K-5 grade level students which would necessitate busing the intermediate level students to another facility.

As of September 1991, the enrollment for grade levels K-8 in Hookena Elementary School was 306 students: 229 students were enrolled in grades K-5, and 77 students were enrolled in grades 6-8 (intermediate grade levels). (Figure 3.) The average annual rate of increase in the number of students enrolled in grade levels K-8 at Hookena Elementary School for a two year period, 1988-1990, was 17.4%

Total student enrollment in Hookena Elementary School nearly doubled during the ten year period from 1980 to 1990, at an average annual rate of 7.25%.

Table 3.

**PERCENTAGE CHANGE  
IN  
HOOKENA ELEMENTARY SCHOOL  
STUDENT ENROLLMENT  
1980-1990  
(K-8 Grade Levels)**

Year	Number of Students Enrolled	Percentage Increase/Decrease in Student Enrol.
1990	269	-0.74
1989	271	18.34
1988	229	12.25
1987	204	4.08
1986	196	15.98
1985	169	10.46
1984	153	0.66
1983	152	0.66
1982	151	7.09
1981	141	3.68
1980	136	base year

Average Rate of Annual Increase: 7.25%

(School year beginning September.)  
Source: Hawaii District, Department of Education. "Enrollment Chart."

Student enrollment figures for Hookena Elementary School in September 1990 were reported as follows:

Actual enrollment 269;  
Design enrollment 310; and  
Peak enrollment 341 students.

One year later (September 1991) the actual enrollment in Hookena Elementary School had increased to 306 students, indicating about a 14% increase in student enrollment.

The existing Hookena facilities are located on a campus which occupies an area consisting of 4.033 acres makai of Mamalahoa Highway. (Figure 6.) The campus buildings are of single wall construction on pier footings. The site presently is of engineered fill pads that support the play area, parking lot, and exterior circulation spaces. Most of the campus structures were built over

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sloping embankments preserving the nearly level areas for the parking and play yard.

The "Facilities Assessment and Development Schedule," administered by the Facilities Branch, Office of Business Services in March 1994, identified the Hookena Elementary School facilities as being overcrowded according to DOE standards and specifications. The campus consisted of four (4) permanent classrooms and ten (10) portable classrooms at the time of the assessment.

The Hookena Elementary School has only four (4) substandard permanent classroom of the recommended sixteen (16) permanent classrooms required to accommodate the projected increase in student enrollment. These facilities are over fifty years old and are eligible for nomination into the Historic Register. The State Department of Accounting and General Services will work with the Historic Preservation Officer prior to demolition or renovation of these buildings.

To accommodate the predicted increase in student enrollment and provide adequate facilities, the number of permanent classrooms would need to be increased and the number of portable classrooms need to be decreased -- to comply with the "10%" portable classroom guideline.

D. Proposed Project

The State of Hawaii, Department of Education has proposed expanding the existing Hookena Elementary School property, and adding to and upgrading existing facilities in order to accommodate increasing numbers of students enrolled in grade levels kindergarten through eighth in the South Kona District. Furthermore, this project shall satisfy educational specifications and standards for facilities.

E. School Development Requirements

It is the policy of the State of Hawaii, Department of Education (DOE) to provide adequate and accessible educational services and facilities that are designed to meet the needs of students who live and attend public schools in the state. One of the DOE's goals is to provide facilities that are sufficient in number, functional and compatible with their physical surroundings.

Based on the Facilities Assessment Development Schedule, developed by the state Department of Education, the existing Hookena Elementary School was determined to be 61,716 square feet deficient in its classroom and facilities space. In addition to

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identifying space deficiencies, the DOE assessment noted that the present school site is lacking eight (8) parking stalls as required by County Land Use Ordinance; and needs an additional 2,520 sq. ft. kindergarten playfield and a 2,684 sq. ft. apparatus area.

For students in grade levels 1-5, the assessment recommends a 98,800 sq. ft. playfield plus a 6,000 sq. ft. apparatus area. These additions are recommended to accommodate the projected increase in student enrollment for K-5 grades. The assessment also recommends adding 6,912 sq. ft. Physical Education Outdoor area.

In order for Hookena school facilities to accommodate the projected enrollment of 310 students, the Educational Specifications recommends sixteen classrooms: sixteen (16) permanent and four (4) portables.

Classroom requirements for the model design enrollment stipulate that "10% of classrooms (other than peak) must be in portables. Classrooms for peak enrollment must be portables." Currently, about seventy one per cent (71%) of Hookena classrooms are portable.

The facilities assessment recommended the following actions:

1. Construct a new library facility;
2. Expand or construct a kitchen and student/staff dining room facility;
3. Include a custodial service center in either a newly constructed facility or expanded kitchen/dining area;
4. Expand or construct a new computer resource center;
5. Add a new faculty center; and
6. Construct a new paved playcourt.

---

## II. PROJECT SETTING

### A. Regional Overview

The Island of Hawaii is the largest and most southeastern of the eight major islands in the chain comprising the State of Hawaii. The Big Island has over 305 miles of coastline and encompasses an area of approximately 4,037 square miles, about 2-1/2 million acres. The resident population of the County was 120,317, at the time of the last U.S. decennial census of the population, conducted April 1, 1990.

#### 1. Population

According to population projections contained in the 1989 *The General Plan* for the Big Island, the resident population on the Big Island is expected to increase by at least 30% (to 173,000 residents), and perhaps by as much as 114% (to 258,000 residents), by the year 2005.

At the time of the 1990 U.S. Census of the Population, the South Kona service area had a resident population of 7,658, approximately 6.4% of the island's total resident population.

The rate of increase in resident population for the South Kona District was 29.5% during the period from 1980 - 1990. This rate of increase is compared to the rate of increase in resident population for both the State and County below:

Table 4.

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**Number of Persons and Rate of Increase in Resident  
Population  
State of Hawaii, County of Hawaii and  
South Kona District**

<u>Locality</u>	<u>1990 Total Resident Population</u>	<u>Rate of Increase from: 4/1/80 to: 4/1/90</u>
State	1,108,229	14.9%
County	120,317	30.7%
District	7,658	29.5%

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1991: A Statistical Abstract*, Table 9, p. 20.

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The county figure of 7,658 residents represents a growth in population of 1,744 persons during the ten year period, from 5,914 persons in 1980.

For comparison, the rates of increase in resident population for two other South Kona communities are listed below.

Table 5.

**Rate of Increase in Resident Population  
Two South Kona Communities: 1980-1990**

<u>South Kona Community</u>	<u>1990 Total Resident Population</u>	<u>Rate of Increase from: 4/1/80 to: 4/1/90</u>
Captain Cook	2,595	29.2%
Kealahou	1,453	10.3%

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1991: A Statistical Abstract*. 1989 and 1991.

These numbers are to illustrate that the trend throughout the South Kona District has been increasing populations.

The County of Hawaii, developed three sets of population projections for the South Kona District for the year 2005, a "low," "medium" and a "high," as illustrated in the following table.

Table 6.

**Population Projections  
South Kona District: Year 2005**

<u>Low</u>	<u>Medium</u>	<u>High</u>
10,899	13,671	16,254

Source: County of Hawaii. *The General Plan Hawaii County*. November 1989. "Exhibit C," p. 7.

Areas on the Big Island that provide visitor industry services, such as the North Kona district, are expected to experience even greater rates of growth than areas that are committed to sustaining diversified agriculture and have limited accommodations for overnight visitors such as South Kona.

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## 2. Education

In response to declining population, two schools in the South Kona service area, Milolii and Alae Elementary, were closed in 1966. Prior to their closing, enrollment in the Hookena school was eighty-one (81) students. By 1969, student enrollment at Hookena had more than doubled, to one hundred sixty-four (164) students. According to Hawaii District, Department of Education Enrollment data, during the period between 1965 and 1990, student enrollment in grade levels K-8 at Hookena Elementary School increased 235%.

Within the public school system, grade levels K-5 are considered elementary grades; 6-8 are considered intermediate grades and 9-12 are considered high school grades. Students in these grades are served by the following public schools in the South Kona District.

SCHOOL/GRADE:	K	1	2	3	4	5	6	7	8	9	10	11	12
Konawaena Ele	X	X	X	X	X	X	X						
Honaunau	X	X	X	X	X	X	X	X	X				
Hookena	X	X	X	X	X	X	X	X	X				
Konawaena Int&HS								X	X	X	X	X	X

There are two universities on the Big Island, the University of Hawaii at Hilo, the only public institution of higher education in Hawaii County, and The Pacific and Asia Christian University, the only private university on the island.

The school system on the Big Island is comprised of forty-six (46) schools: thirty-two (32) public and fourteen (14) private schools.

## 3. Student Enrollment

The average annual rate of change in student enrollment for grade levels K through 12, and Nursery and Special Education classes, for both public and private school systems, in the County of Hawaii, during the two-year period from September 13, 1988 to September 12, 1990, was 4.7%. The table below depicts the percentage of change by grade level for that time period.

Table 7.

**Number and Percentage Change in  
Student Enrollment for Public and Private Schools for  
Island of Hawaii by Grade Level**

<u>Grade Level</u>	<u>Number of Students Enrolled</u>	<u>Percentage Change 1988-90</u>
Nursery	174	(47.9)
Kindergarten	2,112	5.2
1	2,065	2.0
2	2,179	7.6
3	2,166	5.2
4	2,114	9.0
5	2,114	13.3
6	1,984	5.0
7	1,929	7.0
8	1,964	23.6
9	1,925	12.0
10	1,613	1.2
11	1,649	1.7
12	1,371	8.7
Special	1,386	21.0

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book: A Statistical Abstract*, 1989: Table 91, p. 91; and 1991, Table 85, p. 90.

4. Land Tenure

For 1988, the state Department of Business and Economic Development (DBED), described the distribution of land tenure of the Big Island's 2,497,055 total acres as follows:

Table 8.

<b>Land Ownership, Island of Hawaii Fall 1988 (In Acres)</b>			
<u>Federal</u>	<u>State</u>	<u>County</u>	<u>Privately-Owned*</u>
229,848	817,391	1,278	1,448,537

(\*Government land leased to private users is included with privately-owned land.)

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1991: A Statistical Abstract*, Table 174, p. 173.

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5. Recreation

In the County's 1989, *General Plan* it is estimated that with a resident population of 6,730 people, at least 34 acres of land are needed to adequately meet the South Kona community's recreational needs. It describes recreational facilities in the South Kona District as being "limited."

B. Land Use Plans, Policies, and Controls

1. Hawaii State Plan

The State of Hawaii has a plan that guides development in the state. It is the purpose of the state plan to: identify the planning and development "goals, objectives, policies, and priorities of the State; provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major state and county activities." (*The Hawaii State Plan*, 1992: Chapter 226, HRS, p. 1.)

In order to implement the State's overall planning and development goals and objectives, the state legislature has established a planning system which authorizes specific governmental bodies to administrate, coordinate and guide all major state and county activities through State Functional and County plans.

State Functional Plans and County Plans designate permissible land uses as a way of achieving the goals of the statewide plan.

The State Education Functional Plan is prepared by the State Department of Education to define and implement priorities to further the state's goals and objectives for public education in Hawaii.

2. State Education Functional Plan

The major purpose of the State Education Functional Plan is to help implement the Hawaii State Plan. This functional plan was prepared in compliance with Chapter 226, Hawaii Revised Statutes by the State Department of Education and

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advances priority directions for the DOE and improves the quality of public education in Hawaii.

The proposed project is consistent with the following State Policy, State Priority Guideline, Board of Education Concern and/or State Education Functional Plan Advisory Committee concern regarding educational services and facilities:

"Ensure the provisions of adequate and accessible educational services and facilities that are designed to meet individual and community needs."

3. State Land Use Classification

The existing school site is identified as State Tax Map Key Numbers: 8-6-10:09 and 8-6-10:12; and the candidate expansion site is identified as Tax Map Key Number: 08-06-11: Portion of 2. (Figure 4 and 5)

The State Land Use classification for the area is "Agricultural" District. (Figure 2)

Permitted uses and activities for land designated as a state Agricultural District include:

The cultivation of crops, forage, forestry, orchards; farming, such as animal husbandry, aquaculture, fish and game propagation; wind-generated energy production; the accessory services and uses to the above activities such as living quarters, dwellings, mills, processing facilities, roadside stands, and storage facilities; wind machines and farms; agricultural parks; and open area recreational facilities.

4. County of Hawaii General Plan

The County of Hawaii General Plan states that it is the policy of the County to encourage the implementation of DOE "Educational Specifications and Standards for Facilities," and improve basic school facilities to meet standards.

The County of Hawaii General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the subject area as "Extensive Agriculture."

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5. County Zoning

The property is County zoned "Unplanned."

Permissible land uses in a County "Unplanned District" include:

One single-family dwelling per building site; agricultural uses and buildings; processing, handling and sale of agricultural products produced on the premises; home occupations; approved piggeries and apiaries; hunting and fishing preserves; aquaculture activities; and those buildings accessory to the above uses.

A school is not specified as a primary use in an Unplanned District, however Section 25-51 of the Hawaii County Zoning Ordinance states that, "community, public and public service buildings are permitted uses provided they conform to the General Plan." Therefore, a school is a permitted use in the Unplanned district.

6. Amendments to Permissible Uses

The current school site was the subject of a Special Permit petition, Docket No. SP79-331/State of Hawaii/Department of Education. The petition involved three school sites, Honaunau School, Kohala School and Hookena School, and was filed to allow the continued use of these schools in the Agricultural District.

The petition was approved by the Hawaii County Planning Commission on December 14, 1978 and subsequently approved by the Land Use Commission on February 21, 1979. The area covered by the Special Permit for Hookena School is approximately 4.033 acres.

The preferred candidate site would add approximately 4.9 acres to the existing school site. An amendment to land use involving 15 acres of land or less in a state "Agricultural District" requires petitioning the Hawaii County Planning Commission for approval. Therefore, the proposed expansion would require petitioning the Hawaii County Planning Commission for its approval to amend State Land Use, Special Use Permit No. 406.

According to the Hawaii County Planning Department, the Planning Commission's Rule No. 6 relating to Special Permit Procedures, the Commission shall conduct a public

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hearing on a request within a period of not more than ninety (90) days from the receipt of a complete application. The Commission shall then act on the request within a period of thirty (30) days after the close of the public hearing.

7. Flood/Tsunami Hazard

Concern over the possibility of flooding in the area of the Hookena Elementary School has been expressed. Because, the South Kona District is subject to "sudden high intensity rainstorms that can strike anywhere and cause localized flooding." Areas which lie within 150' of the stream channels, Kiilae, South Keokea, Honaunau and Wailapa are said to be, "subject to flooding."

According to the Flood Insurance Rate Map, the subject area is in "Zone X," an area determined to be outside the 500-year flood plain.

A Department of the Army permit is not required under the Clean Water Act; the Rivers and Harbors Act of 1899 and the Marine Protection, Research and Sanctuaries Act, to expand the existing facility.

The subject area is also unaffected by tsunami zones due to its distance inland.

8. Underground Injection Control

In order to protect potable ground water resources from pollution by subsurface wastewater disposal, the Department of Health established the Underground Injection Control (UIC) program in 1984.

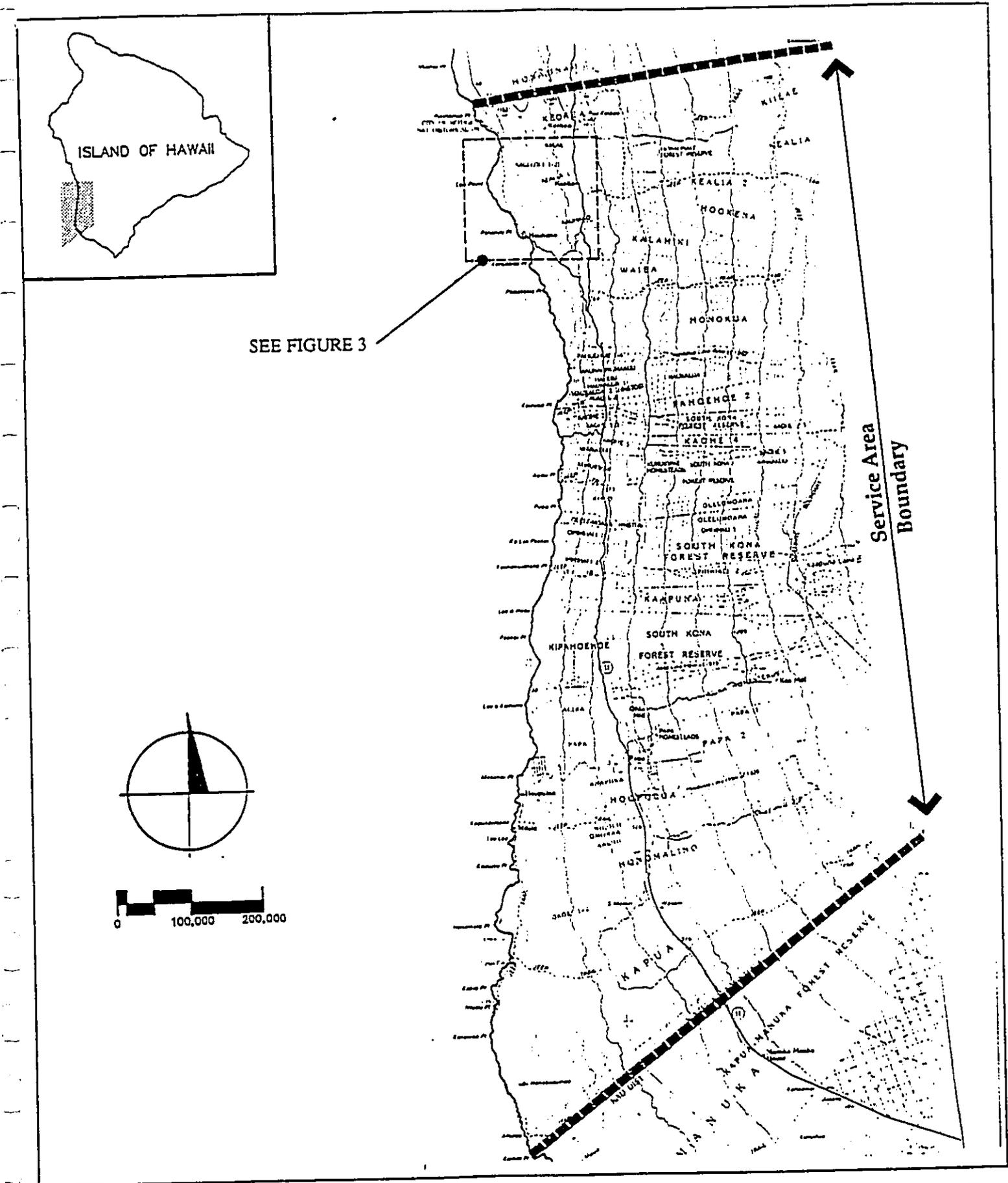
This program establishes a boundary line known as the "UIC Line." Lands mauka of this line are restricted from subsurface wastewater disposal by underground injection.

The Hookena Elementary School is located mauka of the UIC Line which runs along the South Kona coast at the 200' elevation.

9. Special Management Area

Hookena Elementary School is not in a "Special Management Area."

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HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

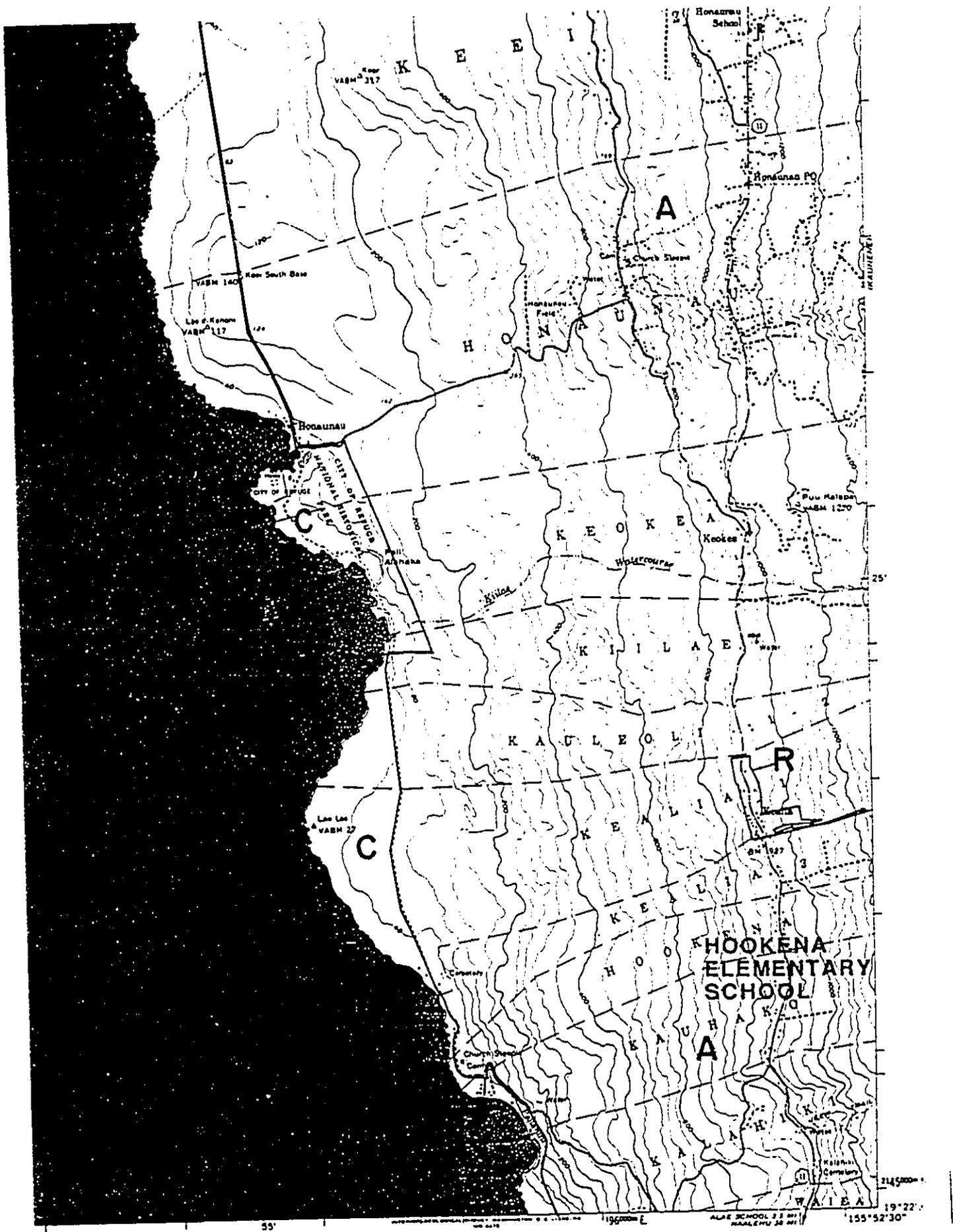
**FIGURE 1**

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GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

JOB NO.: 11-16-4940

EXISTING SERVICE  
AREA

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SITE SELECTION / EIS FOR  
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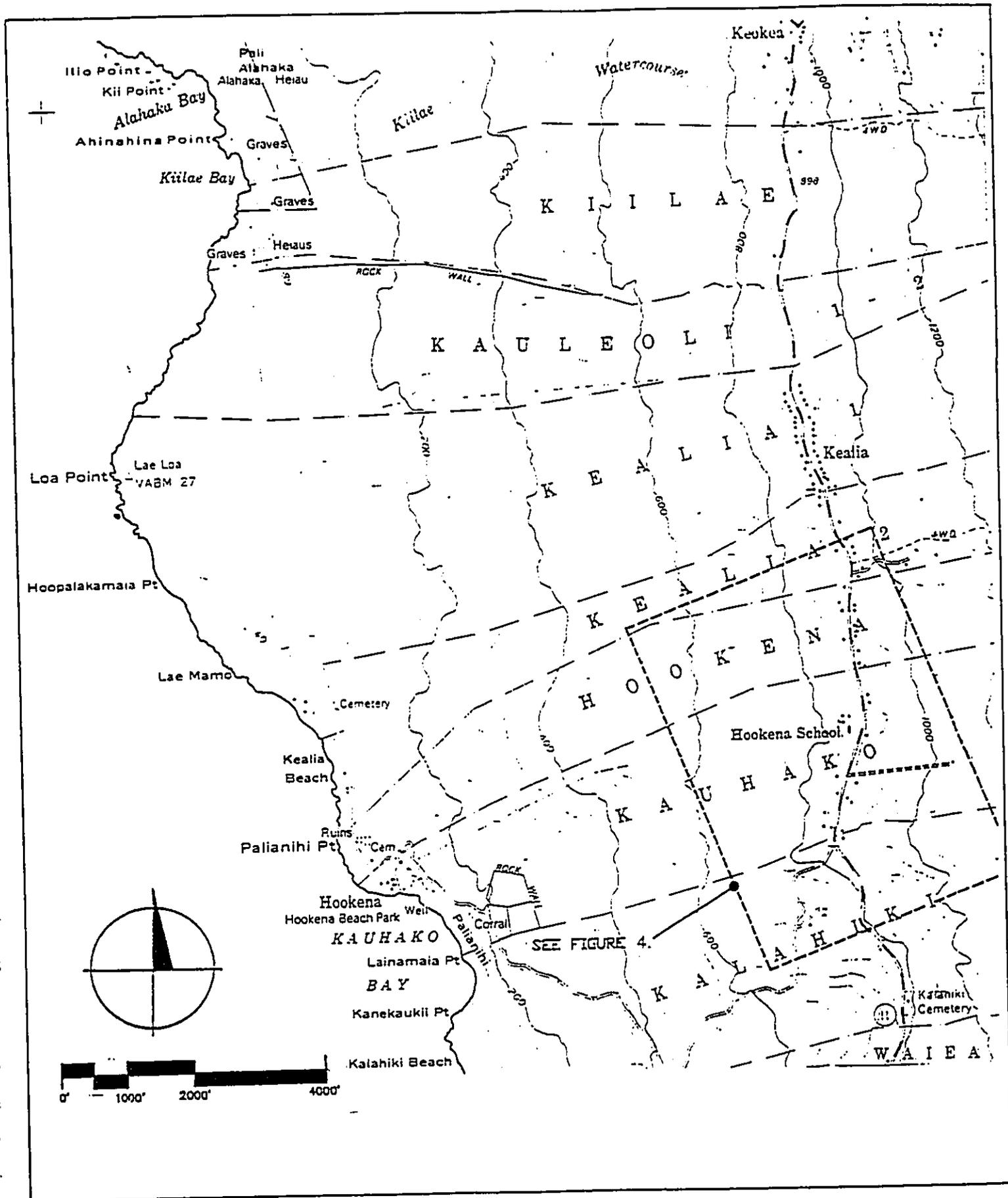
**FIGURE 2**

PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

JOB NO.: 11-16-4940

STATE LAND USE  
DESIGNATION MAP

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HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

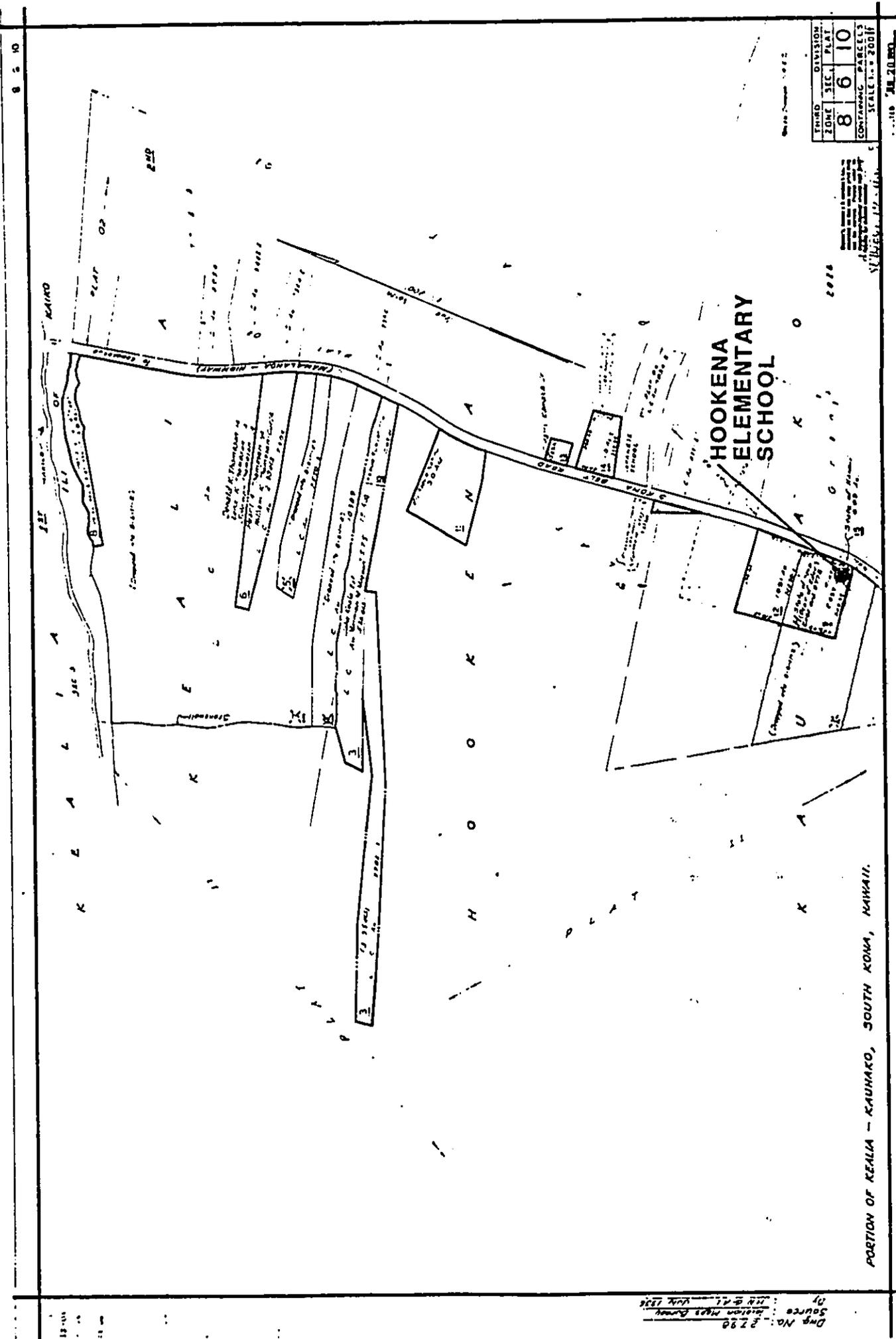
**FIGURE 3**

PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

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LOCATOR MAP

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**FIGURE 4**

HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

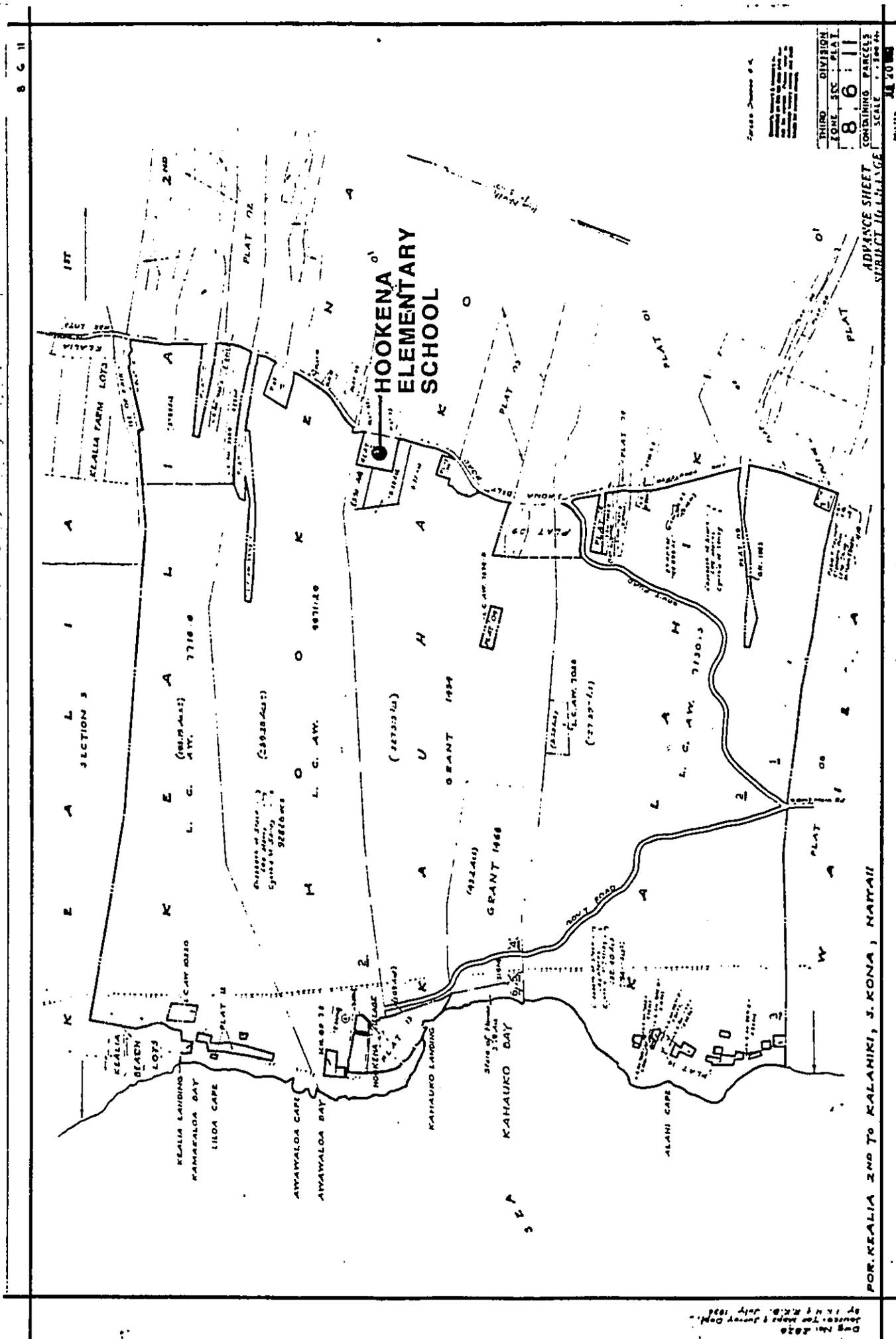
PREPARED FOR:  
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

PREPARED BY:  
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JOB NO.: 11-16-490

TKM 3-8-6-10:9 & 12

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**FIGURE 5**

HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

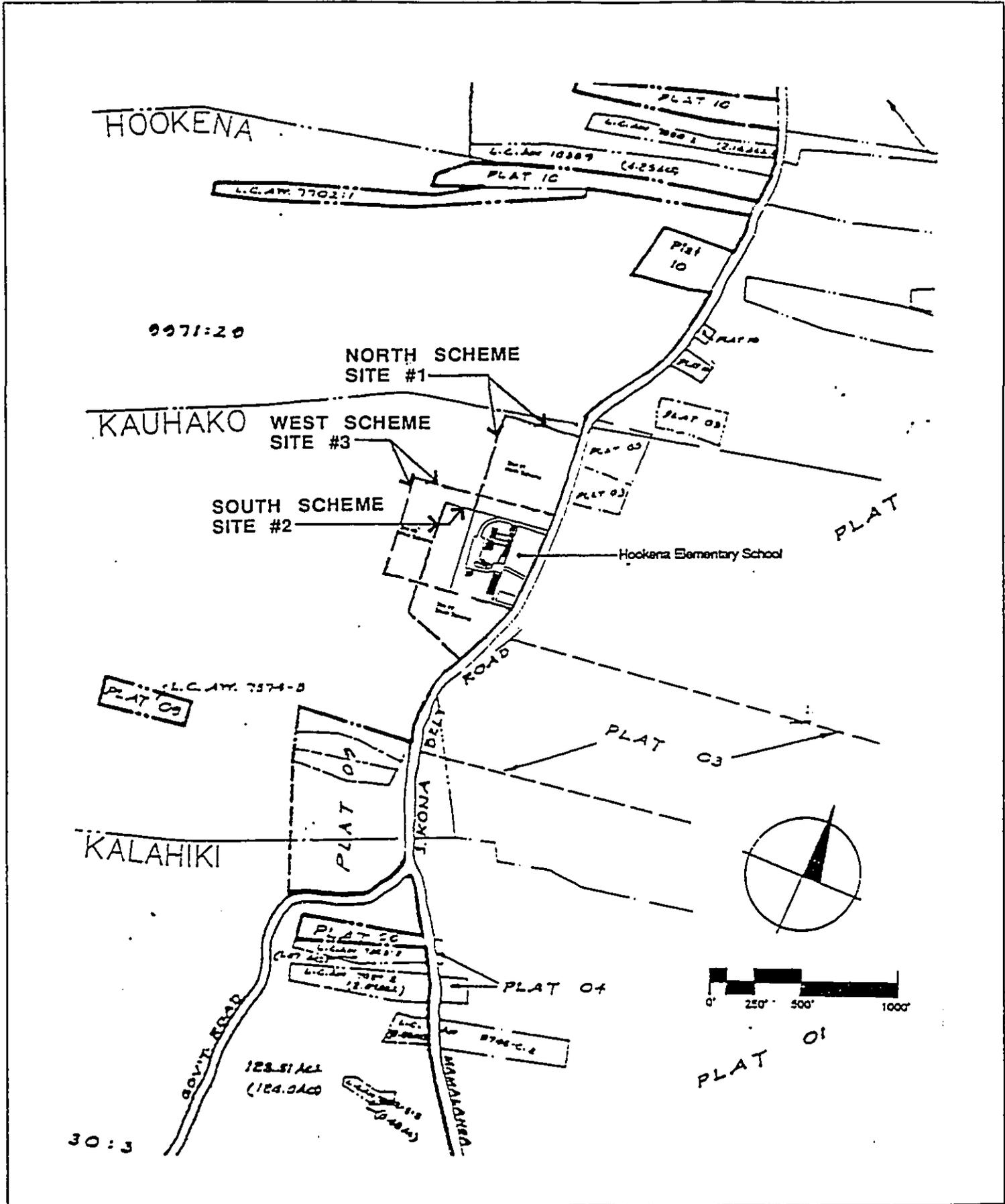
PREPARED FOR:  
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

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JOB NO.: 11-18-840

TMK 3-8-6-11

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HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

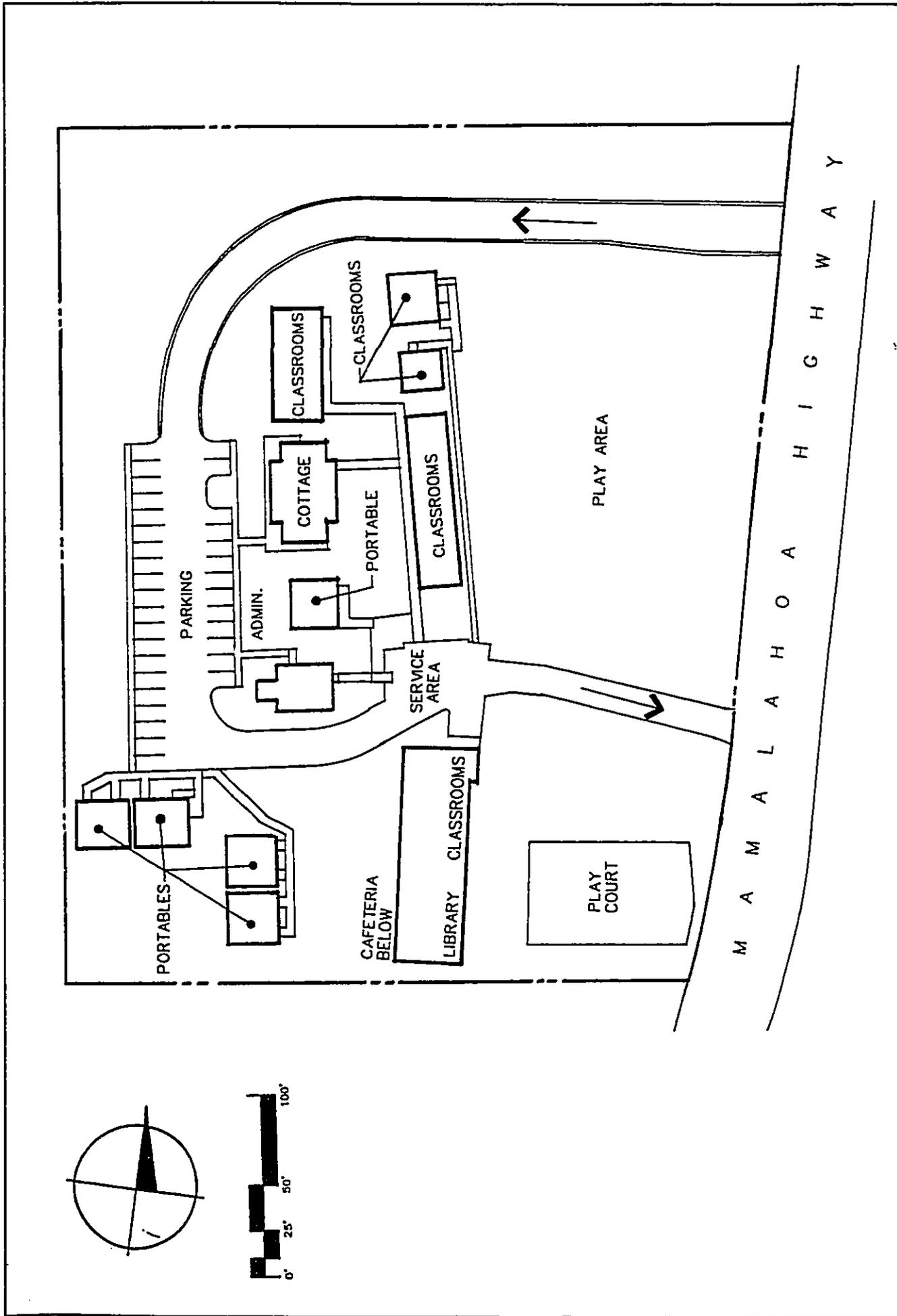
**FIGURE 6**

PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

JOB NO.: 11-16-4940

PLAT MAP

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**FIGURE 7**

HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

EXISTING SITE PLAN

JOB NO.: 11-16-4940

PREPARED FOR:  
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

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C. Infrastructure

1. Water

Waters in the County are said to be "readily subject to contamination." The character of water resources in the region is of the basal ground water type. Deep wells at Keei provide South Kona with most of its water supply.

Wells are susceptible to contamination from urban expansion and sea water intrusion, but are a more dependable source of water than surface water systems.

The South Kona water system is divided into two service areas, an upper and lower area. The area from Kaawaloa to Hookena Beach Road junction is supplied with water from wells at Keei. The system has a service capacity of 1.58 million gallons of water per day. In the event of an emergency, water can be transported from the North Kona water system to the South Kona system.

Water consumption figures for a three month period for the existing Hookena Elementary School facilities are listed below:

Table 9.

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**Water Consumption  
Hookena Elementary School**

<u>Time Period</u>	<u>Number of Gallons (In Thousands)</u>
October-November 1991	54
September-October 1991	51
August-September 1991	37
July-August 1991	4

Source: The Board of Water Supply of Hilo, Hawaii.

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The Hookena Elementary School is supplied by the County of Hawaii, Department of Water Supply. The department reports that water consumption through existing .1-inch and 2-inch meters is minimal.

The necessary fire-flow requirements are under the jurisdiction of the Fire Department and Building Division of the Department of Public Works.

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If water system improvements are necessary, the construction plans shall be reviewed by the county's Department of Water Supply.

2. Sewer

In the South Kona region, the primary on-site waste treatment system is the cesspool. Due to the high permeability of soils in the area, cesspools in this area have been known to function successfully for many years with very little or no pumping required.

The school and candidate expansion sites are located in an area described by the Department of Health (DOH) as "a non-critical wastewater disposal area."

Hookena Elementary School currently has no sewer system. It utilizes a cesspool system. The Department of Health concurs with the proposal for the expansion of the Hookena Elementary School, provided that an individual wastewater (septic tank system) be utilized for wastewater treatment and disposal; and existing cesspools be abandoned and rendered safe at the time that modifications are constructed.

3. Drainage

The drainage patterns in the subject area follow existing elevation patterns. Runoff from higher elevations tends to follow Mamalahoa Highway to lower elevations. The South portion of the project site may be a natural cache basin due to its lower elevation. Runoff tends to enter the school grounds at the service entrance, and drains off at a lower elevation beyond the parking lot.

In an expansion scheme, the natural drainage patterns should be relied upon as the primary system for Hookena Elementary School. The lava bedrock upon which the school is built is very porous and provides good natural drainage for the site.

4. Electrical/Telephone

Electrical service for Hookena School is supplied by the Hawaii Electric Light Company, Inc. (HELCO) through overhead electrical lines.

Telephone service is supplied through overhead transmission lines by the Hawaiian Telephone Company.

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5. Gas

Natural gas service on the island is provided by the Hawaii Division of The Gas Company, with offices in Hilo and Kailua-Kona.

6. Highway/Street Network

The Hookena Elementary School fronts Mamalahoa Highway. It is a State of Hawaii primary highway (Route 11) and the only roadway leading to the Kona area from Naalehu and other towns near South Point. It is a two-lane, 24' wide, paved roadway.

Ingress and egress are accomplished via a single roadway to/from Mamalahoa Highway to Hookena Elementary School. This road bisects the campus, thus creating potentially hazardous conditions for pedestrians.

Traffic counts, provided by the state Department of Transportation, for the immediate vicinity of the school indicate that there are two peak traffic periods at the Hookena Elementary School. One during the early morning when parents and private bus services drop off students at the school, and another in the afternoon when the students get picked up.

There are two (2) buses which transport eighty (80) students each, and approximately 24 cars on the road as early as 6:00 a.m. and as late as 4:00 p.m. There is light traffic congestion as people go to work in the mornings traveling on Mamalahoa Highway, but traffic clears up quickly.

Table 10.

**Traffic Count for Mamalahoa Highway/Milolii Village Access Road (October 1990)**

<u>Direction</u>	<u>Number of Vehicles</u>	<u>Time Period</u>
to Kona	969	24 Hours
to South Point	987	" "
A.M. Peak:		5:00-9:00 a.m.
to Kona	108	6:00-7:15 a.m.
to South Point	61	8:00-9:00 a.m.
Both Directions	166	12:00noon- 12:00 a.m.
P.M. Peak		4:15-5:15p.m.
to Kona	100	3:00-4:00p.m.
to South Point	77	
Both Directions	170	4:15-5:15p.m.

D. Service Area Environment

1. Existing Land Use

The existing Hookena Elementary School is located on 4.033 acres of land identified as Tax Map Key Numbers: 8-6-10:09 and 12, South Kona District, County of Hawaii, State of Hawaii . Approximately 2.5 acres, of the total land area, are considered usable.

Presently, the school uses its land for activities related to serving the educational needs of students in grades K-8. The types of facilities situated on the land at the time of the Facilities Assessment are listed below:

- a. One large building which houses the: Four (4) permanent classrooms, Library, Kitchen and Dining areas;
- b. Ten (10) portable classrooms;
- c. Administration Facilities are located in two separate buildings which include the: Computer Resource Center and Faculty Center;
- d. Playfield; and
- e. Twenty-five (25) parking stalls.

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2. Landownership

a. Existing School Site

Ownership of the two parcels of land which comprise the Hookena Elementary School property encumber 4.033 acres of land and is divided as follows: the State of Hawaii owns 2.037 acres, and the County of Hawaii owns 1.996 acres.

b. Candidate Expansion Sites

The parcel of land that is adjacent to Hookena property and contains the sites being considered as candidates for the expansion project is privately-owned by the McCandless Estate.

The State will negotiate with the owner to purchase the most appropriate site for the necessary public school expansion.

3. Climate

The island's climate results from being geographically located in the tropics, surrounded by an ocean and at elevations ranging from sea level to 14,000 feet, and is characterized by rainfall, mild temperatures, and northeasterly trade winds.

With the exception of the major summits, Mauna Loa and Mauna Kea, the Island of Hawaii is generally warm. Soils in the region are said to receive 60 to 90 inches of rainfall per year. Rainfall, temperature and windspeed data for location near the subject region are described below.

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Table 11.

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**Annual Rainfall, Village of Kona: 1980-90**  
(In Inches)

<u>Year</u>	<u>Number of Inches</u>
1980	16.90
1981	7.02
1982	26.88
1983	8.51
1984	8.15
1985	8.60
1986	12.41
1987	10.24
1988	11.70
1989	13.32
1990	19.80

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1991: A Statistical Abstract*, Table 158, p. 159.

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Mean windspeed in the area is reported at 7.2 mph. Temperature in nearby Kailua averages 72.1°F. during the coolest months and 77.3 °F. during the warmest months.

4. **Flora**

Archaeological and ethnographical evidence indicate prehistoric agricultural use in the subject area.

Written documentation, dating back to the expeditions of John Ledyard and Lt. Samwell, indicate a historical agricultural background in the area predating European contact in 1779.

Records indicate that a Captain Vancouver arrived in Kona in 1792, and that he left orange trees, grapevines, and other plants.

Vegetation which is natural to the general area includes haole koa, Christmas berry, guinea grass, natal redtop and sand bur. Plant roots are typically matted over pahoehoe lava.

There are no endangered or rare species of plants believed to be present on Hookena Elementary School property or on any of the candidate sites that were evaluated.

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Plants found growing in the subject area were:

<u>Common Name</u>	<u>Scientific Name</u>
avocado	Persea americana
breadfruit	Artocarpus communis
christmas berry	Schinus terebinthifolius
common ginger	Hedychium
haole koa	Leucaena glauca
mango	Mangifera indica
monkeypod	Samanea saman
morning glory	Ipomoea Sp
scattered mango	Mangifera indica
silver oak	Grevilarobusta
wild coffee	Coffea arabica

5. Fauna

No endangered or rare animals and birds were found in the subject area. Various species of animals and birds are known to inhabit the subject area. An archaeological survey of the subject area notes evidence of feral pigs.

6. Geology/Hydrology

The Big Island of Hawaii was formed by lava eruptions from five volcanoes and is geologically described as being "young." Underground lava tubes are widespread throughout the island and common to the South Kona District.

The geological composition of the island consists of A'a and pahoehoe lava. A U.S. Soil survey describes the subject area as consisting of, "well-drained, thin organic soils over pahoehoe lava bedrock."

According to a U.S. Soil Survey, the ground in the subject area is comprised of extremely rocky peat and hard pahoehoe lava bedrock. The peat and is known to exhibit rapid permeability, and the subsurface exhibits slow permeability. Water is said to move rapidly through the cracks of the lava, and runoff is slow.

7. Soils

The U.S. Department of Agriculture Soil Conservation Service in its *Soil Survey of Island of Hawaii, State of Hawaii*, describes soils in the subject area as being of the Punaluu Series, Euic, isohyperthermic Family, Lithic Tropofolists Subgroup, Lithosols Great soil group, and

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bearing the soil legend symbol, "rPYD." The "rPYD" designation means that a Reconnaissance Survey was conducted and analyzed the soil in the area to be of the Punaluu series which is characteristically extremely rocky peat.

The mean annual soil temperature ranges between 72° and 74° Fahrenheit.

The surface layer (0-4 inches) of Punaluu soil consists of black peat about four inches thick, underlain by hard pahoehoe lava bedrock. Its character and capability subclass are "VIIs, non-irrigated; pasture group 3."

Punaluu soil is medium acid; and the hazard due to soil erosion is slight. This soil is commonly used for pasture.

8. Wetlands

There are no wetlands on any of the sites being considered for the proposed expansion of Hookena Elementary School.

9. Archaeological/Historical Sites

The major archaeological features, that have been found in the South Kona District, are said to be located at Kealakekua and Honaunau.

Archaeological Consultants of Hawaii, Inc. (ACH) examined the subject area. Features of varying archaeological and historical significance were found throughout the subject area.

An archaeological inventory survey was conducted by ACH in October 1991, and further investigated in April 1992. ACH prepared a final report, *Archaeological Inventory Survey at the Hookena School Site TMK: 8-6-10:2 [Por.]; Kauhako Ahupua'a, South Kona District, Island of Hawaii, April 1992.*

The entire archaeological report is included in the Appendix "D" of this study, please refer to it for ACH's detailed findings and recommendations.

In summary, the ACH surveyed eighteen acres adjacent to the existing Hookena Elementary School property. The survey investigated the property adjacent to the school's

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northern, western and southern boundaries to determine if archaeological features are present.

For study purposes, the survey area was divided into three areas:

- a. parcel north of the school;
- b. parcel south of the school; and
- c. narrow strip makai and downslope of the school.

A total of eleven possible features were noted, including one multi-component cave on the south parcel. The three study areas are summarized below:

North: Two possible features were located north of the present location of Hookena School. One, a depression and crack which reportedly may have contained a cave opening. However, "After examination (it) was determined not to be a site..." but rather "simply a geological feature."

The other feature is a 1.5 meter high rock wall which is assumed to be related to historic cattle ranching activities.

South: Nine features were noted south of the present location of Hookena School. As a result of the survey, two features have been assigned State Site numbers. Three sites are said to exhibit clear evidence of "historic and probable evidence of prehistoric use," two of which may be related to either "pre- or post-contact agriculture." The area was thoroughly inspected to detect for human skeletal remains. The remains of two individuals were found in the lava tube system that is outside the Hookena School property's boundary.

West: No features were located on the 200 foot wide strip makai of the school.

Eight of the eleven sites are said to be "classified as historic related to twentieth century use." Some of these sites are said to undoubtedly be the remains of a county courthouse, jail house, and cottage which were demolished in 1967.

The report concludes: "The cave's tube system is of little value for public education or recreation, and in the absence of burials and/or religious structures within the tube system which runs beneath the property, this portion of the cave

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cannot be considered valuable from a cultural or ethnic standpoint."

And eight of the eleven temporary sites be reclassified as "no longer significant" and a "no adverse effect" determination was suggested. The one site, identified as a geological feature, was determined to have "no effect" and coded "Not Significant."

The cave with the modified entrance, identified in the ACH report as T-7; state Site #18001, which lies directly under the surveyed property contains two features (south of the school's property) which were determined to be of cultural significance and/or likely to yield important scientific data.

ACH concluded that, "no further investigation or testing is warranted."

10. Scenic Characteristics

The area of the Hookena Elementary School has no special or unique scenic characteristics.

11. Topography

The topography in the South Kona district is generally steep and said to limit development in the mauka areas. The subject area is described as having slopes of 6% to 20%.

The Hookena Elementary School site lies along slopes on the Kona side of volcanic mountains. The subject area lies between elevations ranging from 800 to 920 feet.

E. Socioeconomic Characteristics

1. Population

Between 1940 and 1960, the resident population on the Big Island declined. The decline is significant when it is compared to the rates of increase in population for the state or the Island of Oahu.

Because population is a important factor in planning for adequate school facilities, the two following tables are included to illustrate how the resident population on the island declined each decennial census period after 1940 until 1970.

Table 12.

**RATE OF INCREASE/DECREASE IN RESIDENT POPULATION  
STATE OF HAWAII & COUNTIES OF HONOLULU AND HAWAII**

<u>YEAR</u>	<u>TOTAL STATE POPULATION</u>	<u>HONOLULU COUNTY POPULATION</u>	<u>PERCENTAGE INCREASE</u>	<u>HAWAII COUNTY POPULATION</u>	<u>PERCENTAGE INCREASE/ DECREASE</u>
1970	769913	21.67%	26.00%	63468	34.80%
1960	632772	26.61%	41.75%	61332	-10.27%
1950	499794	18.22%	36.99%	68350	-6.72%
1940	422770	14.79%	27.01%	73276	-0.07%

Source: Department of Planning and Economic Development and/or Business, Economic Development and Tourism, *The State of Hawaii Data Book: 1985 A Statistical Abstract*. Table 1, p. 12.

The Big Island experienced a net loss of population, presumably partially due to out-migration.

However, between 1960 and 1990, the resident population on the Island of Hawaii almost doubled. The table below illustrates the change in resident population from one U.S. decennial census period to the next during the thirty-year period from 1960 to 1990:

Table 13.

**RATE OF INCREASE/DECREASE IN  
RESIDENT POPULATION  
FOR THE ISLAND OF HAWAII**

<u>Year</u>	<u>Resident Population</u>	<u>Percentage Change since previous Decennial Census</u>
1990	120,317	30.70%
1980	92,053	45.04%
1970	63,468	3.48%
1960	61,332	( 10.27%)
1950	68,350	base year

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1991: A Statistical Abstract*. November 1991, Table 4, p. 15.

It is assumed that the increased resident population which occurred after 1970, also increased the demand for public services, such as education, on the Big Island.

## 2. Employment

Historically, the Big Island's most important industry has been sugar cane cultivation and processing. However, a combination of socioeconomic factors, including changes in the global economy, net migration and land development patterns and the economic recession, have caused declines in production, loss of jobs and a reduction in profits formerly associated with the growing and processing of sugar cane.

Other agricultural industries which are important to South Kona include macadamia nut milling and roasting, coffee growing and processing, and cattle ranching.

Table 14.

<b>Annual Average Jobcount by Industry, by Year Hawaii County</b>			
<u>Industry</u>	<u>Jobcount 1984</u>	<u>Jobcount 1990</u>	<u>% +/- Change</u>
Nonagricultural, wage and salary	30,300	45,650	+ 51%
Contract construction	1,150	3,250	+182%
Manufacturing	2,800	2,250	- 24%
Transportation, communication, and utilities	1,950	2,500	+ 28%
Trade	8,250	12,600	+ 53%
Finance, insur., real estate	1,350	2,350	+ 74%
Services & Miscellaneous	3,800	14,250	+275%
Government	6,700	8,450	+ 26%
Agriculture, wage and salary	3,800	3,500	- 9%
Sugar	1,350	850	- 59%
Pineapple	-	-	-
Other	2,400	2,700	+ 13%
Nonagric., self-employed	2,900	5,850	+ 102%
Agric., self-employed	2,400	2,200	- 9%
Labor disputes	(Z)	(Z)	-
<b>Net Change</b>			<b>+54%</b>

(Z) Fewer than 50.

Source: Department of Planning and Economic Development and/or Business, Economic Development and Tourism, *The State of Hawaii Data Book: A Statistical Abstract*. 1985, Table 334, p. 322; and 1991, Table 340, p. 312.

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### 3. Employment by Industry

The Council of the County of Hawaii published three sets of employment projections in its *The General Plan, Hawaii County* (1989). The estimates reflect "conservative," "medium," and "optimistic" predictions.

Projections are given for basic sector activities: tourism, agriculture, manufacturing of export products, and research and development (these activities are known to generate revenues from out-of-state); and secondary sector activities

such as retail and wholesale trade, bakeries, utilities, financial institutions and local government. These secondary sectors activities serve basic sector industries and/or the population. Rather than generating income, they tend to recirculate revenues within the local economy.

The "conservative" series projections uses a two percent (2%) per annum growth rate, assumes the loss of the sugar industry and credits the visitor industry with a modest expansion. Next is the "medium" series projections which implies a growth rate of 3.7% per annum, and maintains employment in the sugar industry. And lastly, is the "optimistic" series projections which incorporates an average annual growth rate of 4.7% and assumes a large expansion of the visitor industry.

The following table presents the official State employment projections by industrial sector through the year 2005.

Table 15.

Employment Projections, Hawaii County, 1995-2005							
Type and Year	PRIMARY SECTORS			New Ind.	Total Primary	Total Second'y.	Total Jobs
	Hotel	Sugar	Div. Ag.				
Conservative							
1995	5700	0	7300	300	13300	38400	51700
2000	6400	0	7800	300	14500	43300	57800
2005	6800	0	8400	300	15500	48300	63800
Medium							
1995	7700	2100	7300	500	43700	43700	61300
2000	10600	2100	9800	500	53000	53000	76000
2005	12400	2000	8400	500	65700	65700	89000
Optimistic							
1995	11000	2100	9400	500	53900	53900	76900
2000	13500	2100	9500	500	66400	66400	92000
2005	16000	2000	9600	500	79700	79700	107800

Source: *The General Plan, Hawaii County*, November 1989.

Note: From 1990 to 1992, the county's economy experienced a slowdown. Unemployment on the island rose from 3.8% in 1990, to 9.1% in June of 1992.

According to the U.S. Department of Commerce, Bureau of Economic Analysis, residents of the County of Hawaii have reported personal per capita income as follows:

Table 16.

Personal Per Capita Income for the County of Hawaii		
Year	Per Capita Income (in Dollars)	Percentage of State PPCI
1979	8,133	85.5%
1984	10,438	79.3%
1989	14,969	81.4%

Personal Per Capita Income=PPCI

Source: Department of Business, Economic Development and Tourism, *The State of Hawaii Data Book 1991: A Statistical Abstract*, Table, 382, p. 345.

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For the three reporting periods indicated above, residents of the County of Hawaii, reported personal per capita incomes lower than residents in the Counties of Honolulu, Kauai, Maui and Kalawao.

4. Public Services

The South Kona district incorporates the communities from Captain Cook through Kaulanamauna. Its urban and rural centers are Captain Cook, Kealahou-Captain Cook and Honaunau-Kei. Major trade and population concentrations in South Kona are located along the Mamalahou Highway at Kealahou, Captain Cook and Honaunau.

a. Government Operations

There is a public office center in the Captain Cook Village area and one in Kailua. The old Kona Hospital is now the courthouse. The offices of Public Works, the Deputy Managing Director, Licensing and Liquor Control are located in Kailua Village.

State baseyards are in Kaloko and at Honaunau. One County baseyard adequately serves the entire district, and it is located at Captain Cook.

Post offices are at Kailua, Holualoa, Captain Cook, Kealahou and Honaunau.

b. Protective Services

In the Kona District there is a fire fighting facility located in Kailua with air, land and sea rescue capabilities, and a smaller fire fighting facility in Captain Cook area. There are also two volunteer fire stations, one at Hualalai Ranch and the other at the Kona Village Resort.

Governmental agencies, police, and fire services for the South Kona district are located in separate facilities on a four acre site in the Captain Cook public office complex. One police facility serves the entire North and South Kona Districts.

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c. Health Services.

There are a total of five licensed hospitals on the island. They are located in Hilo, Kona, Honokaa, Kohala and Ka'u. Each hospital provides slightly different medical services, as determined by different needs of each area.

The Kona hospital facility, established in 1975, provides medical and surgical care, as well as some speciality and long-term care. Health Services

d. Solid Waste

Solid waste has been disposed of utilizing open pit dump sites in Keauhou, Kailua, Waiea, and Keei. Some of these sites (Keahou, Kailua, Napoopoo, Waiea, Milolii) have been replaced by transfer stations. The Kealakehe landfill site serves the Kohala and Kona areas.

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### III. IDENTIFICATION OF POTENTIAL SITES

#### A. Site Selection Methodology

The methods used to identify candidate expansion sites included developing site evaluation criteria, examining, comparing and evaluating the property which is adjacent to the existing school property.

The location of the existing school has proved to be acceptable in serving the needs of the South Kona community in the past, and because the planned expansion project must take place as part of a phased 10-year comprehensive expansion project, enabling utilization of the existing site and structures while simultaneously expanding the site and constructing new facilities, it was assumed that the most efficient and economical use of resources would be to expand Hookena Elementary School onto property adjacent to the existing school property.

To determine the most appropriate location for the proposed facilities expansion project, this study researched and examined lands which abut the existing Hookena Elementary School site on three sides: north, south and west.

The eastern border of the school property is Mamalahoa Highway. It was assumed that intersecting the campus with a major roadway would pose unnecessary hazards to the students. Therefore, due to student safety considerations, property on the east side of the highway was not considered as part of this study.

#### 1. Purpose

The purpose of the site selection study is to provide information on potential sites, so DOE officials and school administrators can evaluate the areas and select the most appropriate site, for the proposed Hookena Elementary School expansion project. The study will include both qualitative and quantitative analyses, and weigh the comparative advantages and disadvantages for the potential sites based on conceptual site layouts. (See Figure 8.)

#### 2. Assumptions

Because the planned expansion project will be phased over a ten-year period, during which the existing Hookena Elementary School facilities will need to be utilized concomitantly, it was assumed the most efficient and economical expansion sites to consider would be those

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adjacent to the existing school property. It was understood that during the ten-year sequenced period of construction, safe and accessible classrooms and playgrounds would need to be continually maintained and provided for Hookena Elementary School students.

Due to traffic safety considerations, the property across Mamalahoa Highway was not considered appropriate for the expansion project. Because the land adjacent to the school on the north, south and west is undeveloped, vacant and unused, it was assumed to be appropriate for consideration.

It was assumed that the subject area, contains many sites which could serve as the future location of the expanded Hookena Elementary School. This study assessed the environment of the area of the Hookena Elementary School.

### 3. Considerations

Each potential site gave rise to many possible conceptual schemes for site layout. Possible conceptual schemes were reviewed and evaluated based on a combination of factors such as lot size and shape, traffic and circulation patterns, historical and cultural significance, topography limitations and development costs.

For the purpose of the following discussion, the adjacent property was divided into three distinct areas designated as north, south and west. These divisional designations were not intended to limit or restrict final development schemes or site layout models. The area could be developed according to any one of a variety of schemes. For example, the final development area could be configured to take on any one of a variety of different shapes and/or sizes. This study does not make recommendations with regard to either the conceptual scheme or site layout selection.

The two-dimensional drawings that are included as part of the site selection process are intended to indicate, not dictate, possible spatial relationships and campus design configurations.

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B. Minimum Site Criteria

In order to modify the existing Hookena Elementary School to provide adequate facilities and functional spaces and so that it can accommodate the projected increases in student enrollment, sites identified as being candidate were evaluated based on the following minimum standards:

1. Acreage: A minimum size of six (6) acres and a maximum of eight (8) to twelve (12) acres.
2. Shape: The length to width ratio must not exceed 2.5 to 1.
3. Traffic: The site must not be located in an area hazardous from the standpoint of pedestrian and/or vehicular safety, unless adequate safety provisions can be made which will ensure the personal safety of persons entering and exiting the property.
4. Historical: The acquisition and development of the site must be such that no buildings or sites designated as historic and deserving of preservation by the State Historic Preservation Office will be destroyed.
5. Topography: The site should be located in an area with slopes not greater than ten percent (10%).

C. Potential Sites

For student safety and economic reasons, portions of the property adjacent to the existing Hookena Elementary School site were assumed to be the most appropriate for investigating as potential sites for the necessary expansion project. The parcel adjacent to the existing school site is a privately-owned parcel of land, identified as TMK: 8-6-11: portion of 02. Portions of the parcel were examined in this study as candidate sites for the proposed expansion project. The land is undeveloped and owned by the McCandless Estate.

For purposes of examination and evaluation, the subject area was divided into three subareas. Due to their orientation to the existing school property, they were designated as the: "northern," "southern" and "western" sites. There are no structures on any of the three sites.

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Any one of the three sites would increase the total land area encumbered by the Hookena Elementary School to 9 acres. The topography of the potential sites varies. Slopes are described as gently to moderately steep, on upland elevations. North of the school, the topography is mostly pasture lands; on the South side of the school, the topography is steep; and on the West side, the topography is on a downslope from the school with steeper pasture lands.

Although many different conceptual schemes for site layout are possible, three configurations were selected to illustrate spatial relationships and depict design possibilities. The possible conceptual schemes for site layout were designated as the: "North," "South," and "West" Schemes, and are described below.

1. Site 1 - North Scheme

The North Scheme would add approximately 4.96 acres to the existing 4.033 acre school site for a total of 9 acres (Figure 9.). It would extend the existing Hookena Elementary School property mostly to the north. However, depending on the masterplan layout, the North Scheme could also enlarge the subject property slightly towards the west and south of existing boundary lines.

The proposed boundaries for the North Scheme are:

- North: Extend the northern boundary five hundred thirty five feet (535') past the existing northern property line;
- East: Mamalahoa Highway;
- South: Even with the existing southern property line; and
- West: Even with the existing western boundary.

The northern site is presently undeveloped and overgrown with natural pastureland vegetation. The terrain is described as gently sloping with 0% to 6% slopes. In some areas the site is said to be relatively "flat."

According to cost projections, the North Scheme would be the least costly to develop.

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2. Site 2 - South Scheme

The South Scheme would add approximately 4.96 acres to the existing school site, for a total of 9.0 acres. It is situated mostly to the south of the existing Hookena School (Figure 10.) It would also enlarge the existing Hookena Elementary School property slightly towards the west.

The proposed boundaries for the South Scheme are:

- North: Even with the existing northern property line;
- East: Mamalahoa Highway;
- South: Extend the new southern boundary four hundred and ten feet (410') past the existing southern property line, at a right angle with Mamalahoa Highway; and
- West: Extend one hundred sixty-one feet (161') past the existing western property line.

The southern site is described as exhibiting severe dropoffs and steep slopes. It's dominant slopes are said to dropoff 25' to 30' with grades of approximately 20%.

The site would require extensive site preparation, and would possibly form a natural cache basin for water runoff during heavy rains.

According to cost projections, the South Scheme would be less expensive to develop than the West Scheme and more costly to develop than the North Scheme. However, the southern site also has two features that were identified by archaeologists as either having "cultural significance" or as being "likely to yield important scientific data"; therefore, the social cost of developing the South Scheme is expected to be greater.

3. Site 3 - West Scheme

The West Scheme would add approximately 4.96 acres, for a total of 9.0 acres, mostly to the west or downslope from the existing Hookena School (Figure 11.). This scheme would also enlarge the existing Hookena Elementary School property slightly towards the north and south.

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The proposed boundaries for the West Scheme are:

- North: Extend the northern boundary seventy-five feet (75') past the existing property line;
- East: Mamalahoa Highway;
- South: Even with the existing southern boundary; and
- West: Extend the western boundary three hundred fifty five feet (355') past the existing western boundary; and

The western site is described as having moderate inclines with 6 to 10 percent slopes. The topography of the western site is on the downslope of the existing school site. It is slightly steeper than the northern site, but otherwise it is similar.

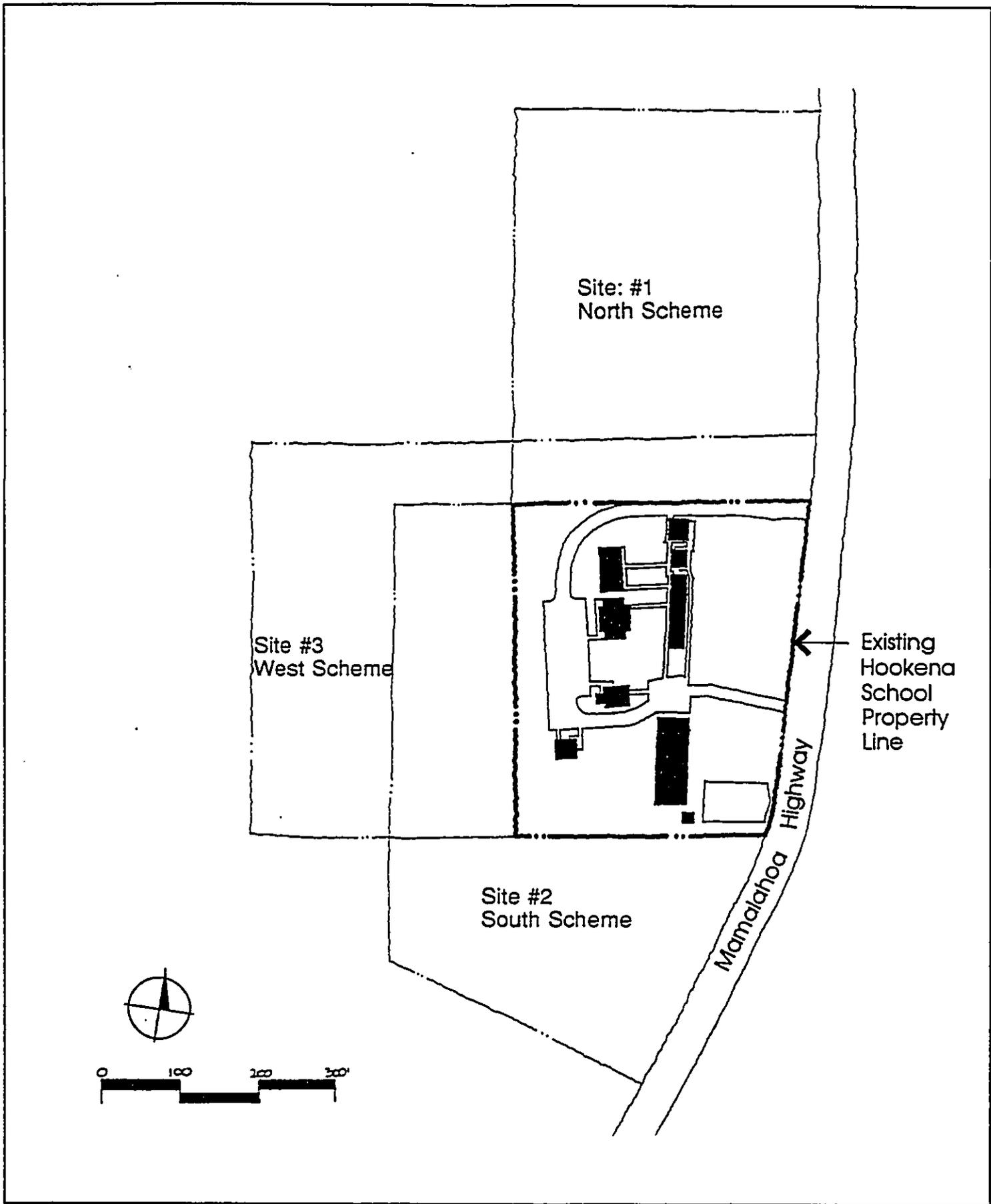
According to cost projections, the West Scheme would be the most costly of the three alternate schemes to develop.

#### 4. Site Summary

The terrain of the western site is slightly steeper than the northern site and supports vegetation similar to the northern site. It would, however, require more site preparation work than the northern site, and be more costly to develop.

The topography of the northern site is described as being fairly level. It should require the least amount of site preparation, and should therefore be the least expensive to develop.

Site preparation and development costs are likely to be greatest for the western site; and the social cost of developing the southern site is expected to be greater than developing either the northern or western site.



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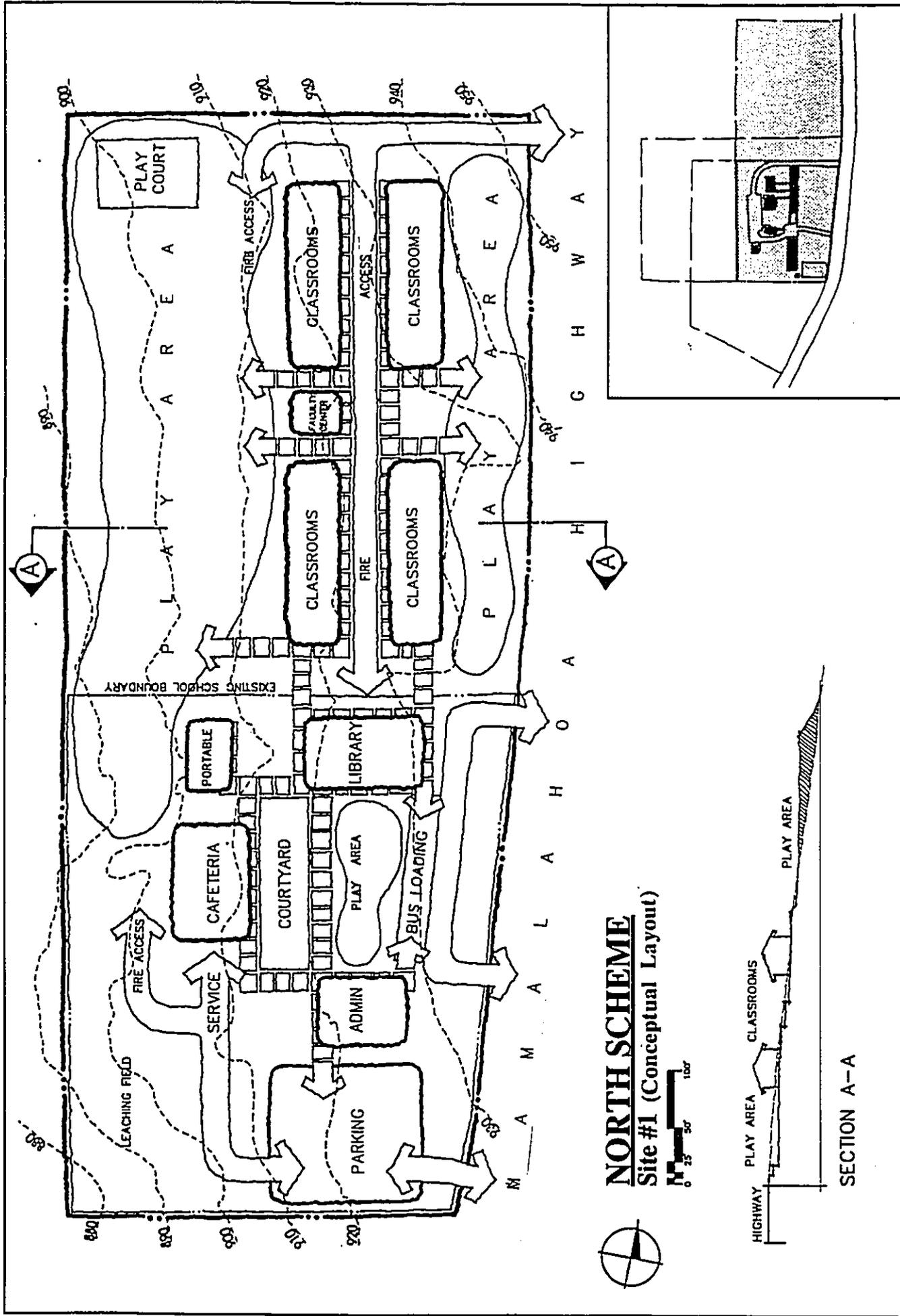
HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

**FIGURE 8**

PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

JOB NO.: 11-16-4940

CONCEPTUAL SCHEMES



**NORTH SCHEME**  
 Site #1 (Conceptual Layout)

**FIGURE 9**

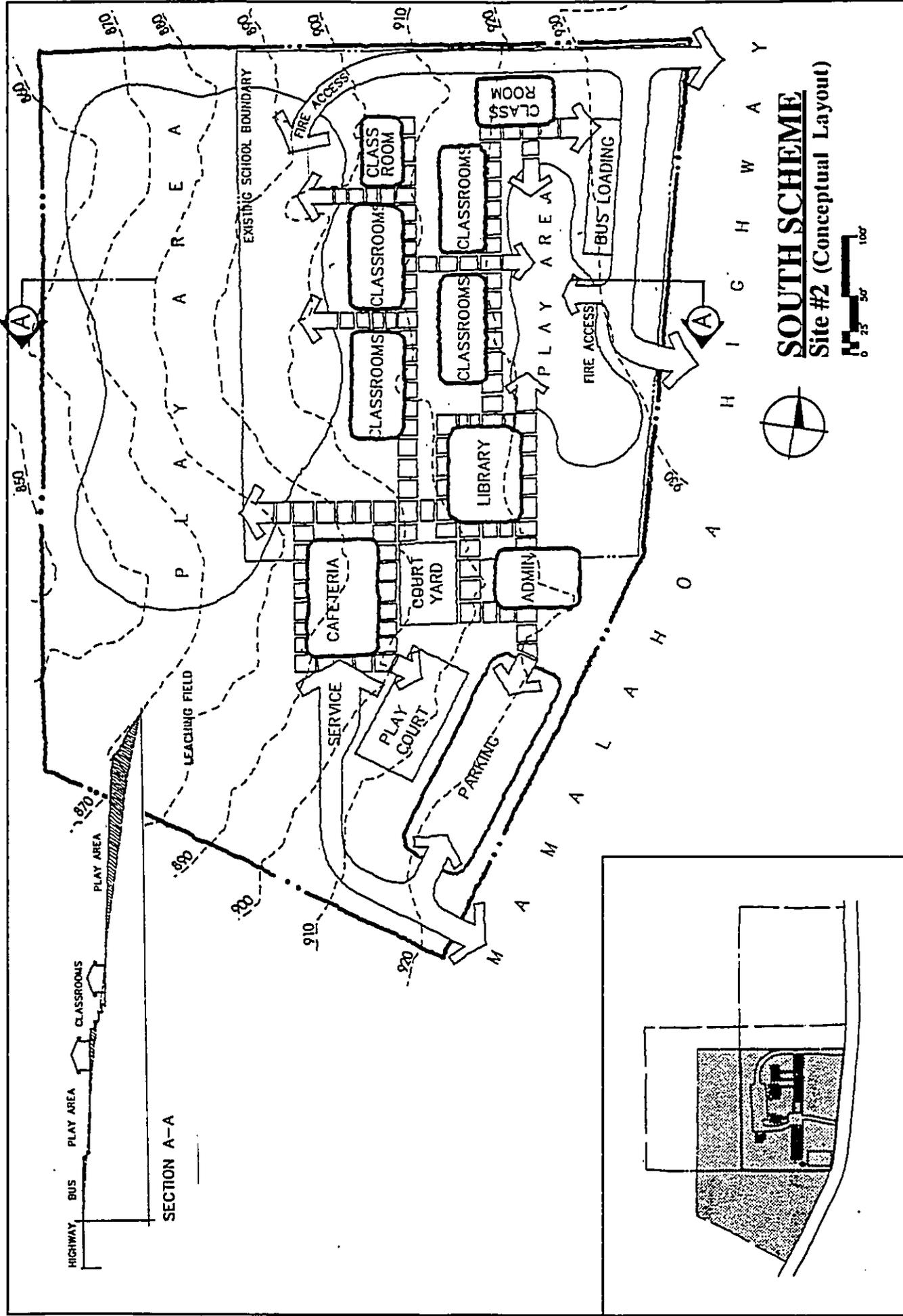
HOOKENA ELEMENTARY SCHOOL  
 SITE SELECTION / EIS FOR  
 ADDITIONAL LAND

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PREPARED BY:  
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JOB NO.: 11-16-4940

NORTH SCHEME - SITE #1



**FIGURE 10**

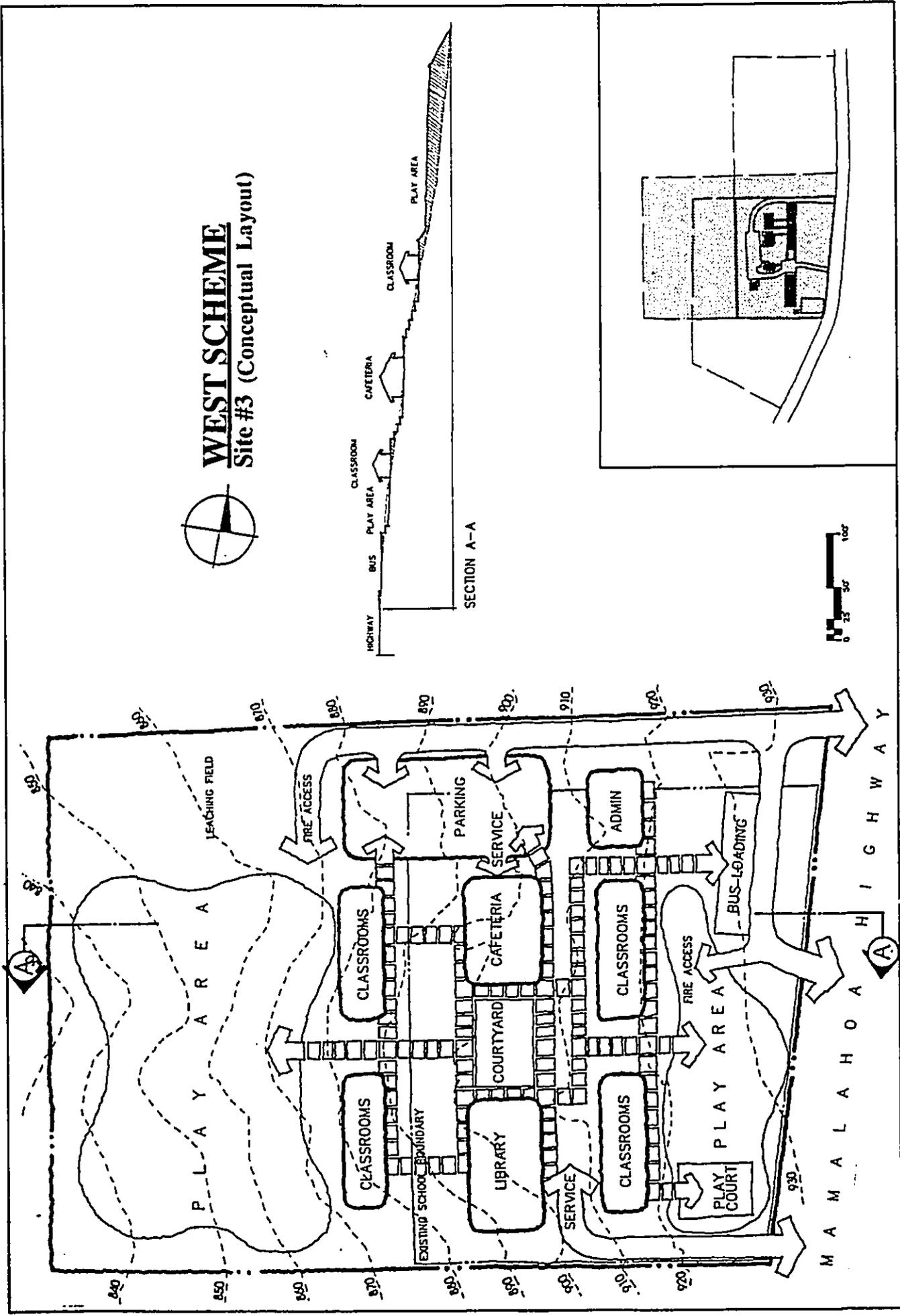
HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

JOB NO.: 11-16-4940

SOUTH SCHEME - SITE #2

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PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.



**FIGURE 11**

HOOKENA ELEMENTARY SCHOOL  
SITE SELECTION / EIS FOR  
ADDITIONAL LAND

PREPARED FOR:  
DEPARTMENT OF ACCOUNTING & GENERAL SERVICES

WEST SCHEME - SITE #3

JOB NO: 11-16-4940

PREPARED BY:  
GIMA, YOSHIMORI, MIYABARA, DEGUCHI ARCHITECTS, INC.

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#### IV. EVALUATION OF CANDIDATE SITES

##### A. Site Evaluations

This section summarizes the results of the evaluation based on school site criteria and community criteria. Evaluation ratings and detailed explanation of cost considerations are presented in "Appendix C." It should be noted that the intent of the site selection study is not to recommend a single preferred site. Rather, results are intended for use as a basis for discussing the relative advantages and disadvantages of each site in order to facilitate selection of a preferred site.

##### 1. Summary of School Site Criteria Evaluation

The results of the school site evaluation are summarized in tables contained in the Appendix portion of this report and discussed below:

- a. All three sites (which are within close proximity to each other) were rated poor due to the high rainfall they receive (75 inches/year) and all would, consequently, require consideration of covered walkways and playcourts.
- b. All three sites are located within 500 feet of the Mamalahoa Highway. The 24 foot wide, 2-lane highway is the main thoroughfare in the area, and would thus create traffic noises. The West Scheme may have a slight advantage because its *short* side is located on this thoroughfare.
- c. The three sites are proximate to a roadway with inadequate right-of-way, and may require improvements to meet the minimum requirements and the ultimate needs of the school.
- d. Pedestrian accessibility, on all three sites, is hampered by a continuous downhill slope, west of Mamalahoa Highway. In order to develop level play areas, each potential site will require extensive grading and ramping. The structures will need to be set on piers over a sloped or retained embankment to preserve the level spaces for play areas.
- e. Of the three potential sites, the South Scheme has the steeper slope, thus requiring the most severe pedestrian and vehicular ramping.

- 
- f. The West Scheme concentrates expansion further downslope, thus increasing the (volume) ramping event further.
  - g. Each scheme is accessible, by automobile, from only Mamalahoa Highway, giving the West Scheme a disadvantage because its access is on its short side. Pedestrian access is similarly limited to this highway.
  - h. Accessibility to the three sites is hampered by the absence of municipal bus service.

## 2. Summary of Community Criteria Evaluation

The results of the community criteria evaluation are summarized in explained below and tables showing the qualitative and quantitative results of the evaluation are contained in the Appendix portion of this report :

- a. All of the potential sites would require a County Zoning change.
- b. Potential effects of expanding and developing the Hookena School on any of the three sites are not likely to adversely impact the community. No interference would occur to any institution and there are not any commercial centers with activities that are known to distract students located near the subject area.
- c. Displacement of existing uses (agriculturally-zoned land) will be the same for all three sites. No structures occupy any of the present sites.

## B. Cost Considerations

A review of the cost considerations for each site reveals many similarities and few differences:

- 1. All three sites being considered affect the same landowner, the McCandless Estate.
- 2. The school bus route for all three sites would show no change from the current bus route.
- 3. Off-site improvements would incur the same costs, due to the similar location of each site.

- 
4. The only differences in costs would be the on-site improvements, specifically the site work. The difference in the shape of the site along the sloping contours accounts for the significant differences in cost. The similar building program for each site would not change the amount of building structures for each site.
  5. According to the site work cost estimates (See Appendix "C."), the North and South Schemes reveal relatively similar costs. However, the West Scheme exceeds both the North and South Schemes by \$2,593,000 and \$2,436,000 respectively.

The total estimated cost for each of the three proposed schemes which were considered is most heavily influenced by borrow and excavation expenses. The North Scheme's borrow and excavation cost estimate is \$2,535,000 lower than the West Scheme, because it is anticipated that less land filling will be required to prepare the northern scheme.

**Cost Estimates of Borrow and Excavation:**

North Scheme - Site 1	\$2,897,000
South Scheme - Site 2	\$3,046,000
West Scheme - Site 3	\$5,432,000

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V. PROBABLE IMPACTS AND MITIGATIVE MEASURES

As an incidental impact of any construction activity, the environmental quality is inevitably affected. Therefore, occupants of nearby businesses and residents in the immediate vicinity of the construction site can expect some temporary discomfort due to changes in noise, air and traffic. However, construction activity is also likely to have a positive impact on the local economy.

Probable impacts and mitigative measures follow.

A. Short Term Impacts

1. Construction Noise

Construction noise is generally attributed to use of equipment, during the site preparation stage of the development project.

All applicable health and safety regulations will be adhered to by the contractor. The contractor will be responsible for making efforts to minimize noises through daylight work hours, ensuring proper equipment maintenance and expediting completion of noise-generating activity.

2. Air Quality

Some compromise in air quality can be expected as a result of dust created by construction activities.

Applicable Department of Health (DOH) regulations which require sprinkling during grading to minimize airborne dusts will be followed. Diligent equipment maintenance can also minimize the emission of exhaust fumes.

3. Construction Wastes

Site preparation, construction and landscaping activities will generate construction-related waste.

Solid waste collection will be accomplished through a private refuse collection company for disposal in the County landfill. The contractor should be advised to comply with all applicable federal, state, and county laws pertaining to construction waste collection and disposal.

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To reduce the volumes of waste generated during the construction of the project, the contractor will develop and implement a solid waste minimization plan before construction begins. The plan must address waste diversion measures consistent with the State's waste minimization and diversion goals as provided in State of Hawaii Act 324-91, and should include secondary resources whenever practicable. Local compost may be used for landscaping purposes and crushed glass in asphalt for road paving purposes. The State of Hawaii, in Act 213-92 requires all State and County construction projects to incorporate glassphalt when available.

4. Water Quality

Nonpoint sources of pollution such as spilled or leaked materials used during construction (e.g., petroleum hydrocarbon fuels, greases, oils, paints and solvents) or indiscriminately used landscaping materials (e.g., nutrients, herbicides and pesticides) can migrate through soils thus creating leachate which can contaminate soil water, which in turn may contaminate groundwater, which may then discharge to lakes, streams and the ocean.

Construction activities such as excavation can cause soil erosion and contribute to sedimentation. Sediments carried by erosion represent the greatest volume of wastes entering surface waters. These hydrogeologic actions can create potential hazards to water quality by increasing the amount of sediments and turbidity.

To protect water quality, the contractor shall design and implement a soil erosion and sedimentation prevention plan prior to starting construction. All public and/or private persons or agencies participating in the construction phase of an expansion project, should be advised to place particular emphasis upon preventing soil contamination and erosion, and preventing the entry of sediments into area surface waters.

To reduce sediments produced during the construction phase of the project, contractors shall include berms and siltation ponds, and all environmental protection rules and regulations will be followed.

After construction, the expanded site should be landscaped with appropriate vegetation which is known to help prevent soil erosion and thus reduce sedimentation and debris produced from high rainfall.

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Landscape contractors will most likely use both pesticides and nutrients to reestablish and maintain the flora as a part of landscaping preparation, installation, and maintenance system. To reduce the hazards due to nutrients and pesticides used after construction, it is recommended that, where possible, landscape architects incorporate native plants requiring less chemical support., and all public and private agencies, contractors and maintenance personnel will be advised to take precautionary measures to ensure the protection of natural systems and the environment as well as the safety of persons and protection of property.

To prevent water pollution, the contractor will collect and dispose of all construction wastes generated by the project in accordance with the State's rules and regulations pertaining to construction activities. Storm water discharges relating to construction activities for projects greater than five acres require that the contractor file for a National Pollutant Discharge Elimination System (NPDES) permit at least ninety (90) days prior to commencement of any discharge to waters of the State.

5. Public Health and Safety

Minimizing threats to public health and safety are the responsibility of the contractor. Efforts to assure proper signs, barriers, enclosures and use of safety devices will be emphasized during the construction phase of the expansion project.

6. Flora/Fauna

No impacts to the flora and fauna of subject area are anticipated.

Landscape planning and architecture should be a part of any redevelopment scheme. Plans should include reestablishing any ecosystems which are disrupted as a result of development activities.

7. Economic

The construction phase of the project is likely to have positive short-term impacts on the local economy. Available job opportunities in the construction industries can be expected to increase. An estimated 6% of jobs counted in the County of Hawaii (1990) were directly related to

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construction industries. (Source: DBED, 1991, Table 340, p. 312.)

It is assumed that a portion of that labor force will directly benefit from increased employment and income opportunities that are likely to be created from expanding the site, adding to or remodeling facilities.

In addition, local building materials suppliers and retail businesses can expect to benefit from increased sales receipts during the construction phase of the project.

#### 8. Traffic

Traffic impacts to the immediate area may be expected during the construction phase of the project, especially at times when heavy equipment or large shipments of supplies are transported to or moved around portions of the site.

Negative impacts due to construction-related traffic will be minimized by judicious scheduling, thereby reducing delays and inconvenience to highway- and school-related traffic.

Under some circumstances, special duty police officers will be employed to direct traffic safely around construction-related activities.

The expansion project should include construction of a service road around the campus to separate students and other pedestrians from vehicular traffic.

All plans for construction work within the state right-of-way will comply with applicable regulations and be submitted to the State of Hawaii, Department of Transportation (DOT) for review and approval.

#### 9. Archaeological/Historical

Archaeological Consultants of Hawaii, Inc. (ACH) recommended monitoring construction activities and establishing buffer zones on the parcels south and west of the school property to insure protection of features that are located on the property south of the school property, those that ACH identified as being potentially culturally or scientifically significant.

ACH report further recommends permanently sealing existing cave openings, and any created during the course

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of construction for "reasons of public safety and cultural sensitivity." (Please refer to Appendix "D," *Archaeological Inventory Survey*.)

B. Long Term Impacts

1. Flora/Fauna

There are no rare or endangered plant species believed to be present on the school property, on the property adjacent to, or in the vicinity of Hookena Elementary School.

Therefore, the expansion project should not pose a threat to endangered plant species. Any loss of vegetation, due to the necessary clearing of the site selected for expansion, should be replaced with appropriate landscaping.

No known rare or endangered animals and/or birds are known to inhabit the Hookena School area or adjacent property. Therefore, the impact to existing fauna is likely to be minimal.

Post-construction landscaping should provide adequate habitation sites for animals and birds known to be present in the area.

2. Social

The proposed school expansion is expected to have positive impacts on the social conditions of the district it serves.

a. Education

The DOE has recommended improvements and additions to Hookena Elementary School in order to ensure that adequate and accessible educational services and facilities designed to meet the needs of residents living in the South Kona District are available. The expanded facilities can be expected to improve the quality of educational services provided to students who live in the district.

b. Recreation

The County's 1989 *General Plan* observed that recreational facilities in the South Kona District are "limited." Residents utilize school courtyards and playgrounds for community activities and team sports. The additional playfields and play equipment

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planned for the Hookena Elementary School would provide residents of the community with greater access to a wider variety of recreational opportunities.

3. Public Health and Safety

The State Department of Defense (DOD) proposed at least one new siren simulator device be installed in an expanded school facility, in a location such as the school's Administration Office. The department advised that emergency warning systems should be planned for the safety and well-being of the users of the proposed expansion. The suggested plan, would require antenna cable duct typically from ground floor level to the rooftop" to accommodate installation of siren simulators. Therefore, at least one new siren simulator may be included in the expansion plans as deemed essential for the safety and well being of the users.

The DOD notes that the Island of Hawaii is subject to the natural hazards of volcanic activity, seismicity, lava flow inundation and flood hazards, the impact of terrain amplification of high winds and heavy rainfall associated with tropical cyclones and hurricanes and advises these hazards be considered during the planning and design phases of the proposed project. The DOD recommends that the Hookena Elementary School expansion be designed and constructed to resist winds at the selected site's elevation, and that the structures be surveyed for use a potential public shelters.

It is anticipated that by replacing the existing wooden portable classroom buildings with permanent facilities constructed of fire-resistant materials, the potential for hazards due to fire would be greatly reduced.

4. Displacement

The three proposed sites for the Hookena Elementary School expansion are vacant, and used only for grazing by McCandless Ranch. Existing access roads to the north and west of Hookena School are not within any of the three proposed sites. Therefore, no homes or other facilities will be displaced as a result of the expansion project.

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5. Infrastructure

a. Water

Provision of water service to Hookena Elementary School is through Hawaii County Department of Water Supply. Expanded facilities would continue to be served by the County.

Presently, an eight inch (8") water line serves Hookena Elementary School. However, a twelve inch (12") line may be needed to accommodate the schools future expansion and to meet the fire-flow standards.

All improvements to the existing water system should be designed using concepts known to promote efficiency and economy; and will be in compliance with all State and Federal drinking water regulations.

All changes and improvements in the existing water systems will meet the requirements and be approved by the Department of Water Supply.

b. Sewer

To ensure water quality and personal safety in the area, existing cesspools should be abandoned and rendered safe at the time a new wastewater treatment system is constructed.

Therefore, the expansion plans should include improving the existing cesspool system by replacing it with an individual wastewater system, such as a septic tank system, to meet applicable State and County rules and regulations. Accordingly, design plans for the improvements should conform to applicable provisions of the Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems" and be submitted to the State of Hawaii, Department of Health for review.

c. Drainage

It is possible that expansion of the school could contribute to increased stormwater runoff due to a decrease in exposed land surface. Therefore, the design and construction phases of the project should consider drainage patterns and existing storm drain

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outlets to prevent flooding and soil erosion from occurring

d. Electrical/Telephone

All transmission lines should be developed and placed in such a way as to consider the aesthetics of the existing environment. Wherever possible, the scenic views and vistas should be preserved.

\* Electricity

Electricity for the Hookena School will continue to be supplied by the Hawaii Electric Light Company, Inc. (HELCO) through overhead electrical lines. Lines should be upgraded as necessary at the time of installation.

All electrical engineering designs will be in accordance with power system safety standards, coordinated through state-licensed contractors utilizing approved methods of removal, construction and installation procedures.

\* Telephone

Telephone service will continue to be supplied through overhead transmission lines provided by the Hawaiian Telephone Company.

e. Highway/Street Network

There are some concerns associated with exposure to the highway traffic fronting the school property. Appropriate mitigative measures should be taken to ensure pedestrian safety such as: fencing the school's boundaries and designing buildings, roads and walkways utilizing architectural features which are known to promote personal safety.

The planned service road would provide a buffer which would separate students and other pedestrians from vehicular traffic. This change in traffic patterns would permit parents to conveniently and safely drop off students, thereby reducing the level of stress experienced by students, parents, faculty and school officials. The change in transportation patterns would promote traffic safety,

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efficiency and the comfortable movement of people, equipment and supplies into and out of the area.

The State of Hawaii, Department of Transportation (DOT) is the agency responsible for the long-range transportation planning for the subject area. The DOT stated that, for traffic operational reasons, it would prefer the West Scheme (Site #3) for the proposed Hookena Elementary School expansion.

The DOT noted, however, that none of the proposed expansion schemes would have a major adverse impact on Department of Transportation facilities.

The DOT further suggests that consideration be given to providing crosswalks, insuring good sight distances at access points, constructing a boundary wall instead of fencing to attenuate traffic noise and to act as a barrier, and installing acceleration/deceleration lanes and left-turn pockets for additional safety.

Plans for all construction within the state right-of-way will be submitted to the Department of Transportation for review and approval.

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VI. ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

A "no action" alternative would exacerbate conditions; and hamper the Department of Education's progress in achieving its goal to provide an optimum learning environment and adequate facilities for students and faculty. This alternative was determined to be unacceptable as an option.

B. Expansion of Existing Schools

There are other elementary schools, Honaunau and Konawaena in the South Kona District. Hookena and Honaunau serve grade levels K-8 and Konawaena serves grades K-6. As of September 1991, Honaunau had exceeded student enrollment projections for 1992-93, with a total of 428 students. Konawaena elementary, intermediate and high schools are located in Captain Cook, serves students in grades K-12. In September 1991, Konawaena schools reported a total enrollment of 2,441 students.

Due to its geographic location, Hookena Elementary School is the most accessible, of the three institutions, to students who reside in the central and southern portions of the South Kona District. Considering location, land acquisition and the construction costs of new facilities, Hookena Elementary School is assumed to be the most appropriate choice for expansion at this time.

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VII. THE RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF  
MAN'S ENVIRONMENT AND THE MAINTENANCE AND  
ENHANCEMENT OF LONG TERM PRODUCTIVITY

A. Short-Term Uses

The construction of Hookena Elementary School will cause minor disruptions and temporary inconveniences to users of the site and surrounding areas.

Short-term economic and social benefits will include increased job opportunities, and personal income and sales receipts related to construction activities.

B. Long-Term Productivity

The direct benefit to residents of the South Kona District from an expanded Hookena Elementary School would be access to adequate educational services and facilities which are designed to meet the needs of the local community.

In addition, the enhanced school facilities will include architectural designs and landscape features which would improve the appearance and operation of the overall facilities.

Proposed changes in traffic management should improve safety conditions; and the planned individual septic tank wastewater treatment and disposal system could help to protect the area's future water supply.

Other long-term economic benefits to the community will include those associated with employment at the school, such as jobs directly related to education and those required for the operation and maintenance of the facility.

VIII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF  
RESOURCES

Expansion of the Hookena Elementary School will require the commitment of the following natural and human resources: fuel, labor, funding and raw materials including the commitment of land which would preclude other land uses on the site for a reasonable length of time.

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IX. LIST OF NECESSARY APPROVALS

The expansion of the existing Hookena Elementary School site, and additional facilities will be subject to various governmental permits and approvals. The section below lists the permits and approvals which will be necessary to obtain prior to commencing construction activities.

<u>Approval/Permit</u>	<u>Responsible Agency</u>
1. Concept	State of Hawaii Department of Accounting and General Services (DAGS)
2. Land Acceptability	State of Hawaii Department of Land and Natural Resources, Land Management Division
3. Land Transfer	McCandless Estate (to State)
4. Land Subdivision	County of Hawaii, Planning Department
5. Amendment to Special Permit No. 406	County of Hawaii Planning Commission
6. Building Permit	County of Hawaii
7. Highway Right-of-Way work	State, Department of Transportation
8. Fire-flow requirements	County, Fire Department and Building Division of the Department of Public Works
9. Wastewater Systems	State, Department of Health, Wastewater Branch
10. NPDES Permit	State, Department of Health, Clean Water Branch

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X. AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED IN  
THE PREPARATION OF THIS DOCUMENT

A. State Agencies

Land Use Commission  
Department of Business, Economic Development and Tourism  
State of Hawaii  
Room 104, Old Federal Building  
335 Merchant Street  
Honolulu, Hawaii 96813

Department of Education  
District Business Specialist  
Hawaii District Office  
State of Hawaii  
75 Aupuni Street  
Hilo, Hawaii 96720

Department of Education  
Facilities and Support Services Branch  
State of Hawaii  
P. O. Box 2360  
Honolulu, Hawaii 96804

Department of Education  
State of Hawaii  
1390 Miller Street  
Honolulu, Hawaii 96813

Department of Transportation  
Planning Branch  
600 Kapiolani Boulevard  
State of Hawaii  
Honolulu, Hawaii 96813

B. County Agencies

County of Hawaii  
Planning Department  
25 Aupuni Street, Room 109  
Hilo, Hawaii 96720

C. District

Hookena Elementary School  
86-4355 Mamalahoa Highway  
Captain Cook, Hawaii 96704

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D. Private Organizations

Archaeological Consultants of Hawaii, Inc.  
59-624 Pupukea Road  
Haleiwa, Hawaii 96712

Richard M. Sato and Associates, Inc.  
Consulting Engineers Civil and Structural  
2046 South King Street  
Honolulu, Hawaii 96826

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XI. EIS CONSULTATION PHASE COMMENTS AND RESPONSES

Representatives from the Department of Accounting and General Services consulted with the following public agencies and community organizations regarding this Environmental Impact Statement. The agencies that responded in writing are indicated with an asterisk (\*), and copies of their correspondence are provided in this document (See Appendix "E"):

A. Federal Agencies

Department of Agriculture\*  
Soil Conservation Service  
P. O. Box 50005  
Honolulu, Hawaii 96850

Department of the Army\*  
U.S. Army Engineer District, Honolulu  
Building 230  
Ft. Shafter, Hawaii 96858

Department of the Navy\*  
Commander  
Naval Base Pearl Harbor  
Box 110  
Pearl Harbor, Hawaii 96860

B. State Agencies

Department of Budget and Finance\*  
Housing Finance and Development Corporation  
State of Hawaii  
500 Ala Moana Boulevard  
Seven Waterfront Plaza, Suite 300  
Honolulu, Hawaii 96813

Department of Business, Economic Development and Tourism  
State of Hawaii  
220 South King Street, 11th Floor  
Honolulu, Hawaii 96813-4541

Department of Business, Economic Development and Tourism  
Energy Division  
State of Hawaii  
Room 110, Old Federal Building  
335 Merchant Street  
Honolulu, Hawaii 96813

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Department of Business, Economic Development and Tourism\*  
Land Use Commission  
State of Hawaii  
Room 104, Old Federal Building  
335 Merchant Street  
Honolulu, Hawaii 96813

Department of Defense\*  
Office of the Director of Civil Defense  
State of Hawaii  
3949 Diamond Head Road  
Honolulu, Hawaii 96816

Department of Education  
District Business Specialist  
Hawaii District Office  
State of Hawaii  
75 Aupuni Street  
Hilo, Hawaii 96720

Department of Education  
Facilities and Support Services Branch  
State of Hawaii  
P. O. Box 2360  
Honolulu, Hawaii 96804

Department of Education  
State of Hawaii  
1390 Miller Street  
Honolulu, Hawaii 96813

Department of Health\*  
State of Hawaii  
P. O. Box 3378  
Honolulu, Hawaii 96801

Department of Transportation  
Planning Branch  
600 Kapiolani Boulevard  
State of Hawaii  
Honolulu, Hawaii 96813

Department of Transportation\*  
State of Hawaii  
869 Punchbowl Street  
Honolulu, Hawaii 96813

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C. County Agencies

Planning Department\*  
County of Hawaii  
25 Aupuni Street, Room 109  
Hilo, Hawaii 96720

Department of Public Works  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

County of Hawaii  
Department of Water Supply  
25 Aupuni Street  
Hilo, Hawaii 96720

D. District

Hookena Elementary School  
86-4355 Mamalahoa Highway  
Captain Cook, Hawaii 96704

A total of ten (10) letters were received, during the Consultation Phase, two (2) respondents acknowledged receipt of the DEIS, but did not comment (N/C), eight (8) responded with comments, and seven (7) letters of response were sent out by the Department of Accounting and General Services, Division of Public Works.

The following list indicates the persons, organizations and public agencies responding to the DEIS during the consultation phase and notes the action taken. All substantive comments pertaining to environmental issues were incorporated into this final Environmental Impact Statement.

Date of Letter	LIST OF COMMENTS/RESPONSES DURING EIS CONSULTATION PHASE	Comment	Action
3/13/92	Esther Ueda, Executive Officer Land Use Commission Department of Business, Economic Development and Tourism State of Hawaii Room 104, Old Federal Building 335 Merchant Street Honolulu, Hawaii 96813	Yes	Revised.

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3/20/92	W. K. Liu Assistant Base Civil Engineer By direction of the Commander Naval Base Pearl Harbor Department of the Navy Box 110 Pearl Harbor, Hawaii 96860-5020	N/C	
3/23/92	Joseph K. Conant, Executive Director Housing Finance and Development Corporation Department of Budget and Finance State of Hawaii Seven Waterfront Plaza 500 Ala Moana Boulevard Honolulu, Hawaii 96813	N/C	
3/31/92	Kisuk Cheung, P.E. Director of Engineering Department of the Navy U.S. Army Engineer District, Honolulu Building 230 Ft. Shafter, Hawaii 96858-5440	Yes	Revised.
4/3/92	John C. Lewin, M.D. Director of Health Department of Health State of Hawaii P. O. Box 3378 Honolulu, Hawaii	Yes	Revised.
4/3/92	Roy C. Price Sr., Vice Director of Civil Defense Office of the Director of civil Defense Department of Defense Diamond Head Road Honolulu, Hawaii	Yes	Revised.
4/9/92	Norman K. Hayashi, Planning Director Planning Director 25 Aupuni Street, Room 109 Hilo, Hawaii 96720	Yes	
4/16/92	Rex D. Johnson, Director Department of Transportation Department of Transportation State of Hawaii 869 Punchbowl Street Honolulu, Hawaii 96813-	Yes	

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4/21/92	Teuane Tominaga, State Public Works Engineer Division of Public Works State of Hawaii P. O. Box 119 Honolulu, Hawaii 96810	Response to Ueda, 3/13/92
4/21/93	Teuane Tominaga, State Public Works Engineer Division of Public Works Department of Accounting and General Services State of Hawaii P. O. Box 119 Honolulu, Hawaii 96810	Response to Cheung, 3/31/92
4/22/92	Norman K. Hayashi, Planning Director <i>Planning Department</i> County of Hawaii 25 Aupuni Street Room 104 Hilo, Hawaii 96720	Yes      Revised.
4/24/92	Teuane Tominaga, State Public Works Engineer Division of Public Works Department of Accounting and General Services State of Hawaii P. O. Box 119 Honolulu, Hawaii 96810	Response to Price, 4/3/92
4/24/92	Russel S. Nagata, State Comptroller Department of Accounting and General Services State of Hawaii P. O. Box 119 Honolulu, Hawaii 9681	Response Lewin, 4/3/92
4/30/92	Russel S. Nagata, State Comptroller Department of Accounting and General Services State of Hawaii P. O. Box 119 Honolulu, Hawaii 96810	Response to Johnson, 4/16/92
5/7/92	Warren M. Lee, State Conservationist Soil Conservation Service United States Department of Agriculture P. O. Box 50004 Honolulu, Hawaii 96850	Yes
5/15/92	Teuane Tominaga, State Public Works Engineer	Response to Hayashi, 4/22/93

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Division of Public Works  
Department of Accounting and General Services  
State of Hawaii  
P. O. Box 119  
Honolulu, Hawaii 96810

5/28/92 Gordon Matsuoka, State Public Works      Response to Lee, 5/7/92  
Engineer  
Division of Public Works  
Department of Accounting and General Services  
State of Hawaii  
P. O. Box 119  
Honolulu, Hawaii

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XII. EIS PUBLIC REVIEW PHASE COMMENTS AND RESPONSES

A notice of availability of the Draft Environmental Impact Statement was published in the *OEQC Bulletin* by the Office of Environmental Quality Control. In addition, fifty-six public agencies and community organizations were provided copies of the DEIS for review. The following list delineates the distribution of the Hookena Elementary School Expansion Site Selection Report and DEIS.

A. Federal Agencies

Regional Administrator  
U.S. Environmental Protection Agency, Region IX  
75 Hawthorne Street  
San Francisco, California 94105

Directorate of Facilities Engineer  
U.S. Army Support Command Hawaii  
Ft. Shafter, Hawaii 96858  
Attention: Environmental Management Office

Commander  
Naval Base Pearl Harbor  
Box 110  
Pearl Harbor, Hawaii 96860  
Attention: Base Civil Engineer

Commander and Div. Engineer  
U.S. Army Corps of Engineers  
Pacific Ocean Division  
Building 230  
Fort Shafter, Hawaii 96858

Commander  
U.S. Coast Guard  
14th Coast Guard District  
300 Ala Moana Boulevard  
Honolulu, Hawaii 96850

Pacific Island Administrator  
Department of the Interior  
Fish and Wildlife Services  
P. O. Box 50156  
Honolulu, Hawaii 96850

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District Chief  
Department of the Interior  
Geological Survey  
677 Ala Moana Boulevard, #415  
Honolulu, Hawaii 96813

State Conservationist  
Soil Conservation Service  
U.S. Department of Agriculture  
P. O. Box 50004  
Honolulu, Hawaii 96850

B. State Agencies

Chairperson  
Department of Agriculture  
1428 South King Street  
Honolulu, Hawaii 96814

Director  
Department of Defense  
3949 Diamond Head Road  
Honolulu, Hawaii 96816

Superintendent  
Department of Education  
1390 Miller Street  
Honolulu, Hawaii 96813

Director  
Department of Health  
P. O. Box 3378  
Honolulu, Hawaii 96801

Director  
Department of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

State Historic Preservation Officer  
Department of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

Director  
Department of Business, Economic Development and Tourism  
250 South King Street, 9th Floor  
Honolulu, Hawaii 96813

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Librarian  
Department of Business, Economic Development and Tourism  
Library  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Executive Director  
Housing Finance and Development Corporation  
Seven Waterfront Plaza  
500 Ala Moana Boulevard, #300  
Honolulu, Hawaii 96813

Director  
Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813

State Archivist  
State Archives  
Iolani Palace Grounds  
Honolulu, Hawaii 96813

Director  
Office of State Planning  
P. O. Box 3540  
Honolulu, Hawaii 96811

Division Head  
Department of Business, Economic Development and Tourism  
State Energy Office  
335 Merchant Street, Room 10  
Honolulu, Hawaii 96813

Director University of Hawaii  
Environmental center  
Crawford 317  
2550 Campus Road  
Honolulu, Hawaii 96822

Director  
University of Hawaii  
Water Resources Res. Ctr.  
Holmes Hall, Room 283  
2540 Dole Street  
Honolulu, Hawaii 96822

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Librarian  
University of Hawaii  
Hilo Campus Library  
P. O. Box 1357  
Hilo, Hawaii 96720

Administrator  
Office of Hawaiian Affairs  
711 Kapiolani Boulevard, #500  
Honolulu, Hawaii 96813

University of Hawaii  
Hamilton Library  
Hawaiian Collection  
2550 The Mall  
Honolulu, Hawaii 96822

Legislative Ref. Bureau  
Capitol Center  
1177 Alakea Street, 6th Floor  
Honolulu, Hawaii 96813

State Main Library  
478 South King Street  
Honolulu, Hawaii 96813

Kaimuki Regional Library  
1041 Koko Head Avenue  
Honolulu, Hawaii 96816

Kaneohe Regional Library  
45-829 Kamehameha Highway  
Kaneohe, Hawaii 96744

Pearl City Regional Library  
1138 Waimano Home Road  
Pearl City, Hawaii 96782

Hilo Regional Library  
P. O. Box 647  
Hilo, Hawaii 96721-0647

Wailuku Regional Library  
P. O. Box B  
Wailuku, Hawaii 96793

Kauai Regional Library  
4344 Hardy Street  
Lihue, Hawaii 96766

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Holualoa Library  
P. O. Box 214  
Holualoa, Hawaii 96725

Kailua-Kona Library  
75-140 Hualalai Road  
Kailua-Kona, Hawaii 96740

Kealakekua Library  
P. O. Box 768  
Kealakekua, Hawaii 96750

Representative Virginia Isbell  
Leiopapa A. Kamehameha  
Room 1101  
Honolulu, Hawaii

Senator Andrew Levin  
Leiopapa A Kamehameha  
Room 508  
Honolulu, Hawaii

C. County

Mayor  
Hawaii County Council  
25 Aupuni Street  
Hilo, Hawaii 96720

Chairperson  
Hawaii County Council  
25 Aupuni Street  
Hilo, Hawaii 96720

Director  
County of Hawaii  
Planning Department  
25 Aupuni Street  
Hilo, Hawaii 96720

Director  
County of Hawaii  
Department of Parks and Recreation  
25 Aupuni Street  
Hilo, Hawaii 96720

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Director  
County of Hawaii  
Department of Research and Development  
25 Aupuni Street  
Hilo, Hawaii 96720

Manager  
County Hawaii  
Department of Water Supply  
25 Aupuni Street  
Hilo, Hawaii 96720

D. District

Hookena Elementary School  
R.R. 1, Box 41  
Captain Cook, Hawaii 96704

Konawaena High and Intermediate School  
P. O. Box 689  
Kealahou, Hawaii 96750

Hookena Elementary School PTSO  
R.R. 1, Box 41  
Captain Cook, Hawaii 96704

Konawaena High and Intermediate School PTSO  
P. O. Box 689  
Kealahou, Hawaii 96750

E. Other

City Editor  
Honolulu Star Bulletin  
P. O. Box 3080  
Honolulu, Hawaii 96813

Editor  
Honolulu Advertiser  
605 Kapiolani Boulevard  
Honolulu, Hawaii 96813

Editor  
West Hawaii Today  
P. O. Box 789  
Kailua-Kona, Hawaii 96740

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Director of Environmental Health  
American Lung Association  
245 North Kukui Street  
Honolulu, Hawaii 96817

Hawaiian Electric Company  
P. O. Box 2750  
Honolulu, Hawaii 96740

Reviewers wanting to respond were asked to send original comments to the Governor of the State of Hawaii, and copies of comments to the proposing agency and consultant. A total of nineteen (19) letters were received; five (5) respondents acknowledged receipt of the draft EIS, but did not comment (N/C), thirteen (13) responded with comments; and one (1) letter of transmittal was received. The Department of Education responded to one letter.

The following list indicates those who responded in writing and the action taken, or notes if a letter of response was mailed. All substantive comments regarding environmental issues were incorporated into the final EIS document. Reproductions of all substantive comments and responses received by the accepting authority, proposing agency, and the consultant during the public review phase are included in Appendix "F" of this document.

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**LIST OF COMMENTS/RESPONSES  
DURING PUBLIC REVIEW PHASE**

Date of Letter	Respondent's Name and Address	Comment	Action
3/29/93	Margaret Wilson, Planner  Office of Environmental Quality Control State of Hawaii 220 South King Street Fourth Floor Honolulu, Hawaii 96813	Yes	Noted.
4/8/93	Maurice H. Kaya Energy Program Administrator Energy Division Department of Business, Economic Development and Tourism 335 Merchant St., Room 110 Honolulu, Hawaii 96813	N/C	
4/9/93	William Meyer, District Chief Geological Survey Water Resources Division United States Department of the Interior 677 Ala Moana Boulevard, Suite 415 Honolulu, Hawaii 96813	N/C	
4/16/93	R. K. Keiser Lieutenant Junior Grade, CEC, USN By direction of the Commander Naval Base Pearl Harbor Box 110 Pearl Harbor, Hawaii 96860-5020	N/C	
4/16/93	Esther Ueda, Executive Officer Land Use Commission (LUC) Department of Business, Economic Development and Tourism Room 104, Old Federal Building 335 Merchant Street Honolulu, Hawaii 96813	Yes	Revised .
4/19/93	Mufi Hannemann Department of Business, Economic Development and Tourism Central Pacific Plaza 220 South King Street 11th Floor Honolulu, Hawaii 96804	See LUC, 4/16/93	

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4/19/93	Kisuk Cheung, P.E. Director of Engineering U.S. Army Engineer district, Honolulu Department of the Army Fort Shafter, Hawaii 96858-5440	N/C	
4/21/93	Brian J.J. Choy Office of Environmental Quality Control State of Hawaii 220 South King Street Honolulu, Hawaii 96813	Yes	Revised
4/27/93	H. William Sewake, Manager Department of Water Supply County of Hawaii 25 Aupuni Street Hilo, Hawaii 96720	Yes	
4/27/93	Charles T. Toguchi, Superintendent Department of Education State of Hawaii P. O. Box 2360 Honolulu, Hawaii 96804	Yes	Revised.
4/28/93	Rex D. Johnson, Director Department of Transportation State of Hawaii 869 Punchbowl Street Honolulu, Hawaii 96813-5097	Yes	Revised.
5/7/93	Keith W. Ahue Department of Land and Natural Resources State of Hawaii P. O. Box 621 Honolulu, Hawaii 96809	Yes	Revised.
5/10/93	Purna Zei, Secretary Ho'okena SCBM 86-4355 Mamalahoa Hwy Captain Cook, Hawaii 96704	Yes	Noted.

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5/11/93	Nalani Merrill, Representative for Facilities Expansion Committee Ho'okena School SCBM Hookena School SCMB Council 86-4355 Mamalahoa Hwy. Captain Cook, Hawaii 96704	Yes	Noted.
5/18/93	Roy C. Price, Sr. Vice Director of Civil Defense Office of the Director of civil Defense Department of Defense State of Hawaii 3949 Diamond Head Road Honolulu, Hawaii 96816-4495	Yes	Revised.
5/21/93	Joseph K. Conant, Executive Director Housing and Finance and Development Corporation Department of Budget and Finance State of Hawaii 677 Queen Street, Suite 300 Honolulu, Hawaii 96813	N/C	
5/25/93	Alfred Suga, Assistant Superintendent  Department of Education State of Hawaii P. O. Box 2360 Honolulu, Hawaii 96804		Response to Purna Zei, 5/10/93
5/27/93	John C. Lewin, M.D. Director of Health Department of Health State of Hawaii P. O. Box 3378 Honolulu, Hawaii 96801	Yes	Revised.
5/27/93	William A. Bonnet Hawaiian Electric Company, Inc. P. O. Box 2570 Honolulu, Hawaii 96840-0001	Yes	Revised.
6/18/93	Debi Hartmann, Chairperson Board of Education State of Hawaii P. O. Box 2360 Honolulu, Hawaii	Yes	

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XIII. LIST OF PREPARERS OF THIS DOCUMENT

Chee, Wilbert C.F., Carol-Ann Suda and Dona Evans  
WIL CHEE-PLANNING  
Ala Moana Pacific Center, Suite 818  
1585 Kapiolani Boulevard  
Honolulu, Hawaii 96814

Deguchi, Wesley H. and S. Pono Lunn  
GIMA.YOSHIMORI.MIYABARA.DEGUCHI ARCHITECTS, INC.  
Bank of America Building, Suite 1230  
1357 Kapiolani Boulevard  
Honolulu, Hawaii 96814

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XIV. APPENDICES

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## Appendix A: Site Selection Criteria

In addition to the minimum site standards described in Chapter VI of this study, the candidate sites were evaluated against the three following evaluation criteria and considerations:

- \* School Site Criteria;
- \* Community Criteria; and
- \* Cost Considerations.

School Site Criteria are physical parameters which identify site development and school operations, constraints and opportunities. Factors considered under school site criteria are environmental conditions and characteristics, roadways and utilities, and accessibility.

Community Criteria are factors which enable evaluation of school development in terms of compatibility with governmental land use designations and each site's relationship to the school and to the community.

Finally, Cost Considerations involve an assessment of school development and operational costs. Factors addressed in the cost evaluation include land acquisition, off-site improvement costs, on-site improvement costs, and bus subsidy costs.

School site criteria and community criteria and their associated rating scales are outlined below.

1. School Site Criteria.

- a. Environmental Conditions and Characteristics:

- i. Highway Noise:

Good=The classroom buildings are located more than 1,500 feet away from major highways, freeways, and truck routes. Natural ventilation may be used without introducing high noise in the classroom.

Fair=Classroom buildings are located 500 feet away from major highways, freeways, and truck routes to keep the motor vehicular noise down to a level where normal conversation can be heard.

Poor=Classroom buildings are located within 500 feet of a major highway, freeway, or truck route. Air conditioning may be required as

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windows would remain closed to exclude noise.

ii. Aircraft Noise:

Good=The site lies outside of the 55 Ldn noise contour projected for the service life of the facility as developed through the Federal Aviation Administration Part 150 Noise Compatibility Program for Lihue Airport.

Fair=The site lies between the 55 Ldn and 60 Ldn noise contours.

Poor=The above mentioned nuisances cause considerable discomfort and hamper school activities.

iii. Industrial and Agricultural Nuisances:

Good=The site is free from noise, dust, odors, smoke and other nuisances created by industrial or agricultural activities.

Fair=The noise, dust, odors, smoke and other nuisances from industrial or agricultural activities are at worst, periodic but well within the limits of human tolerance.

Poor=The above mentioned nuisances cause considerable discomfort and hamper school activities.

iv. Rainfall:

Good=the site has a median annual rainfall less than 30 inches. Walkways and playcourts may remain uncovered.

Fair=The site has a median annual rainfall between 30 inches. Walkways and playcourts must be covered, in accordance with DOE standards.

v. Foundation: (University of Hawaii Land Study Bureau Urban Land Classification Soil Character Code.)

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Good=Soil Character Codes, I, II, VII, and IX. These soils are only slightly susceptible to expansion, have good bearing capacity and are well drained.

Fair=Soil Character codes III, IV, VI, and VII. Soils codes III and IV, sometimes referred to as, "abode," are susceptible to expansion and contraction but have good bearing capacity if properly insulated to maintain relatively constant moisture content. Soils coded VI and VII are coral sands which are not susceptible to expansion and will provide good bearing strength if the sands are well contained.

Poor=Soil Character Code V. These are soils with poor bearing capacity and susceptible to shrinkage and subsidence on drying.

vi. Soil:

Good=The site is composed of non-rocky soil with a depth greater than 10 feet of coral, or rocky soil with a depth greater than 15 feet. These soils would facilitate installation of underground utilities, lot grading and road building.

Fair=the site is composed of non-rocky soil with a 6 to 10 foot depth of coral or rocky soil with a depth of 11 to 15 feet.

Poor=The site is composed of (1) non-rocky soil with a 0 to 5 foot depth or (2) coral or rocky soil with a depth of less than 11 feet, or (3) marshy soil, or (4) lava.

vii. Natural Beauty:

Good=The site has some natural beauty in the form of trees, plants, rock formations, etc. which can be preserved and integrated into the school campus. The site is not crossed by overhead utility lines.

Fair=The site generally lacks natural beauty but still has the potential for beautification through proper landscaping. The site is not crossed by overhead lines.

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Poor=The site has no natural beauty whatsoever. The site is crossed by overhead lines.

b. Roadways and Utilities

i. Adequacy of Roadways:

Good=The site has adequate roadways to meet ultimate school needs. The minimum road right-of-way required is 56 feet.

Fair=The site is served by roadways requiring widening or other improvements to meet the interim and ultimate needs of the school. The minimum road right-of-way is less than 44 feet.

Poor=The site has no roadways and will require the construction of a roadway system with a right-of-way less than 44 feet.

ii. Adequacy of Water Service:

Good=The site has adequate water pressure and capacity available to meet ultimate school needs.

Fair=The existing water service is insufficient. However, adequate service can be provided by the addition of transmission improvements and/or increasing storage capacity which will meet interim and ultimate needs of the school.

Poor=The site has inadequate water service and will require extensive system development to meet the school's needs.

iii. Adequacy of Sewer Service:

Good=The site has, or is proximate to, cesspools which are available to service the school.

Fair=The site has cesspools. However, the proposed school expansion may require septic tanks to accommodate an increase.

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Poor=The site has no cesspools and will require extensive system development to meet the school's needs.

iv. Adequacy of Drainage Facilities:

Good=The site has adequate drainage facilities available to meet ultimate school needs.

Fair=The site may be connected to off-site drainage facilities to serve interim and ultimate needs of the school.

Poor=The site requires off-site drainage facility improvements and may require the development of a drainage system to specifically meet school needs.

v. Adequacy of Power and Communications:

Good=The site has, or is proximate to, adequate existing power and communication lines which are available to service the school.

Fair=The site requires some off-site improvements which will provide for adequate power and communications to serve interim and ultimate needs of the school.

Poor=The site has insufficient power or communications available and will require extensive off-site improvement of these services to serve school needs.

c. Accessibility

i. Pedestrian Access:

Good=The site has pedestrian access from three sides.

Fair=The site has pedestrian access from two sides.

Poor=The site has pedestrian access from only one side.

ii. Pedestrian Safety:

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Good=Adequate and safe paved walkways/shoulders to the site are available.

Fair=Safe walkways/shoulders to the site may be provided along the school access road.

Poor=The site may require traffic signals and/or pedestrian overpasses in addition to walkway/shoulder improvements.

iii. Automobile Access:

Good=The site has roadways along one short side and one long side.

Fair=The site has roadways along one long side or two short sides.

Poor=The site has a roadway only along one short side.

iv. Bus Service:

Good=The site is served by a major public bus line running through the service area.

Fair=A major public bus line passes within reasonable (0.5 mile) distance of the site.

Poor=No public bus service is available.

v. Traffic Flow:

Good=The site is proximate to a major roadway (highway) passing through the service area.

Fair=The site is adjacent to a secondary through street.

Poor=Access to the site is via a dead end street.

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2. Community Criteria

a. Government

State Land Use District Map Designation:

Good=The site is within the Urban District.

Fair=The site is within the Rural District.

Poor=The site is in a Agricultural or Conservation District.

b. Community Effects:

i. Interference with Institutions:

Good=The site is greater than 0.5 mile from hospitals, rest homes, and any other institutions which may be disturbed by large groups of students.

Fair=The site is far enough away (0.25 to 0.5 mile) from any hospital, rest home, etc., so that any disturbance to the institution by the activities of the proposed school will be minimal.

Poor=The site is adjacent to a hospital, rest home, or similar institution which may be disturbed by the activities of the proposed school.

ii. Existing Land Use: (In changing the existing use of the site to school use, there should be a minimal amount of disruption to the existing pattern of living within the community.)

Good=The site is vacant and unused.

Fair=The site is being used for government agencies or institutions.

Poor=The site is being used for agriculture, residences, or private businesses.

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iii. Proximity to Commercial Centers:

Good=The site is more than a half mile from those commercial enterprises (bowling alleys, video arcades, pool halls, stores, etc.) that may attract students during school hours.

Fair=The site is reasonably far (0.25 to 0.5 mile) from potentially distracting commercial enterprises.

Poor=The site is an aesthetic asset to the community or will obstruct scenic vistas when it is developed as a school.

iv. Location:

Good=The site is within reasonable walking distance (0.75 mile of 75% of the students).

Fair=The site is within reasonable walking distance of 50% of the students.

Poor=The site is less than a quarter of a mile from potentially distracting commercial enterprises.

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Appendix B: Site Evaluations

Characteristics of each candidate site, such as: natural environment, infrastructure, and accessibility; State land use policies and the anticipated effects of the proposed action on the community were objectively evaluated, and rated according to quality: "Poor," "Good," or "Fair" relative to school site and community criteria. Each of the three grades was assigned a numerical rating of one (1), and the cumulative totals for each site were then calculated and compared. The following section describes the results of the site evaluation.

A. School Site and Community Criteria Results.

1. North Scheme:

a. School Site Criteria Rank

Environmental Characteristics:

- \* Highway Noise  
Distance from highway/truck route: 170 feet Poor
- \* Aircraft Noise  
Outside the 55 Ldn Noise Contour Good
- \* Industrial and Agricultural Nuisances  
Degree of effect: The site is free from industrial and agricultural nuisances. Good
- \* Rainfall  
Average Annual Rainfall: 75 inches. Poor
- \* Foundation  
Lava bedrock Good
- \* Soil Poor  
Description: Well-drained, thin, organic, and underlain by Pahoehoe lava bedrock.
- \* Natural Beauty Good  
Existing trees, plants, rock formations: overgrown pasture land.

RATING TOTALS

Good 4  
Fair 0  
Poor 3

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Roads and Utilities:

- \* Adequacy of Roads Fair  
The site is served by Mamalahoa Hwy (2 lane, 24' wide paved road), which has a right-of-way width of 50'
- \* Adequacy of Water Supply Fair  
Currently, there is an 8" line, however, system upgrade may be required.
- \* Adequacy of Sewer Service Fair  
Site has cesspools, but proposed expansion will require a new system.
- \* Adequacy of Drainage Facilities Good  
Manmade drainage systems will be designed in conjunction with natural drainage systems.
- \* Adequacy of Power and Communications Good  
Adequate existing power.

RATING TOTALS  
Good 2  
Fair 3  
Poor 0

Accessibility:

- \* Pedestrian Access Poor  
Number of sides access is available: 1
- \* Pedestrian Safety Good  
Existing conditions: There are adequately paved walkways/shoulders on Mamalahoa Highway.
- \* Automobile Access Fair  
Existing Conditions: Mamalahoa Hwy runs along one long side of the school grounds.
- \* Bus Service Poor  
Service Availability: There is no public bus service in Kona.

- 
- \* Traffic Flow Good  
Existing conditions: The site is adjacent to Mamalahoa Hwy.

RATING TOTALS  
Good 2  
Fair 1  
Poor 2

b. Community Criteria Rating

Government:

- \* State Land Use District Map Poor  
Designation  
District Designation: Agriculture District
- \* County General Plan Designation Poor  
General Plan Designation:  
Extensive Agriculture
- \* County Zoning Designation Poor  
Zoning Designation: Unplanned

RATING TOTALS  
Good 0  
Fair 0  
Poor 3

Community Effects:

- \* Interference with Institutions Good  
Great distance from hospitals, rest homes, etc.
- \* Existing Land Use Good  
Present use: Vacant and unused
- \* Proximity to Commercial Centers Good  
Distance from commercial centers: more than 1/2 mile
- \* Aesthetic Value Good  
The site is an aesthetic asset to the community: Yes  
Site development will obstruct scenic vistas: No

---

*	Location Proximity less than 1/4 mile to potentially distracting commercial enterprises.	Poor
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RATING TOTALS	
Good	4
Fair	0
Poor	1

2. South Scheme:

a.	<u>School Site Criteria</u>	<u>Rating</u>
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Environmental Characteristics:

*	Highway Noise Distance from highway/truck route: 170 feet	Poor
*	Aircraft Noise Outside the 55 Ldn Noise Contour	Good
*	Industrial and Agricultural Nuisances Degree of effect: The site is free from industrial and agricultural nuisances.	Good
*	Rainfall Average Annual Rainfall: 75 inches.	Poor
*	Foundation Lava bedrock	Good
*	Soil Description: Well-drained, thin, organic, and underlain by Pahoehoe lava bedrock.	Poor

- 
- \* Natural Beauty Good  
Existing trees, plants, rock formations:  
overgrown pasture land.

RATING TOTALS  
Good 4  
Fair 0  
Poor 3

Roads and Utilities:

- \* Adequacy of Roads Fair  
The site is served by Mamalahoa Hwy  
(2 lane, 24' wide paved road), which  
has a right-of-way width of 50'
- \* Adequacy of Water Supply Fair  
Currently, there is an 8" line, however,  
system upgrade may be required.
- \* Adequacy of Sewer Service Fair  
Site has cesspools, but proposed  
expansion will require a new system.
- \* Adequacy of Drainage Facilities Good  
Manmade drainage systems will be  
designed in conjunction with natural  
drainage systems.
- \* Adequacy of Power and  
Communications Good  
Adequate existing power.

RATING TOTALS  
Good 2  
Fair 3  
Poor 0

Accessibility:

- \* Pedestrian Access Poor  
Number of sides access is available: 1
- \* Pedestrian Safety Good  
Existing conditions: There are  
adequately paved walkways/shoulders  
on Mamalahoa Highway.

- 
- \* Automobile Access Fair  
Existing Conditions: Mamalahoa Hwy runs along one long side of the school grounds.
  - \* Bus Service Poor  
Service Availability: There is no public bus service in Kona.
  - \* Traffic Flow Good  
Existing conditions: The site is adjacent to Mamalahoa Hwy.

RATING TOTALS  
Good 2  
Fair 1  
Poor 2

b. Community Criteria Rating

Government:

- \* State Land Use District Map Designation Poor  
District Designation: Agriculture District
- \* County General Plan Designation Poor  
General Plan Designation: Extensive

Agriculture:

- \* County Zoning Designation Poor  
Zoning Designation: Unplanned

RATING TOTALS  
Good 0  
Fair 0  
Poor 3

Community Effects:

- \* Interference with Institutions Good  
Great distance from hospitals, rest homes, etc.
- \* Existing Land Use Good  
Present use: Vacant and unused

- 
- \* Proximity to Commercial Centers                      Good  
Distance from commercial centers:  
more than 1/2 mile
  - \* Aesthetic Value    Good  
The site is an aesthetic asset to the  
community: Yes  
Site development will obstruct  
scenic vistas: No
  - \* Location    Poor  
Proximity less than 1/4 mile to  
potentially distracting commercial  
enterprises.

RATING TOTALS  
Good 4  
Fair 0  
Poor 1

3. West Scheme:

a. School Site Criteria    Rating

Environmental Characteristics:

- \* Highway Noise    Poor  
Distance from highway/truck  
route: 170 feet
- \* Aircraft Noise    Good  
Outside the 55 Ldn Noise Contour
- \* Industrial and Agricultural Nuisances                      Good  
Degree of effect: The site is free from  
industrial and agricultural nuisances.
- \* Rainfall    Poor  
Average Annual Rainfall: 75 inches.
- \* Foundation    Good  
Lava bedrock
- \* Soil    Poor  
Description: Well-drained, thin, organic,  
and underlain by Pahoehoe lava bedrock.

- 
- \* Natural Beauty Good  
Existing trees, plants, rock formations:  
overgrown pasture land.

RATING TOTALS  
Good 4  
Fair 0  
Poor 3

Roads and Utilities:

- \* Adequacy of Roads Fair  
The site is served by Mamalahoa Hwy  
(2 lane, 24' wide paved road), which  
has a right-of-way width of 50'
- \* Adequacy of Water Supply Fair  
Currently, there is an 8" line, however,  
system upgrade may be required.
- \* Adequacy of Sewer Service Fair  
Site has cesspools, but proposed  
expansion will require a new system.
- \* Adequacy of Drainage Facilities Good  
Manmade drainage systems will be  
designed in conjunction with natural  
drainage systems.
- \* Adequacy of Power and  
Communications Good  
Adequate existing power.

RATING TOTALS  
Good 2  
Fair 3  
Poor 0

Accessibility:

- \* Pedestrian Access Poor  
Number of sides access  
is available: 1
- \* Pedestrian Safety Good  
Existing conditions: There are  
adequately paved walkways/shoulders  
on Mamalahoa Highway.



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*	Existing Land Use Present use: Vacant and unused	Good
*	Proximity to Commercial Centers Distance from commercial centers: more than 1/2 mile	Good
*	Aesthetic Value The site is an aesthetic asset to the community: Yes Site development will obstruct scenic vistas: No	Good
*	Location Proximity less than 1/4 mile to potentially distracting commercial enterprises.	Poor

RATING TOTALS  
 Good 4  
 Fair 0  
 Poor 1

B. Tables Summarizing Qualitative Assessment

1. Qualitative Assessment of School Site

Table 17.

<b>SCHOOL SITE CRITERIA QUALITATIVE EVALUATION</b>			
<b>SCHOOL SITE CRITERIA</b>	<b>North Scheme</b>	<b>West Scheme</b>	<b>South Scheme</b>
<u>Environment</u>			
Highway	Poor	Poor	Poor
Aircraft	Good	Good	Good
Industrial	Good	Good	Good
Rainfall	Poor	Poor	Poor
Foundation	Good	Good	Good
Soil (Lava)	Poor	Poor	Poor
Natural Beauty	Good	Good	Good
<u>Roadways</u>			
Adequacy	Fair	Fair	Fair
Water Service	Fair	Fair	Fair
Sewer Service	Fair	Fair	Fair
Drainage	Good	Good	Good
Power	Good	Good	Good
<u>Accessibility</u>			
Ped. Access	Poor	Poor	Poor
Ped. Safety	Good	Good	Good
Auto Access.	Fair	Poor	Fair
Bus Serv.	Poor	Poor	Poor
Traffic Flow	Good	Good	Good

2. Qualitative Assessment of Community

Table 18.

<b>COMMUNITY CRITERIA QUALITATIVE EVALUATION</b>			
<b>COMMUNITY CRITERIA</b>	<b>North Scheme</b>	<b>West Scheme</b>	<b>South Scheme</b>
<u>Government</u>			
State Land Use	Poor	Poor	Poor
County Gen.	Poor	Poor	Poor
County Zoning	Poor	Poor	Poor
<u>Community Effects</u>			
Institutions	Good	Good	Good
Existing Land	Good	Good	Good
Proximity to Comm. Ctr.	Good	Good	Good
Aesthetic Value	Good	Good	Good
Location	Poor	Poor	Poor

C. Tables Summarizing Quantitative Ratings

1. Quantitative Assessment of School Site

Table 19.

<b>SCHOOL SITE CRITERIA QUANTITATIVE EVALUATION</b>			
	<u>North Scheme</u>	<u>South Scheme</u>	<u>West Scheme</u>
<u>SCHOOL SITE EVALUATION</u>			
<u>Environmental</u>			
Good	4	4	4
Fair	0	0	0
Poor	3	3	3
<u>Roadway &amp; Utilities</u>			
Good	2	2	2
Fair	3	3	3
Poor	0	0	0
<u>Accessibility</u>			
Good	2	2	2
Fair	1	1	0
Poor	2	2	3
<u>Totals</u>			
Good	8	8	8
Fair	4	4	3
Poor	5	5	6

2. Quantitative Assessment of Community

Table 20.

<b>COMMUNITY CRITERIA QUANTITATIVE EVALUATION</b>			
	<u>North Scheme</u>	<u>South Scheme</u>	<u>West Scheme</u>
<u>COMMUNITY EVALUATION</u>			
<u>Governmental</u>			
Good	0	0	0
Fair	0	0	0
Poor	3	3	3
<u>Community Effects</u>			
Good	4	4	4
Fair	0	0	0
Poor	1	1	1
<u>Totals</u>			
Good	4	4	4
Fair	0	0	0
Poor	4	4	4

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Appendix C: Cost Considerations

ON-SITE DEVELOPMENT / SITE WORK

NORTH SCHEME - Site 1					
DESCRIPTION	QTY	UNIT	UNIT PRICE	SUB TOTAL	TOTAL
CLEAR & GRUB	8.89	ACRE	2,400		22,000
BORROW	54,800	CY	40		2,192,000
EXCAVATION (lava bedrock)	23,500	CY	30		705,000
4-inch domestic line	990	LF	60	59,400	
12-inch fireline	820	LF	150	123,000	
Domestic Meter Connection	1	EA	4,000	4,000	
Detector Check Meter	1	EA	6,000	6,000	
Fire Hydrant and Connection	2	EA	4,500	9,000	
<b>TOTAL WATER SYSTEM</b>					<b>202,000</b>
8-inch pipe	1,050	LF	75	78,750	
Manhole	4	EA	8,000	32,000	
Cleanout to Grade	5	EA	500	2,500	
Factory Built Sewage Treatment Plant & Leaching Field for Effluent Disposal	1	EA	150,000	150,000	
<b>TOTAL SEWER SYSTEM</b>					<b>264,000</b>
18-inch pipe	80	LF	125	10,000	
Catch Basin	2	EA	6,600	13,200	
Drywell	12	EA	15,000	180,000	
<b>TOTAL DRAINAGE SYSTEM</b>					<b>204,000</b>
RETAINING WALL (H = 0' to 10')	1,310	LF	300		393,000
STAIRS/RAMPS W/ RAILINGS	850	LF	500		425,000
ROADWAY/PARKING	4,370	SY	45		197,000
<b>SUBTOTAL</b>					<b>4,604,000</b>
20% DESIGN CONTINGENCY					921,000
<b>TOTAL FOR PROPOSED PROJECT</b>					<b>5,525,000</b>

ON-SITE DEVELOPMENT / SITE WORK

SOUTH SCHEME - Site 2					
DESCRIPTION	QTY	UNIT	UNIT PRICE	SUB TOTAL	TOTAL
CLEAR & GRUB	7.63	ACRE	2,400		19,000
BORROW	64,900	CY	40		2,596,000
EXCAVATION (lava bedrock)	15,000	CY	30		450,000
4-inch domestic line	870	LF	60	52,200	
12-inch fireline	410	LF	150	61,500	
Domestic Meter Connection	1	EA	4,000	4,000	
Detector Check Meter	1	EA	6,000	6,000	
Fire Hydrant and Connection	2	EA	4,500	9,000	
TOTAL WATER SYSTEM					133,000
8-inch pipe	1,370	LF	75	102,750	
Manhole	4	EA	8,000	32,000	
Cleanout to Grade	6	EA	500	3,000	
Factory Built Sewage Treatment Plant & Leaching Field for Effluent Disposal	1	EA	150,000	150,000	
TOTAL SEWER SYSTEM					288,000
18-inch pipe	0	LF	125	0	
Catch Basin	0	EA	6,600	0	
Drywell	10	EA	15,000	150,000	
TOTAL DRAINAGE SYSTEM					150,000
RETAINING WALL (H = 0' to 10')	1,740	LF	300		522,000
STAIRS/RAMPS W/ RAILINGS	840	LF	500		420,000
ROADWAY/PARKING	3,480	SY	45		157,000
SUB TOTAL					4,735,000
20% DESIGN CONTINGENCY					947,000
TOTAL FOR PROPOSED PROJECT					5,682,000

ON-SITE DEVELOPMENT / SITE WORK

WEST SCHEME - Site 3					
DESCRIPTION	QTY	UNIT	UNIT PRICE	SUB TOTAL	TOTAL
CLEAR & GRUB	7.58	ACRE	2,400		19,000
BORROW	131,000	CY	40		5,240,000
EXCAVATION (lava bedrock)	6,400	CY	30		192,000
4-inch domestic line	1,350	LF	60	81,000	
12-inch fireline	990	LF	150	148,500	
Domestic Meter Connection	1	EA	4,000	4,000	
Detector Check Meter	1	EA	6,000	6,000	
Fire Hydrant and Connection	6	EA	4,500	27,000	
<b>TOTAL WATER SYSTEM</b>					<b>267,000</b>
8-inch pipe	1,100	LF	75	82,500	
Manhole	3	EA	8,000	24,000	
Cleanout to Grade	7	EA	500	3,500	
Factory Built Sewage Treatment Plant & Leaching Field for Effluent Disposal	1	EA	150,000	150,000	
<b>TOTAL SEWER SYSTEM</b>					<b>260,000</b>
18-inch pipe	0	LF	125	0	
Catch Basin	0	EA	6,600	0	
Drywell	10	EA	15,000	150,000	
<b>TOTAL DRAINAGE SYSTEM</b>					<b>150,000</b>
RETAINING WALL (H = 0' to 10')	1,070	LF	300		321,000
STAIRS/RAMPS W/ RAILINGS	205	LF	500		103,000
ROADWAY/PARKING	4,715	SY	45		213,000
<b>SUBTOTAL</b>					<b>6,765,000</b>
20% DESIGN CONTINGENCY					1,353,000
<b>TOTAL FOR PROPOSED PROJECT</b>					<b>8,118,000</b>

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Appendix D: Archaeological Inventory Survey

**ARCHAEOLOGICAL INVENTORY SURVEY AT THE  
HO'OKENA SCHOOL SITE TMK: 8-6-10-2 (por.)  
KAUHAKO AHUPUA'A, SOUTH KONA DISTRICT  
ISLAND OF HAWAII  
SEPTEMBER 1994**

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ARCHAEOLOGICAL INVENTORY SURVEY AT THE  
HO'OKENA SCHOOL SITE TMK:8-6-10:2 (POR.);  
KAUHAKO AHUPUA'A, SOUTH KONA DISTRICT, ISLAND OF HAWAII

INTRODUCTION

At the request of Wil Chee Planning, Archaeological Consultants of Hawaii, Inc. (ACH) conducted a preliminary walk-through examination of two parcels on either side of the existing Ho'okena School, in the ahupua'a of Kauhako, South Kona, Island of Hawaii, TMK:8-6-10:2(por.). Subsequently, the Department of Land and Natural Resources, State Historic Preservation Division (DLNR-SHPD) required additional investigations at cave sites located on the property (the results of which are reported in the supplementary report at the end of this document). As a result, 7 sites comprised of 12 features were identified.

EXECUTIVE SUMMARY

An area comprising nearly eighteen acres was surveyed to determine if archaeological features are present. A total of 12 were located. Nine of these features are located south of the present location of Ho'okena School. Seven of these (Features 19736:A, B, & C and 19738:A, B, C & D) have been associated with historic habitation during the twentieth century or with municipal buildings known to have once occupied the subject property. A cave opening (State Site #18001) located in the makai portion of the southern survey area has clearly been utilized during the historic period, but may have been in use during precontact times as well. One of the features (State Site #19737) may represent historic or prehistoric agricultural practices. In the northern survey area three archaeological features are present (State Site #'s 19733, 19734 & 19735). Because the northern parcel was not selected for improvements, these sites were only given a cursory examination. Also, a depression and crack were identified in the northern parcel and, according to informant testimony, may have contained a cave opening. After examination this area was determined not to be a site.

## PHYSICAL SETTING

The survey area lies at approximately 260 meters above mean sea level (AMSL), approximately one mile from the shoreline, in the ahupua'a of Kauhako, South Kona, Hawaii (see Map 1). The area under consideration lies on the west, or makai side of Mamalahoa Highway, and consists of two parcels on either side of the existing Ho'okena School and a connecting parcel. Encompassing a total of nearly eighteen acres, the survey area is divided into three areas: 1) a parcel north of the school; 2) a parcel south of the school; 3) a narrow strip, makai and downslope of the school, linking the two main parcels (see Map 2).

The north parcel combined with the narrow makai strip encompasses nearly 15 acres of gently sloping terrain dominated by dense grasses, christmas berry (Schinus terebinthifolius), haole koa (Leucaena glauca), morning glory (Ipomoea sp.), scattered mango (Mangifera indica) and monkeypod (Samanea saman). Approximately two thirds of the south parcel lies under a canopy of mango, monkeypod, breadfruit (Artocarpus communis), silver oak (Grevilla robusta), and avocado (Persea americana) with an under-story of wild coffee (Coffea arabica) and common ginger (Hedychium sp.). Approximately one third of this south parcel is completely dominated by grass on gently sloping terrain. Soils on the subject property are described by Sato et al. as Rough Broken Land (RB) which is used for pasture, wildlife habitat, and recreational areas. Rainfall for the subject property is approximately 75 inches a year.

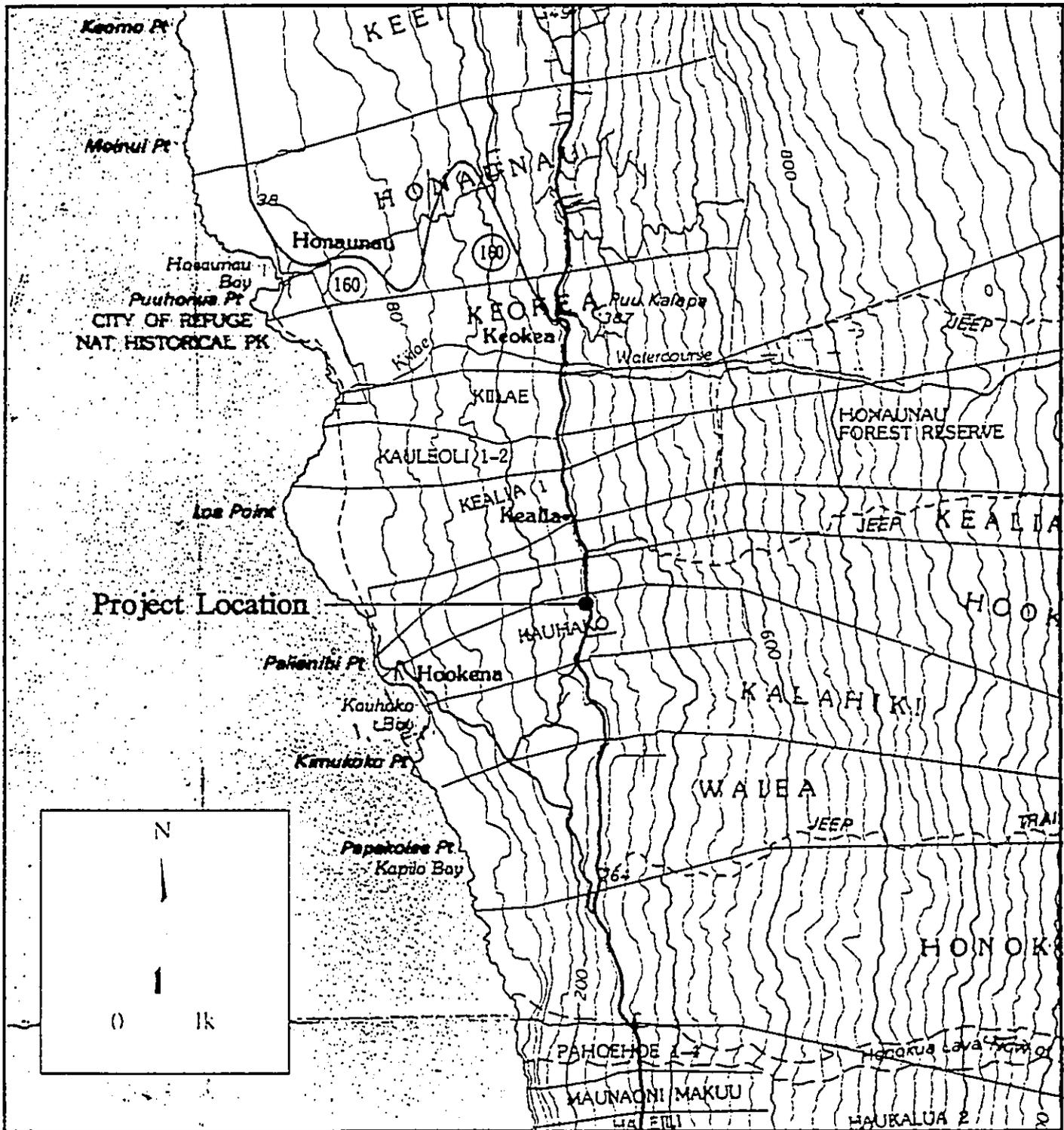
## LAND USE HISTORY

The project area lies within the ahupua'a of Kauhako, in the district of South Kona. Kauhako is similar in shape to a number of other ahupua'a in South Kona; it's not a typical pie-shaped land unit extending from the sea to the mountains, but rather a short wedge, extending from the northern half of Kauhako Bay on the sea, inland to an altitude of approximately 560m AMSL. It is bordered by Ho'okena on the north and Kalahiki on the south; both of these ahupua'a reach inland to an altitude of 1840m AMSL where Ka'u District commences.

European contact in South Kona began in 1779 when Captain Cook and his ships anchored in Kealakekua Bay. John Ledyard and Lt. Samwell both left written descriptions of the agricultural field system inland from Kealakekua Bay. They traveled inland by foot and found plantains, breadfruit, taro, sweet potato, sugar cane, and cloth plants under intense cultivation (Beaglehole 1967). In 1793, Vancouver's expedition made the first contact with Honaunau and its pu'unonua (city of refuge).

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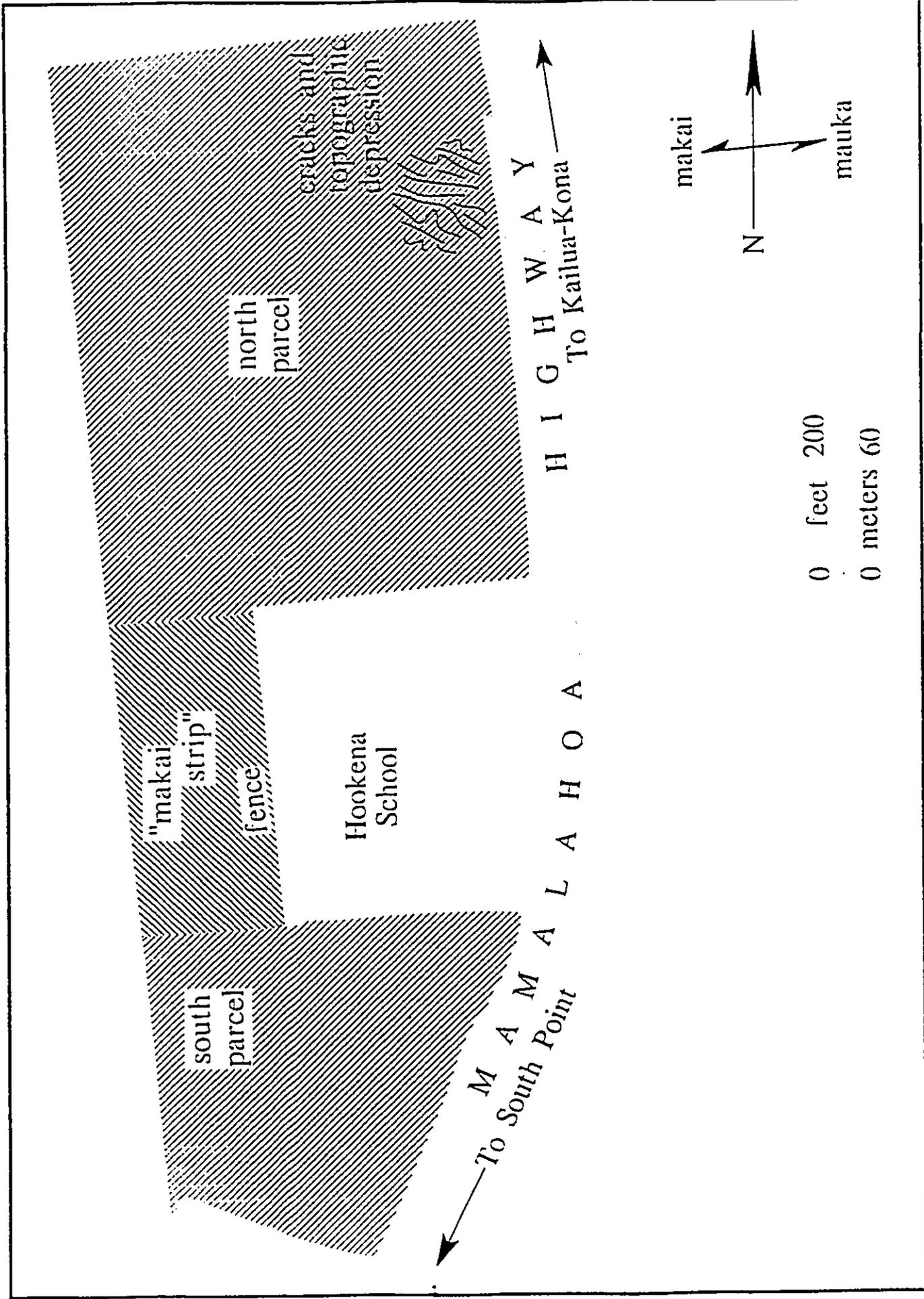
Map 1: Project Location on a U.S.G.S. Topographic Map



TMK: 8-6-10:2(por.) Kauhako Ahupua'a source: Hawaii County Map Series (Topographic) sheet 3 of 3, 1980

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MAP 2: Survey Areas: Hookena School Site



Missionaries Ellis, Thurston, Goodrich and Harwood passed through South Kona on their tour around Hawai'i Island in 1823. Ellis had the following to say about the District:

Kona is the most populous of the six great divisions of Hawaii, and being situated on the leeward side, would probably have been the most fertile and beautiful part of the island, had it not been overflowed by floods of lava. The northern part, including Kailua, Kealakekua, and Honaunau, contains a dense population; and the sides of the mountains are cultivated to a considerable extent; but the southern part presents a most inhospitable aspect. The population is thin, consisting principally of fishermen, who cultivate but little land, and that at the distance of from five to seven miles from the shore (Ellis 1961:186).

From Kailua, they traveled south, and spent evenings in Honaunau and Keokea before moving on to Kalahiki (just south of Kauhako). In Honaunau, the group had poor accommodations; hogs and dogs were running freely in and out of their hut. They traveled another half a mile to Keokea where their host, their guide, and a houseful of Hawaiians were all drunk on fermented sweet potato juice. Another half a mile south of Keokea, they encountered "a piece of lava fifty to sixty ft. high, which had flowed over the edge of a perpendicular pile of ancient volcanic rocks, 60 to 70 ft. high" (Ellis 1961:171). They noticed that it held a number of caverns and tunnels and that the mouths of some were walled up with stones,

... we supposed they were used as sepulchres. Mats, spread upon the slabs of lava, calabashes, etc. indicated some of them to be the habitations of men; others, near the openings, were used as workshops, where women were weaving mats, or beating cloth. Some, we also saw, were used as storehouses, or depositories, of sandalwood. In many places the water filtered through the lava, and around the spots where it had dropped on the ground, we observed a quantity of fine white spear-shaped crystals, of a sharp nitrous taste (Ellis 1961:173).

From this inland route over the lava flows they returned to the seashore, from which point Ellis and Harwood went by canoe, while their companions took the "tedious and often difficult" path along the shore. Their attention had been attracted by a number of apertures in the face of the rocks,

... looking like tunnels from which streams of lava had gushed out. They passed through two villages, containing between three and four hundred inhabitants,

and reached Kalahiti about four in the afternoon (Ellis 1961:174).

They left Kalahiki the next morning and sailed along an "iron-bound" coast, (steep rocks of porphyritic lava), to Kapua, a "small and desolate looking village" where they had to go 7 miles into the mountains for fresh water.

Our whole company had suffered much from thirst, and the effects of the brackish water we had frequently drunk since leaving Honaunau (Ellis 1961:186).

Only a handful of kuleana awards were claimed in the ahupua'a of Kauhako. Based upon the information contained in the Land Board of Commissioners to Quiet Land Titles' Native and Foreign Registers and Testimonies (State Archives), general settlement patterns for the mid-nineteenth century may be interpolated. Claims in the ahupua'a of Ho'okena and Kauhako were sometimes mixed; taro and sweet potato were being grown in both places. In the village of Ho'okena on the northern side of Kauhako Bay, claims were made for houselots and garden plots (see Map 3). Claims were also made near the present day S. Kona Belt Road, for taro, sweet potatoes, a kou tree, a cultivated kula, breadfruit, and one house lot.

A number of historic maps of part of Kauhako were located at the State Survey Office and contain information about land use in the late nineteenth and early twentieth century. A map of Kauhako Landing and Vicinity (surveyed by J.S. Emerson in May 1883) shows the village of Ho'okena gathered around the Kauhako Landing on the shore. A church, a stone school, a frame school house, a courthouse, two stores, and quite a few residences are designated on this map. The land appears to be divided into kuleana which extend up to the edge of the pali. A spring, a tomb, and a pigpen are also shown.

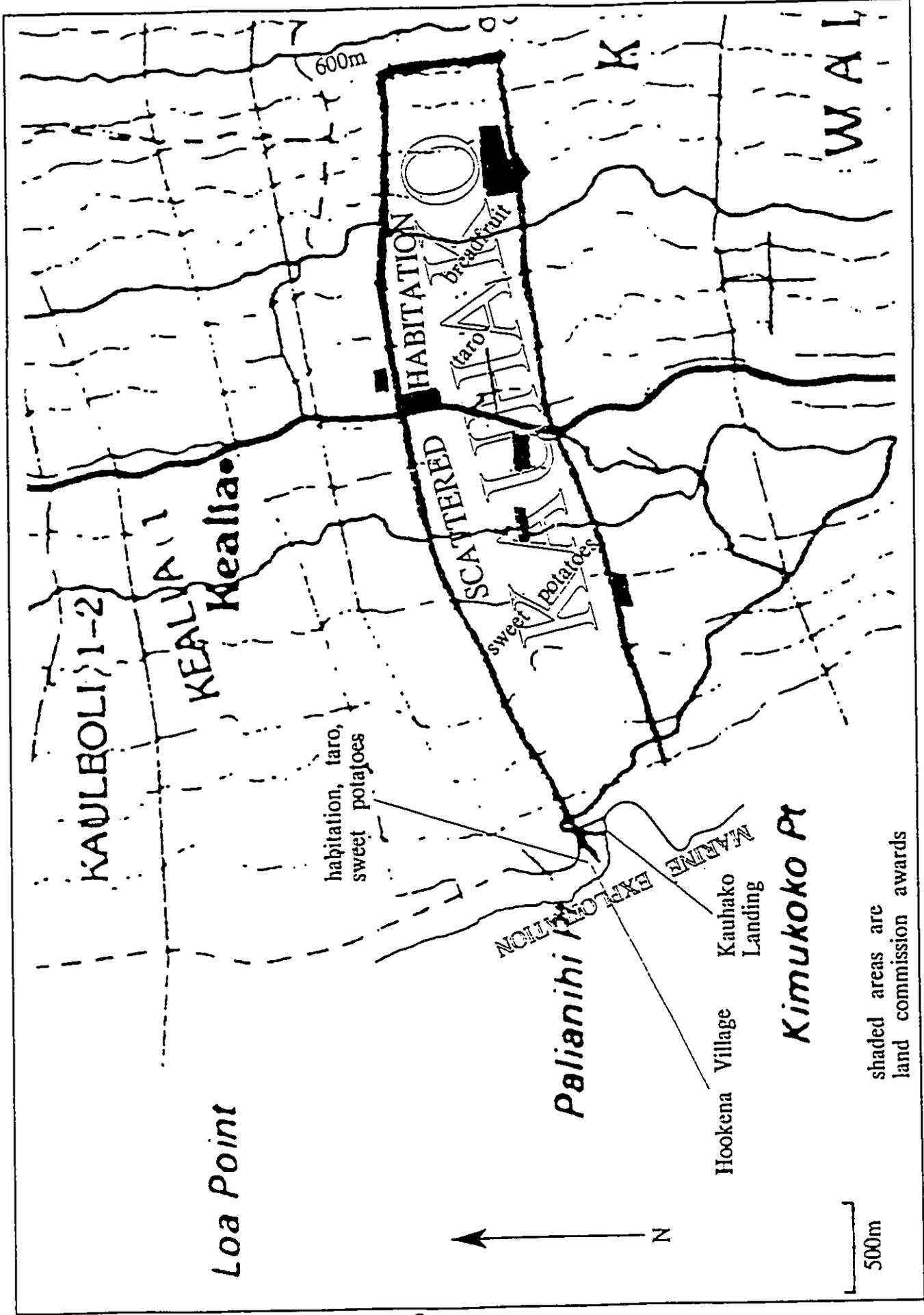
Walter A. Wall's 1895 survey of the Honaunau section of South Kona shows the borders of Kauhako. There are four ahu designated on the border of Kauhako and Kalahiki, a kukui tree on the southeastern corner, another ahu on the northeastern corner, and the eastern (mauka) border is defined by the "edge of heavy woods".

A 1906 map of Ho'okena School Lot (Walter Wall survey) shows the boundaries a school lot of 7.43 acres extending from the border of land grants 1454 (W. Johnson) and 2026 (Kaheana) on the west (makai) to the government road on the east (mauka). In the northeastern part of the lot, a school and a cottage are shown (see Map 4).

Handy and Handy (1972) described gardening practices in South Kona in the early part of this century. They described

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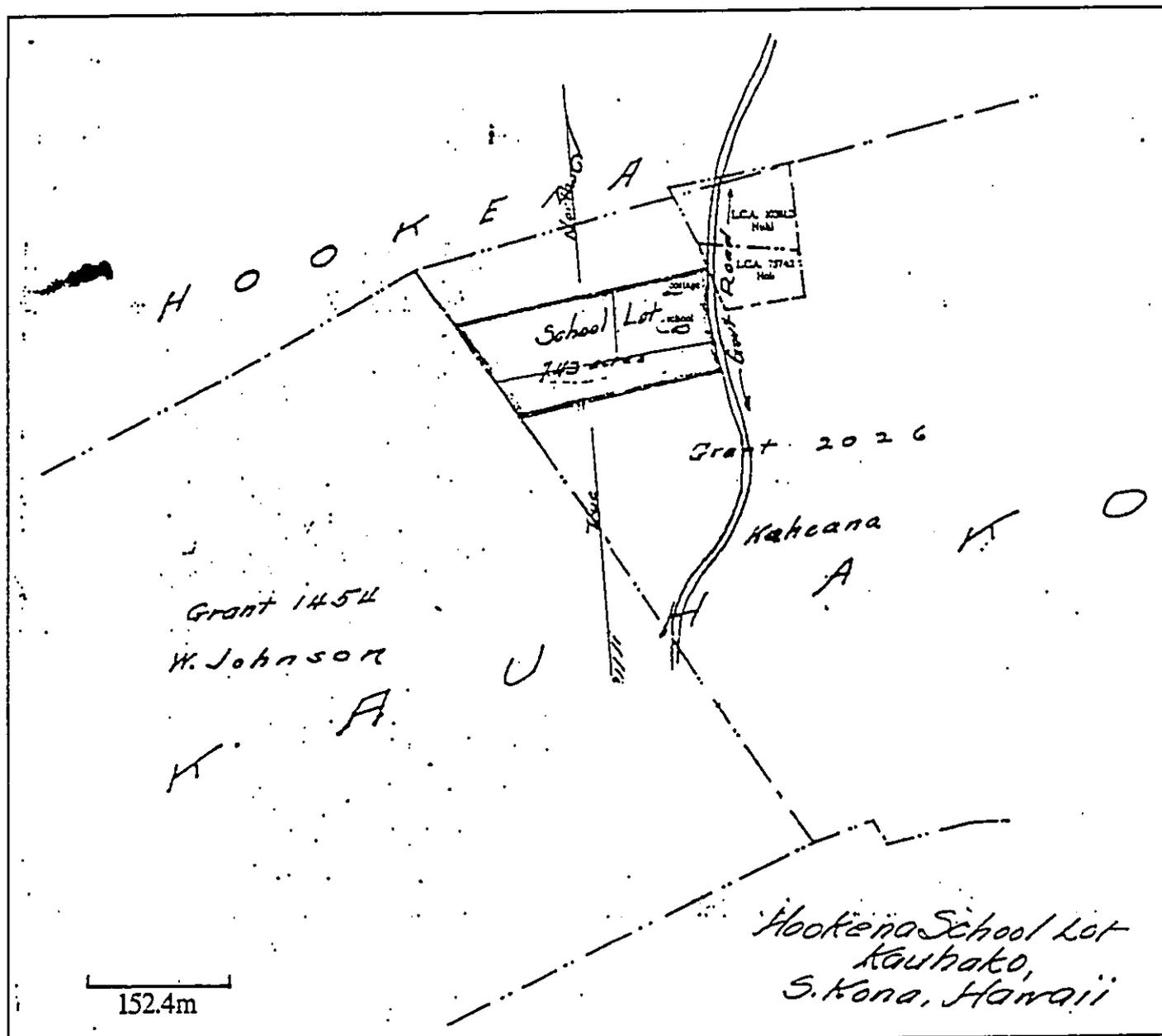
MAP 3: Map of Land Use in Kauhako Circa 1850



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MAP 4: Map of Hookena School Lot Circa 1900



Hawaii Territory Survey-Walter Wall  
Hookena School Lot-Kauhako S. Kona HI  
being part of Grant 2026 to Kaheana

Archaeological Consultants of Hawaii, Inc. 1991

the extensive sweet potato, banana, and breadfruit plantations in Kealakekua.

In the time of intensive native cultivation, South Kona was planted in zones determined by rainfall and moisture. Near the dry seacoast potatoes were grown in quantity, and coconuts where sand or soil among the lava near the shore favored their growth. Up to 1,000 feet grew small bananas which rarely fruited, and poor cane; from 1,000 to 3,000 feet, they prospered increasingly. From approximately 1,000 to 2,000 feet, breadfruit flourished (Handy and Handy 1972:524).

This Kealakekua field system has been described by many ethnographers, botanists, and archaeologists (Beaglehole 1967, Menzies 1920, Ellis 1969, Newman 1970, Schilt 1984, and others). Its boundaries were defined by environmental limitations including soil and rainfall. The southern boundary of the field system extended as far as the ahupua'a of Honaunau, approximately three and a half miles north of the project area (Newman 1970:map 12).

Handy and Handy also discussed sweet potato and taro cultivation in the area around Kauhako:

Kona, like eastern Maui, with its decomposing lava mixed with humus and with intermittent rainfall which soaks away quickly in the porous soil and rock, is ideal for sweet-potato cultivation. Sweet potatoes were the staple in lowland localities where there was sand soil, as at Kailua, Honaunau, Kealia, and Ho'okena (Handy and Handy 1973:526).

... Today sweet potatoes are planted by many Hawaiians living along the coast of Kona, either in the sandy soil near the shore at places like Ho'okena, Kealia, and Honaunau, or in spots where there is sufficient soil in the midst of dry lava. Two sizable plantations were seen at various points both above and below the belt road in North and South Kona at altitudes of 1,800 feet. On the plantations in which taro, sugar cane, and bananas were still grown in the higher plantation zone up to altitudes of more than 2,000 feet, no sweet potatoes were seen (Handy and Handy 1973:527).

Taro was planted dry from an altitude of 1,000 to approximately 3,000 feet. An old method of planting taro in Kona, described to us by Lakalo at Ho'okena, was to plant the cuttings in the lower, warmer zone where they would start to grow quickly and then to transplant them to the higher forest zone where the soil was rich and deep and where moisture was ample for

their second period of growth, in which their corms are said to have developed to an average of 25 pounds each.

At an altitude of about 2,300 feet in Kealia there was in 1931 an old-style upland taro plantation corresponding exactly to descriptions by the early voyagers, with the flourishing taro planted in twos and threes in holes in even lines, spaced about 4 feet apart, the surface covered with a mulch of dried ama'u fern.

The borders of the patches were marked by zones of rock thrown up out of the field, on top of and along the sides of which were clumps of native sugar cane. Hawaiian bananas were planted here and there between the taro fields (Handy and Handy 1972:524).

Land in South Kona was used as pasturage for cattle in the late nineteenth and early twentieth century. As stated below in the section on informant testimony, stone wall enclosures were constructed around a courthouse, a jailhouse, and a cottage, in order to keep cattle out. The McCandless Ranch chained and bulldozed a portion of the project area in 1952.

This is confirmed by Handy and Handy:

The walls (pa aina), seen today in Kona lowlands running across old boundary lines, were built to keep cattle out of the planting areas after they became a pest early in the 19th century (Handy and Handy 1973:527).

#### PREVIOUS ARCHAEOLOGY

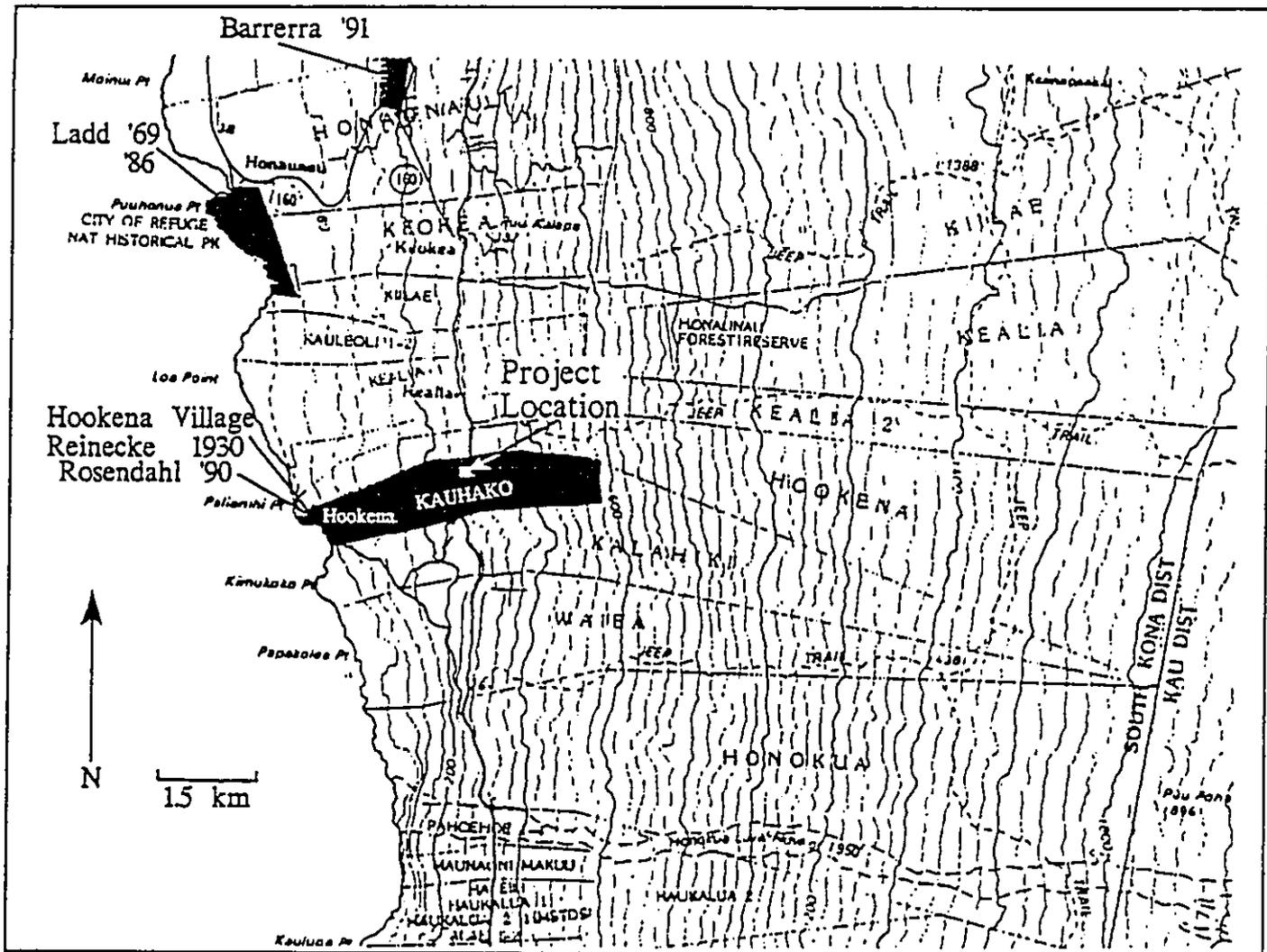
Early archaeology in South Kona was conducted by Stokes in 1906, and Reinecke in 1930. Ho'okena village in Kauhako was designated as Site 36.

Ho'okena village, "is compactly built, being wedged in by the pali. The vacant lots mostly show house platforms or other signs of occupancy within the past half century. Hookena must have contained some 50-75 dwellings. Now many houses are deserted" (Reinecke Ms., as quoted in Rosendahl 1990:1).

In the 1970's and 80's, archaeological surveys and testing has been limited in South Kona (see Map 5). The area has not been developed as rapidly as the area of North Kona. Much work has been done by Ladd and others in the Pu'uhooua O Honaunau National Historical Park. The pu'uhooua ("place of refuge") and the religious and residential features surrounding it have been extensively studied and preserved.

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MAP 5: Map of Previous Archaeology Around the Project Area



This work has been very well documented and summarized in a series of papers and reports (See Ladd 1969 & 1986, Kirch 1985, Bryan and Emory 1986, and others).

Ki'ilae village in Ki'ilae and Kealia ahupua'a was also included in this National Park study, and was found to contain a small craft landing, house compounds (pahale), burials, a holua slide, an 1871 horse trail, walls, terraces, platforms, and animal pens. Vault, platform, house, crevice, and crypt grave types were also found (Ladd 1986).

At Kapua, eighteen miles south of the project area, Rosendahl identified a large number of prehistoric features and complexes. He recorded residential features and complexes, including walled shelters and other structures, terraces, platforms, and caves; agricultural complexes including walled enclosures (pens), gardens, clearings, mounds, terraces, alignments, modified outcrops, and windbreaks; burial mounds, platforms, and modified outcrops; foot trails, cairns; religious heiau and shrines, a holua slide, a refuge cave, and a number of historic features. (Rosendahl 1983 & 1984)

In 1990, Rosendahl performed an archaeological reconnaissance survey in Ho'okena, 120m from the coastline, near the shore of Kauhako Bay. The parcel surveyed was a proposed single family dwelling. There had been a house lot on the property during the time of the Mahele. The property had been bulldozed before the archaeological survey was conducted. Stone walls were found and interpreted to be of historic (post 1840's) period construction (boundaries of LCA 7034:1). Shell midden and historic artifact materials (ceramics, glass) were found, but no prehistoric portable artifacts.

The most recent archaeological work conducted in the area was that of Barrera in Honaunau (1991). The project area was 1.5 miles from the ocean at an altitude of 180 to 230m AMSL, just within the boundary of the Kona Field System. Eleven possible habitation sites were designated, seven possible graves, and a number of features of the Kona Field System.

#### SUMMARY OF LAND USE

Based upon the information summarized above, general patterns of land use in Kauhako can be estimated. Due to the relatively low rainfall, the southern portion of South Kona didn't present as ideal an environment for subsistence as did the areas further north.

The ahupua'a of Kauhako was almost certainly occupied prehistorically. Occupation probably began on the coast,

with an economy that was based on the mixed exploitation of marine resources and agriculture. Sweet potatoes would have grown in the sandy soil on the coast and been used as a staple. Although there is no evidence to suggest that the upland zone of Kauhako was used to grow sugarcane, bananas, or breadfruit in the same type of field system as was found in the ahupua'a only a mile or so north, the inland zone was probably used for growing sweet potatoes, taro, and some breadfruit. Rainfall would have been a limiting factor. Habitation seems to have been concentrated mainly on the coast, with a few residences possibly scattered inland (see Map 3).

In the mid-nineteenth century, sweet potatoes and taro were being grown in small plots both on the shore and near the project area, an altitude of approximately 260m AMSL. Later that century, cattle came to the area, and eventually became pests, leading to the widespread building of stone walls to protect garden plots from grazing. The Ho'okena school lot was established as early as 1906, and at least one cottage associated with it.

In the twentieth century, the concentration of habitation in the area around the present day Kona Belt road increased. It was a government road at the time, accessible to the village of Ho'okena as well as the towns further north. Ho'okena village continued to be a small population center.

#### INFORMANT TESTIMONY

Six persons were interviewed regarding the history of the survey area: 1) Mr. Anthony "Maui" Cambra, age 78, who resided on the south parcel from 1937 to 1954, 2) Lorraine Hashimoto Medieros, who grew up on the property south of and adjacent to the south parcel, 3) Albert Medieros, Lorraine's husband, 4) Peter Simmons, manager of McCandless Ranch 5) Mr. Alfred Medieros, who resides directly opposite the Mamalahoa Highway from the subject property, and 6) Ms. Mary Alani of the Kona Historical Society.

According to Lorraine Medieros, whom we first interviewed, the area south of Ho'okena school once had a courthouse, jailhouse, and a "teacher's cottage". Lorraine recalls having attended religious education classes as a child in the courthouse, but did not recall the exact layout of the buildings except that there was an open grassy area fronting the highway, and a set of stairs leading from the highway down into the yard of the cottage. She believed the cottage area to be in the vicinity of where a clump of areca palms (Chrysalidocarpus lutescens) now stands. She also recalled the last inhabitant of the cottage as being Mr. Sylvester Keliikipi, a police officer.

Albert Medieros added information regarding "the cottage"; he explained that when McCandless "claimed" ownership of the land immediately south of the present school site, the entire cottage was moved to its present location mauka of the highway; now the residence of Mr. Alfred Medieros. The cottage was rolled across the highway on 50 gallon drums. Albert remembers the cottage having been the school principal's house before being moved. With respect to the courthouse, Albert recalls it having been dismantled in 1967, but not before he, Henry Chock, and Richard Sato took the courthouse records to Alae School and burned them.

Mr. Anthony "Maui" Cambra added substantially to these observations. Mr. Cambra first pointed out that there were two cottages within our survey area; one cottage served as the teacher's cottage and was located directly south and adjacent to the present school, only later to be moved across the street as Albert Medieros described. The second cottage lay within the stone wall enclosure surrounding the courthouse and jailhouse. Another enclosure surrounds the former site of the teacher's cottage; Mr. Cambra stated that these walls were built "to keep the pipi [cattle] out".

According to Mr. Cambra, who came to Kona "to paddle" in 1937, he lived in the courthouse cottage from that time until 1954. He served as acting jailer until 1942, when all court and jail related activities were moved to the Old Kona Hospital site. He describes the setting of the courthouse, jailhouse and cottage as follows: From the steps coming down from the surface of the highway, you walked through a gate into an open grassy area. He states that the jailhouse was "behind the courthouse", the cottage on the left [south] side. Although shown a map of the parcel, he was not able to exactly indicate the distance of these structures from the road. He did recall that the courthouse was built "up off the ground".

Mr. Cambra also recalls the demolition of the courthouse, jailhouse, and cottage as having occurred after the county auctioned them off to "the Duwarts", who purchased the buildings in order to dismantle them for building materials. He remembers the north parcel area having been bulldozed and chained by McCandless Ranch "during the year of a great earthquake which ruined Honaunau School". He described the process as having involved three graduated loops of chain, each 25 feet wide and 100 feet long, dragged behind the bulldozer. This process took place when Mr. Jack Midkiff managed the Ranch. Consultation with Mr. Peter Simmons, present manager of McCandless Ranch, confirmed that the north parcel had been chained in 1952. Mr. Cambra and ACH crew member Leinaala Benson recall having seen bulldozer activity "about 5 years ago" within the north parcel, but the precise limit of activity is unknown for that episode.

Mr. Alfred Medieros was also consulted. His recollections of the courthouse, cottage, and jail include the observation that the jailhouse was located makai of the courthouse. He stated that the area immediately adjacent to the cave (on the south parcel) was never bulldozed by the ranch because of safety concerns. He added that "pakalolo gangs" in more recent years made use of this cave.

Finally, Ms. Mary Alani of The Kona Historical Society was consulted in the hope that photographs or other archival material might exist for the courthouse and jailhouse. Unfortunately, no such materials were found. When asked the age of the courthouse and teachers cottage grounds, she noted that older members of her family, and long time residents of South Kona, recall the courthouse and nearby buildings as being in existence prior to 1917 but did not know when they were built. It is likely that records concerning the construction of these buildings were destroyed when the courthouse records were burnt at Alae School. Based on their known existence prior to 1917 and the fact that it is known that walls to keep cattle from becoming a nuisance began to be built in the mid-nineteenth century, it is probable that these structures were constructed sometime prior to 1900.

#### SURVEY METHODOLOGY

The Principal Investigator on this project was Joseph Kennedy M.A.; the Field Supervisor was MaryAnne B. Maigret B.A., assisted by Field Archaeologists Leinaala Benson during the field survey and Michael O'Shaughnessy, B.S., during the examination of the cave sites. The field survey was conducted on August 19, 20 and 21, 1991 while the examination of the Site 18001 was conducted on March 18, 19, 20, and 23rd, 1992. One hundred percent of both the south parcel and the connecting parcel was systematically inspected by the two field team members. The locations of archaeological features were mapped using tape and compass, and plotted directly on a topographic basemap obtained through Wil Chee and Associates. Our examination began with the south parcel. The topographic map indicated the presence of two rock wall enclosures, whose location and configuration were first investigated. The interior areas of these enclosures were then swept, followed by sweeps within the open grassy area between the two enclosed areas. After this was completed, a distance of 200 feet was taped from the southwest corner of the school property in order to establish the approximate makai boundary of the survey area. Sweeps then proceeded within the 200 foot wide strip makai of the school, until the north parcel was reached.

Although three persons recall the north parcel as having been bulldozed and chained, an attempt to survey the entire parcel was made. Sweeps were extremely difficult due to the

presence of 15 foot high california grass. Probing with long poles took place through the grasses. Of particular interest was the scattering of mature mango and monkeypod, whose girths led us to believe that the entire parcel may not have been disturbed and that there existed the possibility that some archaeological features might remain under these trees. The density of brush and grass prevented normal movement between these scattered trees, so a method was devised whereby sturdy guava poles were held horizontally across the body which enabled us to flatten the grass and move fairly comfortably across the property. These same poles were used as probes. No sites were located in this area but some informants suggested the possibility that a cave was present. During the initial survey, a crack but no cave was visible on the northern parcel. Subsequent clearing of the parcel revealed the location of two cave entrances which were then investigated, the results of which are presented as an addendum to this report.

The complex cave identified on the southern parcel (Site 18001) was mapped using a standard surveyor's tape and Brunton compass. Tube intersections were marked with cyalume light sticks for safety. All tube branches passable by both individuals were explored to termination, or to a distance known to extend outside the property boundary.

The purpose of the archaeological survey of all caves was to determine the depth, length, and direction of passageways and potentially significant historic remains contained within the caves located in the specified project area. The basic objectives of the testing were four-fold:

- 1) To determine the depth, length, and direction of caves within the project area.
- 2) To evaluate the potential significance of all identified remains in the project area.
- 3) To determine the possible impacts of proposed development upon the identified remains.
- 4) To define the general scope of any subsequent data collection and/or other mitigation work that might be necessary or appropriate.

In addition, these sites must be evaluated in terms of their significance in accordance with National Register Criteria and the criteria for evaluation of traditional cultural values prepared by the National Advisory Council on Historic Preservation.

## SURVEY RESULTS

A total of thirteen potential features were investigated within the survey area and were assigned temporary (T) field numbers. After further investigations State Site numbers were assigned to all features determined historically significant (see Maps 6 & 7).

### NORTH PARCEL RESULTS

#### Site 19733: Wall

This site consists of a dry masonry wall which runs parallel to Mamalahoa Highway and which is assumed to be related to cattle ranching (see Map 7). The wall is not core-filled but is roughly constructed of angular basalt stones 20 to 30cm (centimeter) in diameter, stacked 1.5m (meter) high and measuring 60cm wide.

#### Sites 19734 and 19735: Caves

These cave sites were examined in 1994 subsequent to the clearing of the parcel and the results are presented as an addendum to this report.

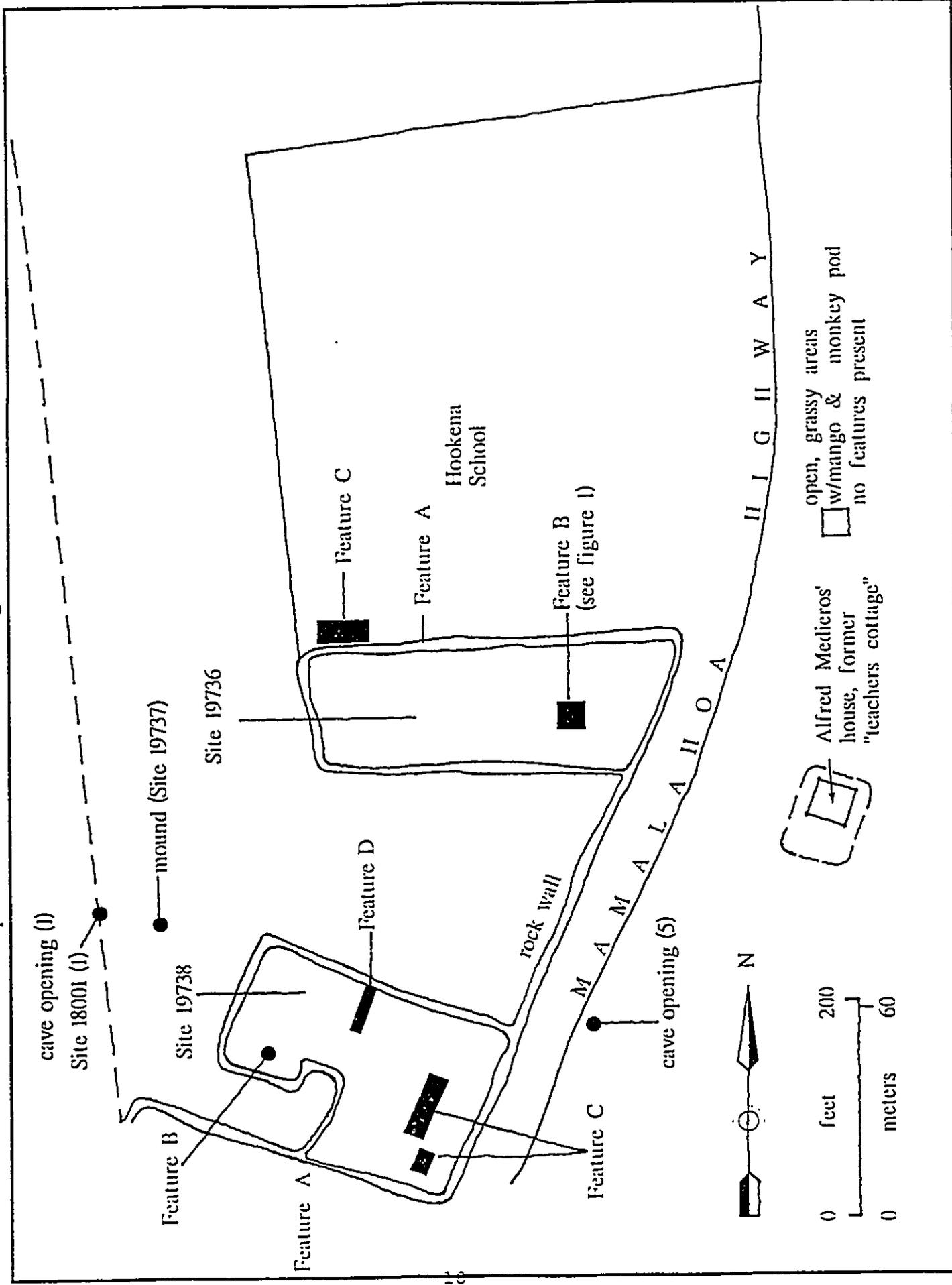
#### T-2: Possible Cave Opening

This area was assigned a temporary field designation because of a distinct topographic depression and series of apparent cracks which underlay the grass cover in this portion of the parcel north of the present school site (see Map 7). The presence of a cave opening could not be ruled out without further investigation.

The two team members investigated this area by clearing around apparent cracks and tracing their routes through the dense mat of pasture grass which dominates this area. The terrain under the brush and grass was found to be remarkably smooth throughout this gently sloping area, containing only a single layer of sparse rubble. Individual stones were an average of 20 to 40 centimeters across. The ground surface beneath the larger trees was somewhat more rubbly, probably due to tree root disruption. This north parcel, as well as numerous other areas within the surveyed area, exhibited extensive pig rooting activity.

Within the area indicated on the accompanying site location map, a crack of 80cm to one meter wide, and over one meter deep was located but the thickness of the vegetative mat, initially, prohibited adequate investigation of this crack. The cowboys working McCandless Ranch had brought this area to our attention; their concerns over this area in the past had been for their horse's safety and it is unknown whether they consider a crack to be a cave. No cave entrances were located here though, and therefore this was determined to be simply a geological feature and not a site.

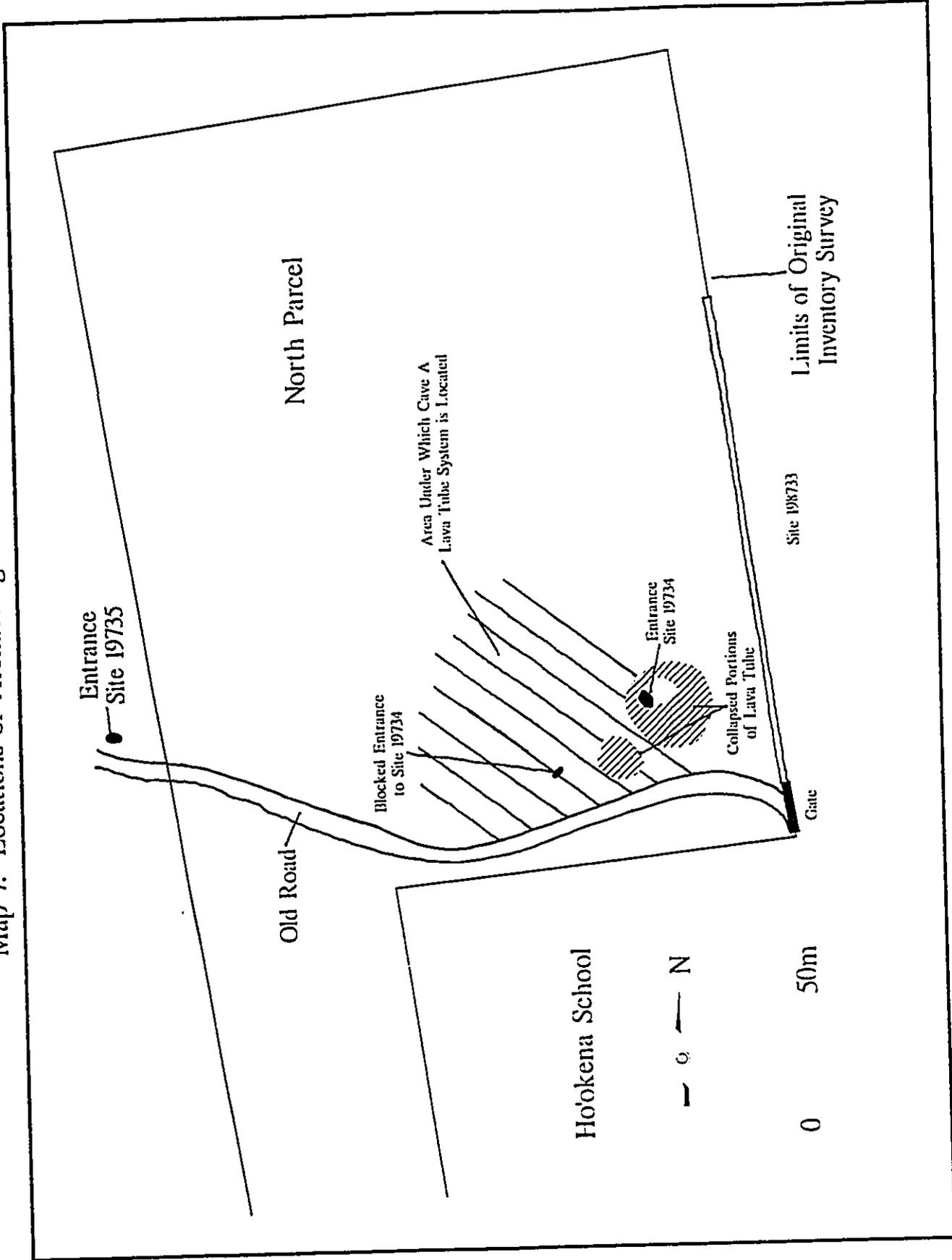
Map 6: Location of Archaeological Sites in South Parcel



TMK: 8-6-10:2(por.) Kauliako Ahupua'a

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Map 7: Locations of Archaeological Sites in North Parcel



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TMK: 8-6-10: 2 (por.) Kauhako Ahupua'a



#### MAKAI STRIP RESULTS

No features were located within this 200 foot wide strip makai of the school and between the north and south parcels. The terrain is slightly steeper, but qualitatively identical to the north parcel.

#### SOUTH PARCEL RESULTS

Four separate sites were located on this parcel and are described below (see Map 6).

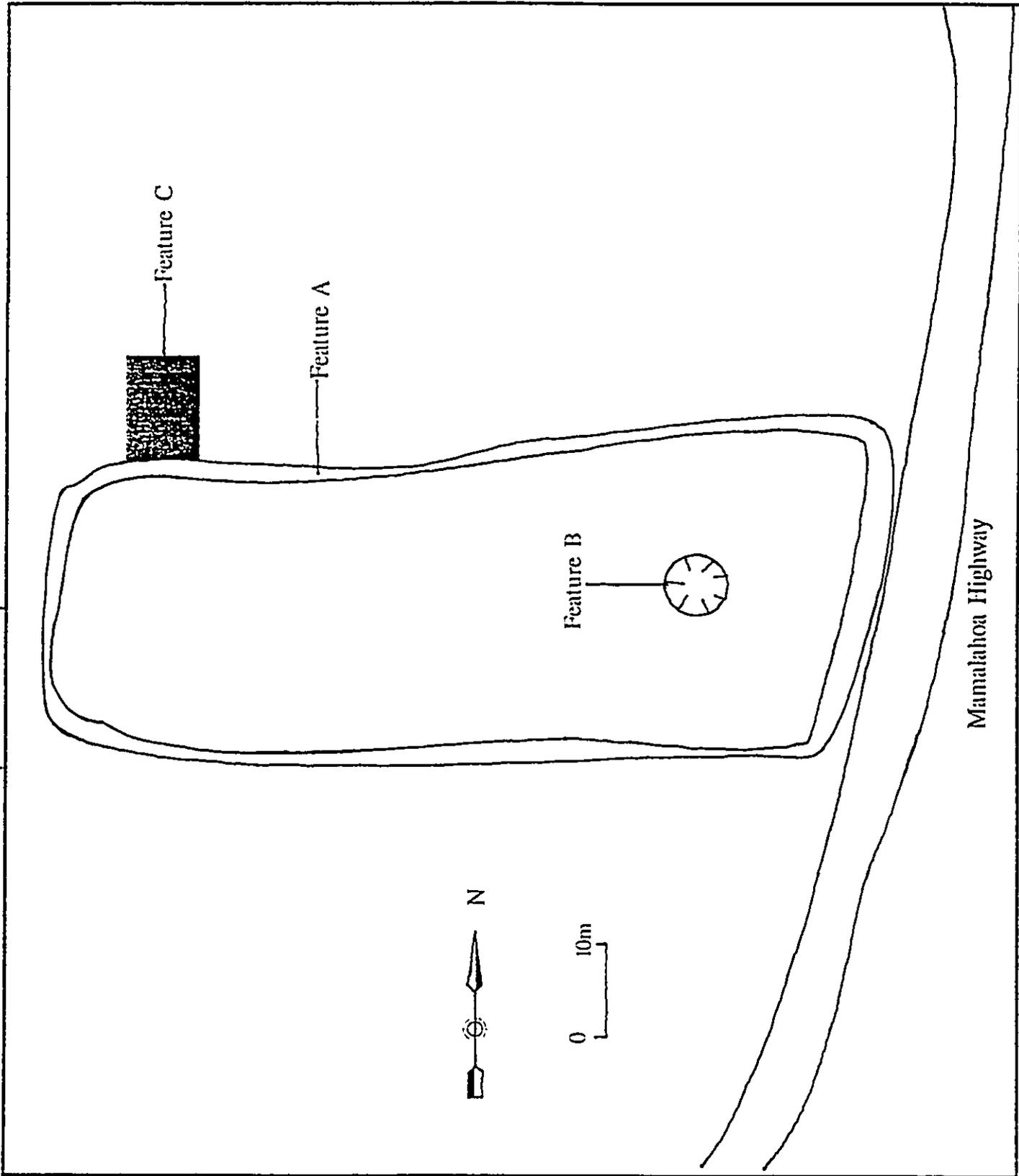
##### Site 19736: Teacher's Cottage Grounds

Feature 19736:A - Enclosure wall. This feature is located immediately adjacent to the present location of Ho'okena School (see Maps 6 and 8). It is three hundred feet long, 115 feet wide, with wall heights averaging 1.3 meters high. The wall consists of angular pahoehoe stones 30-35cm across, and is not core-filled. Inner and outer walls are nearly vertical. Two smaller enclosures are found extending from the main enclosure wall, one along the north wall measuring 6m across, another in the northwest corner, 8.5m wide, 13m long. The smaller enclosures may have been used to restrict the movement of smaller animals. The function of this main enclosure was, according to informant testimony, to keep grazing cattle out of the houselot. The time period when walls restricting grazing cattle were built is known and, based on this, this feature is thought to have been constructed in the mid to late-nineteenth century. The construction of this feature likely post-dates the construction of the cottage and its ancillary buildings, which would imply an older age for this historic site than indicated by the informant testimony (prior to c. A.D. 1917).

Feature 19736:B - Stone lined pit. This site is located within Feature 19736:A, the enclosure, 15m from the edge of the highway. The pit measures 1.3m wide, 1.8m long, and 1.3m deep (see Figure 1). The inner walls are comprised of neatly stacked angular stones. Examination of a rotted plank on the rim of this pit revealed a neat circular hole, and we must conclude that this feature represents the remains of an historic outhouse, most likely associated with the "teacher's cottage", which according to informants, was once located within this enclosure. No other evidence of the cottage was detected.

Feature 19736:C - Concrete slab. This feature is located just north of Feature 19736:A at the northwest end. It is approximately 5m long, 3m wide, with iron reinforcement bars at each corner. The surrounding area is strewn with broken glass, jars, and trash of recent origin.

Map 8: Plan Map of Site 19736

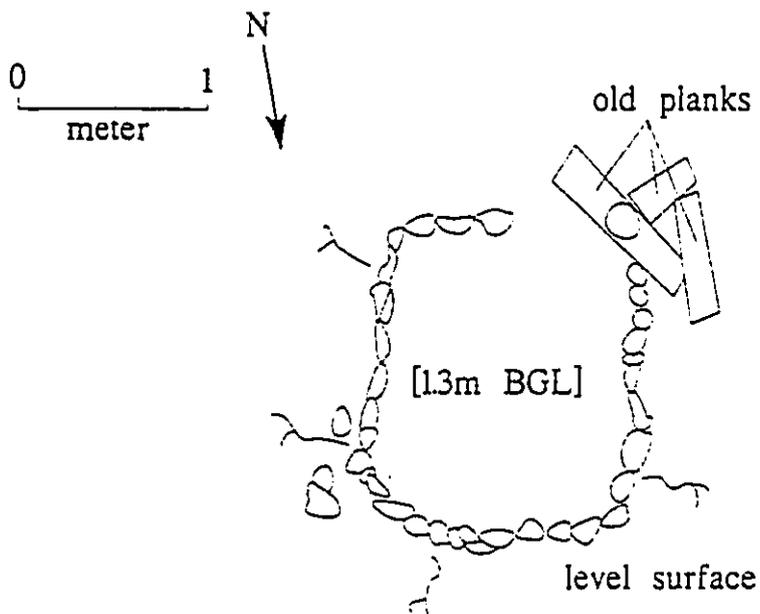


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FIGURE 1

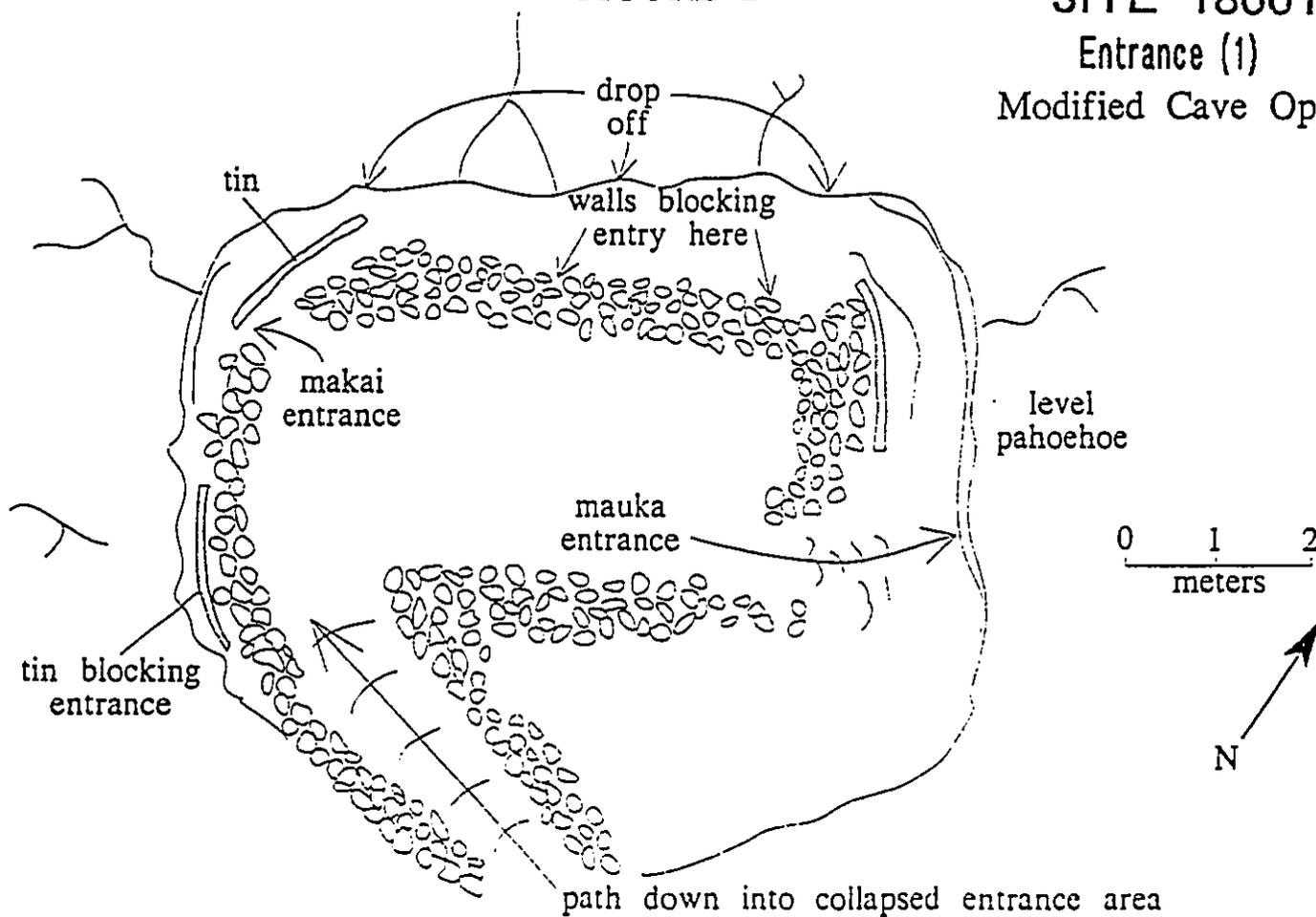
SITE 19736  
Feature B  
Stone Lined Pit



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FIGURE 2

SITE 18001  
Entrance (1)  
Modified Cave Opening



#### Site 19737: Mound

The area in which this mound is located comprised approximately one quarter of an acre and is located within a wire fence which traverses the southwest survey area (see Map 6). The jumbled surface exhibits one distinctive mound, 3m long, 2.5m wide, and 1m high, composed of 15 to 20cm wide angular stones. Coffee is the most abundant plant here, with mango trees and ti. This feature appears to be a clearing mound and could be related to either pre- or post-contact agricultural practices. It is possible that the wire fence was intended to protect the coffee trees found within the enclosed area and the mound represents a preserved area of undisturbed agricultural use prior to the introduction of the coffee. Or, the mound may be associated with the coffee. We were unable to learn more about this area from either Mr. Cambra or Peter Simmons. Mr. Cambra did, however, state that the coffee was wild.

#### Site 18001: Cave with Modified Entrance

This cave is located immediately makai of Site 19737 the mound area (see Map 6). While we are fairly certain that the entrance to this cave lies within the limits of the study area as depicted on the topographic basemap provided to us, the exact location of the entrance must be determined when the makai boundary of the study area is established by legal survey during the school site selection process.

None of the persons who provided information about the history of this area had any comment about this cave, let alone an acknowledgment of its existence, thereby, in our opinion, increasing the possibility of burials.

The opening to this cave appears to have been a surface collapse of a tube, and has been extensively modified (see Figure 2). The entire sunken entry area is circular, measuring approximately eight meters across. A constructed walkway leads down into the entrance on the south side of the depression collapse, walled on the left and right. The path splits and leads to either a makai entrance or a mauka entrance. These entrances, however, are partially obstructed by large pieces of corrugated tin roofing. From the outside, the stone walls appear to rest against the tin from the outside, suggesting that the tin was first placed across the opening, and subsequently walled in by the stones.

The makai opening was extremely unsafe to approach, therefore entry was made through the mauka opening. This opening is approximately 2 by 2m, and also extremely unstable. Once inside, it was clear that the corrugated tin had been inserted between the stonework outside the cave, and the interior wall of the cave opening, to prevent collapse of the outer wall into the cave's interior.

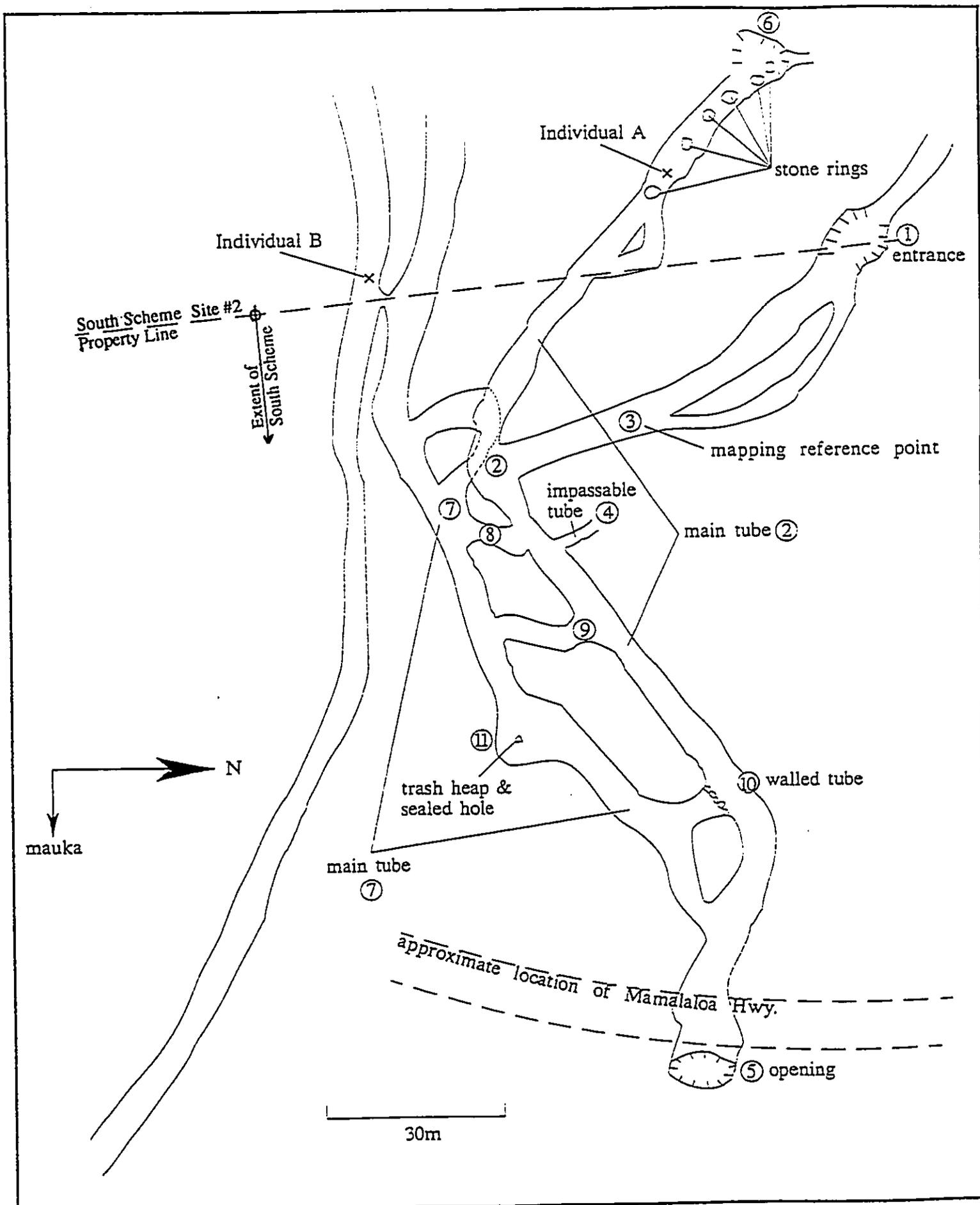
A square, slightly raised enclosure is located 3 meters inside the mauka entrance to the cave. Deteriorated scraps of wooden planks rest within and outside this structure. Remnants of 4 x 4 posts remain in the corners of the structure. Rusted nails were visible, but deteriorated to the point where their shape and design could not be ascertained. The interior of this structure revealed a plastic toilet seat, and we must conclude that this site was a latrine. Three pieces of 8 inch pipe protrude into the cave entrance here; two pieces are loose, the third anchored underneath the rubble at the entrance to the cave. The source of this third pipe was not, for safety reasons, able to be determined. We speculated that the pipes carried water in which to "flush" the latrine's contents downslope into the tube which runs makai.

The makai extending tube of this cave may be reached through the mauka entrance by simply walking around the tin and stone structure blocking the north entrance area. Since this tube extends away from the survey area, it was not explored beyond the immediate entrance area. The mauka extending tube, however, splits into three directions from its initial 142 degree orientation. All three tubes extend in a mauka direction and may extend underneath the survey area.

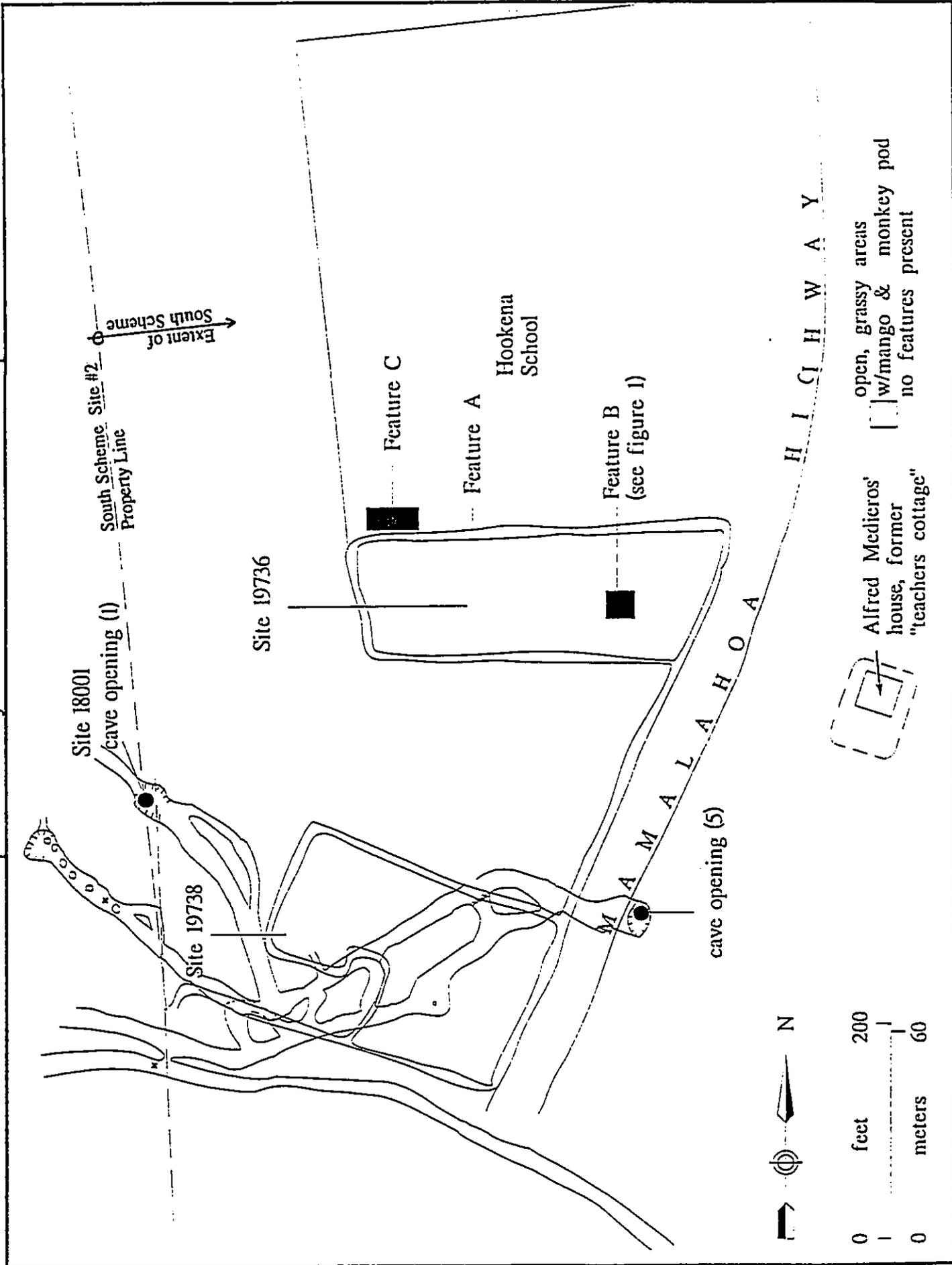
This cave contains multiple tubes, levels, chambers, and several openings located outside the subject property. That portion of the cave which underlies the surveyed property was mapped and examined. Human skeletal remains from two separate individuals were recorded; however, these remains are located within that portion of the tube system which extends outside the property's boundary. Charcoal or other carbon-based materials suitable for radiocarbon dating were not located within the tube system. The condition of the skeletal remains, however, indicates extreme age and conformance to burial practices most typically found in burials dated to the pre-contact or early post-contact period.

Please refer to Map 9, which portrays the cave route under the subject property, for the following discussion. Numbered locations are indicated which correspond to those described in the text below. Map 10 portrays the path of the cave overlain on a map depicting the property boundaries.

The opening of the cave (1) is located makai, or to the rear of the area of the proposed school site. As was mentioned above, this opening is extremely unstable and exhibits evidence of having once been stabilized with stone and corrugated tin. Between the time of the initial walkthrough and the subsequent cave examination, a local informant has stated that this cave had once been used as a



Map 10: Overlay of Site 18001 on Location Map



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bomb shelter. This may explain the presence of a latrine in the interior of the cave.

Two tubes branch away from the 10 x 10 meter wide chamber located at the opening. These tubes merge again before terminating at an intersection with what comprises the main, upper tube (2). Within the lefthand (northeastern) split, before the two tubes merge, is a scatter of non-human bone presumed to be from a bird and recently deposited. An impassable tube (4) is located extending in a northerly direction just past the intersection described above. A tube large enough to comfortably crawl through was visible through the connecting passageway, but the passage was not large enough for even the smallest team member to squeeze through. The northeastward-extending section of the main tube (2) extends fully across the subject property and leads to an opening located directly past the mauka side of Mamalahoa Highway (5). This opening was independently mapped from the surface; its location as mapped from underground corresponded exactly, which provided us with an exceptional level of confidence regarding the accuracy of the mapped, subsurface cave system.

The westward, or downslope portion of this same tube (2) extends off of the property and emerges at a collapse-type opening (6). Human skeletal remains were located on the floor of this tube, referred to as "Individual A". The remains consist solely of a one meter long, 30 centimeter wide scatter of extremely decomposed, powdery bone, with a single tooth present. The entire area was thoroughly inspected to detect any other portions of this individual; however, none was found.

This section of the westward portion of the main tube (2) also contained a series of single course high stone rings, composed of small angular stones arranged so as to surround an area no larger than 40 centimeters across. The rings were found along the center of the tube floor and near the terminal entrance. One such ring lies 40 centimeters from the western end of the human bone scatter (Individual A) described above. These rings are thought to have been created by recent visitors to the cave, based on the presence of recently discarded batteries, and small stone piles observed at tube intersections. Mold/lichen growth on the surfaces of these stones where they contact the floor of the cave suggests that these stones were recently picked up from elsewhere and deposited there.

Another main tube system (7), runs parallel to, and in places below, the first system described (2). The two tube systems are connected by smaller tubes at three separate locations: A ramp-like connection from the upper level tube to the lower level (8), a flattened, narrow passage (9), and

another passage (10) near the mauka exit (5) which appears to have walled up to prohibit access.

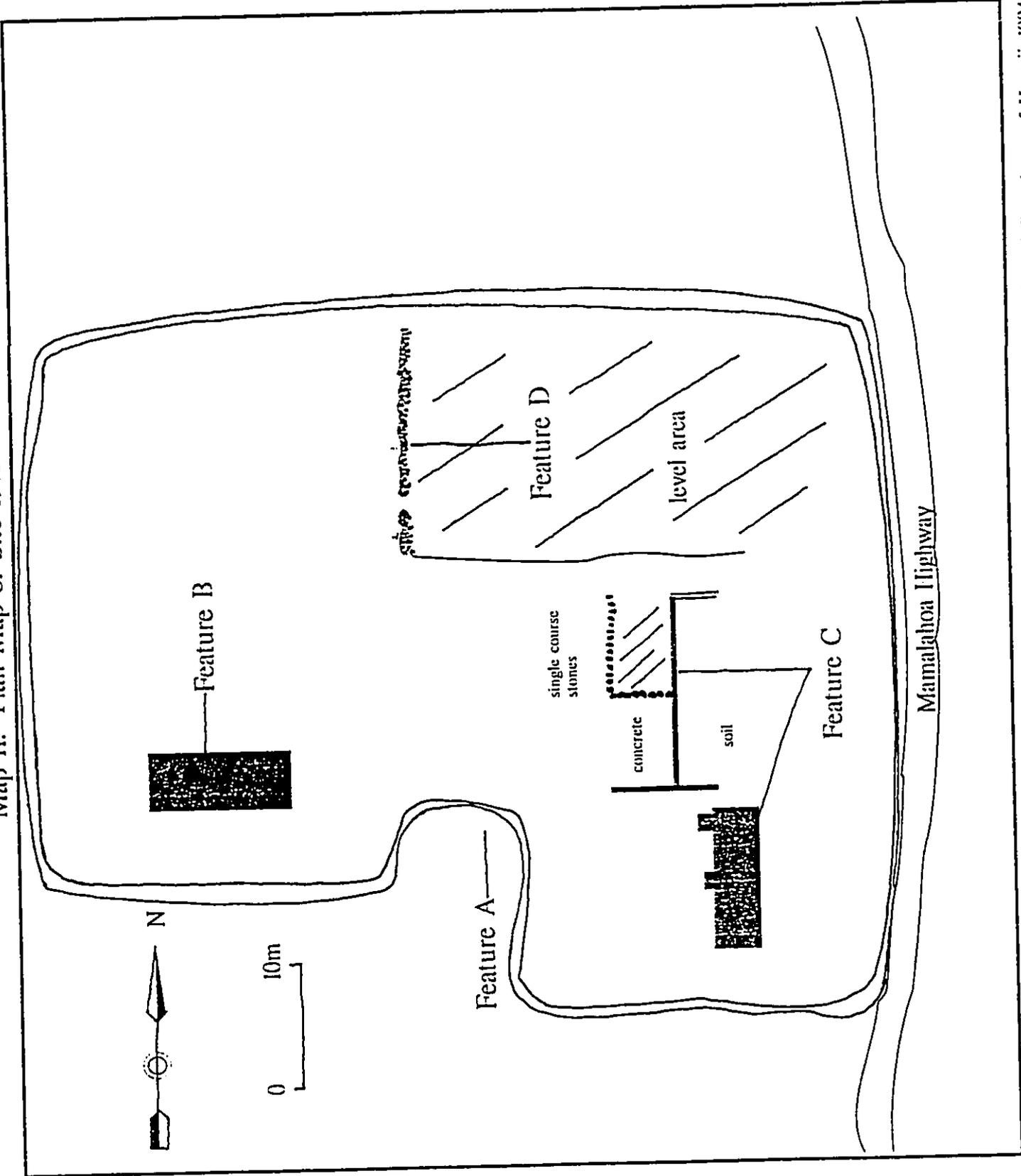
This main tube (7) extends in a makai direction as well, and extends outside the property boundaries. Beneath the property, however, two features were located. The first consists of a large heap of soil, discarded bottles, and miscellaneous historic household trash within a vaulted chamber at least 10 meters high, 18 meters in diameter (11). This trash heap, which contained bottles from the Kuramoto soda works, Nippon brewery, brown glazed ceramic shards, brown Clorox brand bottles with glass stopper-style necks, shoe soles, coffee pots, cooking pots, broken china with an "England" insignia, and a large quantity of opihi (Cellana sp.). At the roof of this chamber, we observed a rectangular concrete cap which had been placed over an opening approximately 1 meter by 80 centimeters wide. This heap of trash was most likely deposited by the former inhabitants of the courthouse jailhouse, and cottage located above. Similar bottle types were located on the surface above.

Further makai in this same tube, an entry to another parallel tube located to the south was found. Investigation of this tube revealed the presence of human skeletal remains, referred to as "Individual B". The remains were moderately decomposed, beyond the point at which we could determine if the individual had been in an extended or flexed position, or if a bundle-style interment occurred. The length of the pile, however, was less than 1 meter, which suggests that the individual may have been in a flexed position. The skeletal remains were intact enough to determine that the long bones of this individual were missing. Clearly visible were three skull portions, lower mandible with intact molars and incisors, phallanges, scapula, and ribs. The decomposed portion of the remains appear to have been comprised of the vertabrae. The absence of long bones suggests that 1) the skeletal remains of this individual were separated prior to deposition in this cave, or 2) the long bones of this individual were removed following the interment of the individual.

These remains were not handled and were left exactly as found. This cursory examination was intended only to confirm their human origin, and to approximate the date of interment. These skeletal remains are located outside the property boundaries.

Site 19738: Courthouse Grounds  
Feature 19738:A - Enclosure wall. This feature is located at the south end of the south parcel, and according to informant testimony, was constructed to keep cattle out of the courthouse grounds located within (see Maps 6 and 11). The north wall of this enclosure averages 1.5m high and is nearly vertical on both sides, whereas the west wall is

Map 11: Plan Map of Site 19738



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substantially shorter and more deteriorated, averaging 0.5 to 1m tall, with rounded sides. It appears to have been damaged by pig travel.

The manner in which the southwest region of the enclosure is depicted on the topographic basemap was incorrect; this area contains instead a smaller enclosure built outward from the main enclosure. The south wall of the enclosure includes a portion of what appears to be a boundary wall between the survey area and the adjacent property to the south. The wall fronting Mamalahoa Highway, which runs from the southeast end of the survey area to the Hookena School playground, is quite deteriorated in this section, mostly due to the dumping of rubbish and branch trimmings during recent roadwork.

The time period when walls restricting grazing cattle were built is known and, based on this, this feature is thought to have been constructed in the mid to late-nineteenth century. The construction of this feature likely post-dates the construction of the courthouse and its ancillary buildings, which would imply an older age for this historic site than indicated by the informant testimony (prior to c. A.D. 1917).

Feature 19738:B - Outhouse. This feature is located within Feature 19738:A, the enclosure, and may be associated with prior historic habitation at this location.

Feature 19738:C - Concrete foundations. Two distinct concrete alignments were detected in the eastern, or mauka area within Feature 19738:A. These alignments lay makai of a coconut palm and a cluster of areca palms which are visible from the highway. The first structure forms a rectangle 7.3m long and 2.1m wide, with a 1m by 1.5m protrusion extending from the northwest end. A 1.5m by 1m "step" leads down from the west, or makai facing side. The concrete alignments making up the edge of the structure are 20 centimeters wide. The center area of the rectangle is soil filled (see Map 8).

The second concrete alignment runs in the same lengthwise direction as the first, a distance of 10.6m. This structure was visible only on the west, or makai side. If a full rectangular structure is present, it may be buried. From its south corner, a 3m long concrete "arm" extends toward the west.

A soil terrace, defined by a single coarse stone alignment, lay immediately underneath and to the west of the second concrete alignment. This soil area measures five meters long and three meters wide.

Feature 19738:D - Terrace, flattened area. North of the concrete alignments is a broad, flattened area, bounded on

the north by a portion of the enclosure wall (Feature 19738:A), and on the west, by a stone faced terrace with a constructed opening. Its south edge is defined by a break in slope between the upper flattened area and the area below. The flattened area comprises approximately 1000 square feet.

One concrete block was found on the surface here, although other debris which might be associated with historic structures was notably absent. Household garbage, old appliances, an old Coca-Cola cooler, tin bowls, and many bottles (recent in origin) were located here. It is likely that this terrace was constructed in association with the old courthouse.

#### SUMMARY

All but three sites located within the survey area are restricted to the southern survey area. Three of the seven sites recorded can securely be classified as historic, related to twentieth century use. The enclosure walls (Features 19736:A and 19738:A) and the wall fronting Mamalahoa Highway (Site 19733) are related to historic cattle ranching activities. The structures found within the southernmost enclosure (Site 19738) are undoubtedly components of a county courthouse, jailhouse, and cottage which existed until 1967, when they were auctioned off and subsequently demolished. Features located within the second enclosure (Site 19736), nearer the present site of Hookena School, are related to a "teacher's cottage" which has since been relocated to its present position mauka of Mamalahoa Highway.

Four sites cannot, at this stage of investigation, be limited solely to historic use. These include the cave (Site 18001) which exhibits clear evidence of historic use and probable evidence of prehistoric use, the mound (Site 19737), which may be related to either pre-or post-contact agriculture or may have been a marker, and cave sites (Sites 19734 and 19735) located on the northern parcel.

No human skeletal remains were found within that portion of the cave system (Site 18001) which lies directly under the southern parcel. Such remains are, however, located within the same tube system, within 8 and 15 meters of the western boundary of the property as shown on project basemaps (see Map 7), and are accessible from an entrance located on the property's boundary. This presents a somewhat thorny issue. It is customary in archaeological contract work to address only those archaeological sites located within the project boundaries in an inventory report. Either a site is on, or it is off, the subject property.

The significance of such sites may be, however, determined in part on their functional relationship to previously surveyed archaeological sites on surrounding properties. For this reason, surveys restricted to property parcels must deal with their interpretations on a regional basis, according to what is known regarding settlement patterns in that region. However, in this case, we must limit our significance evaluations to only that portion of the tube system which runs directly beneath the property, but use what is known about the location of the skeletal remains to intelligently and sensitively recommend measures to insure their safety.

The human skeletal remains within the tube system at Ho'okena School are located outside the property's boundary. Therefore, these remains would not be in immediate danger should heavy equipment operate within the property boundaries. In a grading/grubbing situation, the worst case scenario would be the breakthrough of heavy equipment near the location of these remains, resulting in direct damage to the remains, or the indirect damage from moisture and sunlight. Since the remains are off the property boundary, we can be fairly certain that breakthrough directly on top of the remains is unlikely to occur. Should breakthrough occur near the location of the remains, the opening to the tube could be sealed permanently at the breakthrough, thus assuring that the integrity of the burial site is maintained.

In addition, a buffer zone may be established on the surface which would restrict the movements of heavy equipment over sensitive areas near the property boundary. The exact width of this buffer zone would depend on the types of equipment in use and should involve the input of DLNR-SHPD.

In summary, only the archaeological remains located within that portion of the tube located under the subject property itself are considered here as significant. These remains are limited to a historic bottle/trash dump within a cavern, and are determined significant solely for their information content and scientific research value. The cave's tube system is of little value for public education or recreation, and in the absence of burials and/or religious structures within the tube system which runs beneath the property, this portion of the cave cannot be considered valuable from a cultural or ethnic standpoint.

It is our opinion that Sites 19733, 19736, 19737, & 19738 have had the impact to their Criteria "D" significance mitigated by the production of this report; therefore they may be reclassified "NLS" and a "no adverse effect" determination suggested (refer to Table 1). Site 18001 contains cultural materials, including burials, which are located off the subject property; therefore is classified

Table 1: Summary of Site Significance Evaluations

<u>Site</u>	<u>Feature</u>	<u>Description</u>	<u>Significance Evaluations</u>	
			<u>Prior to IS</u>	<u>After IS</u>
18001		Cave	D & E	D & E
19733		Wall	D	NLS
19734		Cave	D & E	D & E
19735		Cave	D & E	D & E
19736		Teacher's Cottage Grounds	D	NLS
	A	Enclosing Wall		
	B	Stone Lined Pit		
	C	Concrete Slab		
19737		Mound	D	NLS
19738		Courthouse Grounds	D	NLS
	A	Enclosing Wall		
	B	Outhouse		
	C	Concrete Slab		
	D	Terrace		

Code For Significance Evaluation Criteria

- NS - Not Significant
- NLS - No Longer Significant
- A - Site Reflects Major Trends in History
- B - Site is Associated with the Life of a Significant Person
- C - Site is an Excellent Example of a Site Type
- D - Site Likely to Yield Important Scientific Data
- E - Site has Cultural Significance (heiau, shrine, burial, etc.)

note: IS = Inventory Survey

under criteria "D" for the portions under the subject property and under criteria "D" and "E" for portions off the subject property. Similarly, Sites 19734 and 19735 contain cultural materials, including burials, and are therefore classified under criteria "D" and "E".

#### RECOMMENDATIONS

No further investigation through testing or data recovery is warranted. Monitoring of any future construction activities, however, is strongly recommended for all areas surveyed, particularly for the south parcel, where the extensive subsurface tube system was located. A buffer zone should be established on the west side of the south parcel to insure protection of those portions of the tube system under the property which are directly associated with human skeletal remains located outside the property boundaries. Existing cave openings, and any created during the course of construction should be sealed permanently for reasons of public safety and cultural sensitivity.

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Supplemental Report - North Parcel Cave Survey  
Hookena, South Kona, Hawaii

Prepared for: Ralph Morita, DAGS - Public Works

This supplemental report is prepared for Mr. Ralph Morita, DAGS - Public Works. It deals with the cave openings, previously inaccessible, found in the parcel north of Hookena School, in the ahupua'a of Kauhako, South Kona, Island of Hawaii, TMK: 8-6-10:2(por). The fieldwork was conducted by MaryAnne B. Maigret, M.A. and Michael O'Shaughnessy, B.S. of Archaeological Consultants of Hawaii, Inc. on January 7 and 8, 1994.

Purpose of Survey

Explore to term two previously unidentified cave openings located within the parcel north of Hookena Elementary School.

Summary

The two cave openings, Sites 19734 and 19735 (referred to as Cave A and Cave B, respectively, during the field investigations), were relocated, flagged and mapped (see Map 7). Both caves contain human osteological material.

Results of Survey

Site 19734

Cave A consists of a primary tube, approximately 50 meters in length, with several branching tubes which connect to a parallel tube.

One internal structure was found. It consists of an alignment of 40cm by 35cm angular basalt stones, backfilled with a mounded pile of fist-sized angular basalt stones, as well as larger 30-40cm sized stones. The structure is otherwise not well defined and amounts to mostly a concentration of stones, 4-5 courses deep, 2 meters wide by four meters long, which covers the floor of the cave, about 1.5 meters inside the cave opening. These stones do not appear to have fallen from the ceiling, or casually fallen in from the entrance.

Human osteological material was found at seven distinct locations within this cave. Bone fragments and human teeth were scattered on the floor of the cave directly below the internal structure, in three places: at 5, 6, and 10 meters from the mouth of the cave. We speculate that the structure serves as a burial platform/mound, and that the fragments in these three places were washed into their present location from underneath the structure. The structure may also have served as an obstruction.

A fourth concentration of human osteological material, consisting of two mandibles (teeth intact) and a scattering of human teeth were located approximately 20 meters inside the cave entrance, down the principal tube which branches to the left, or southwest, as one proceeds inside the cave.

The fifth concentration of human bone consisted of a tooth and small fragments, about 32 meters down the principal tube. These fragments may be associated with the fourth concentration of osteological material.

A sixth concentration of osteological material was located approximately 40 meters down the principal tube, and consists of teeth and small fragments of bone.

The seventh concentration of human bone was located within a tube which runs parallel to, and slightly above, the principal tube. This concentration consists of a mandible, clavicle, several vertabrae, and a probable ulna. These bones were distributed vertically within a pile of angular basalt stones which appeared to block an opening from above.

#### Site 19735

This cave consists of a single chamber, 2 meters wide, 3.5 meters deep, and 1 meter high. The opening is 2 meters wide and 50cm high. Human osteological material is present in this cave.

The rear of this chamber contains a concentration of stones which form a 2-3 course high mounded surface. An alignment of 25-40cm diameter stones is present along its front edge. Bone fragments and an intact human mandible rest on the surface of this feature.

On the floor of the cave, between the stone feature and the entrance, lies an articulated horse skeleton. Also present is a dog skull, and several other pieces of bone assumed to be a partial dog skeleton. Several vertabrae, possibly human, were also seen near the rear of this pile of bone.

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Appendix E: Consultation Phase Comments and Responses



STATE OF HAWAII

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM  
LAND USE COMMISSION  
Room 104, Old Federal Building  
Honolulu, Hawaii 96813  
Telephone: 597-3322

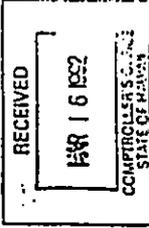
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LAND USE COMMISSION

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STATE OF HAWAII  
LAND USE COMMISSION

March 13, 1992



Mr. Russel S. Nagata  
State Comptroller  
Department of Accounting  
and General Services  
P. O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Nagata:

Subject: EIS Preparation Notice for Hookena Elementary School Expansion

We have reviewed the subject EIS Preparation Notice for an expansion of 4.9 acres to Hookena School transmitted by your letter dated March 9, 1992 and confirm that the three potential sites and the school itself, are within the State Land Use Agricultural District.

According to our records, the current school site was the subject of a Special Permit petition, Docket No. SP79-331/State of Hawaii/Department of Education. The petition involved three school sites, Konaunau School, Kohala School and Hookena School and was filed to allow the continued use of these schools in the Agricultural District.

The petition was approved by the Hawaii County Planning Commission on December 14, 1978 and subsequently approved by the Land Use Commission on February 21, 1979.

The area covered by the Special Permit for Hookena School is approximately 4.1 acres. Because the selected site would add another 4.9 acres to the existing school site, it appears that either an amendment to the Special Permit or a district boundary amendment is needed.

Since the project involves an area less than 15 acres, we suggest that the County of Hawaii Planning Department be contacted for information on appropriate procedures.

Mr. Russel S. Nagata  
March 13, 1992  
Page Two

In regards to the tax map keys for the proposed expansion, THK's 8-6-10: 09 and 8-6-10: 12 correspond only to the 4.033 acres of the existing school site. The proposed additional area is a portion of THK 8-6-11: 02. The tax map key for the additional area should be included in the Draft EIS.

We have no further comments at this time. Thank you for the opportunity to comment on this matter. If you should have any questions, please call me or Leo Asuncion of my staff at 587-3825.

Sincerely,

ESTHER UEDA  
Executive Officer

EU:th

cc: County of Hawaii Planning Dept.



STATE OF HAWAII  
 DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
 DIVISION OF PUBLIC WORKS  
 P. O. BOX 111, HONOLULU, HAWAII 96811

MAILING SERVICE  
 MAIL ROOM  
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 LETTER NO. (P)1366.2

APR 21 1992

Ms. Esther Ueda  
 Executive Officer  
 Land Use Commission  
 Department of Business, Economic  
 Development and Tourism  
 State of Hawaii  
 Honolulu, Hawaii

Dear Ms. Ueda:

Subject: Hookena Elementary School Expansion  
 EIS Consultation Phase

Thank you for your March 13, 1992 letter on the subject project. Our responses to your comments are as follows:

1. The Draft EIS will be revised to state that the County of Hawaii Planning Department will require an amendment to Special Permit No. 406 to permit the expansion of Hookena Elementary School.
2. The tax map key for the proposed additional area (a portion of THK 8-6-11:02) will be included in the Draft EIS.

We appreciate your input for this project.

Very truly yours,

  
 TEUANE TOMIHAGA  
 State Public Works Engineer

EB:jk

*Am*



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STATE OF HAWAII  
DEPARTMENT OF BUDGET AND FINANCE  
HOUSING FINANCE AND DEVELOPMENT CORPORATION 92:PPS/1240 jt

1000 KALANOAULI AVENUE, SUITE 200  
HONOLULU, HAWAII 96813  
TELEPHONE 535-2100

DIVISION OF PUBLIC WORKS  
SUPERVISOR  
PLANNING  
DESIGN  
CONSTRUCTION  
MAINTENANCE  
OPERATIONS  
SALES & MARKETING  
GENERAL SERVICES

March 23, 1992

TO: Mr. Earl Bethke  
Public Works Division  
Dept. of Accounting and General Services

FROM: Joseph V. DeMant  
Executive Director

SUBJECT: EISPH for Hookana Elementary School Site Expansion

Thank you for the opportunity to review the subject EISPH. We have no comments to offer.



DEPARTMENT OF THE NAVY  
 COMMANDER  
 NAVAL BASE PEARL HARBOR  
 BOX 119  
 PEARL HARBOR, HAWAII 96346-3079

Mr. Russell S. Nagata  
 State of Hawaii  
 Department of Accounting  
 and General Services  
 P. O. Box 119  
 Honolulu, HI 96810

Dear Mr. Nagata:

**HOOKAHA ELEMENTARY SCHOOL SITE EXPANSION**

We have reviewed the subject EIS Preparation Notice submitted by your letter (P)1186.2 of March 9, 1992 and have no comments to offer at this time.

Sincerely,

*W.K. Iku*

W. K. Iku  
 Assistant Base Civil Engineer  
 in Charge of  
 the Command

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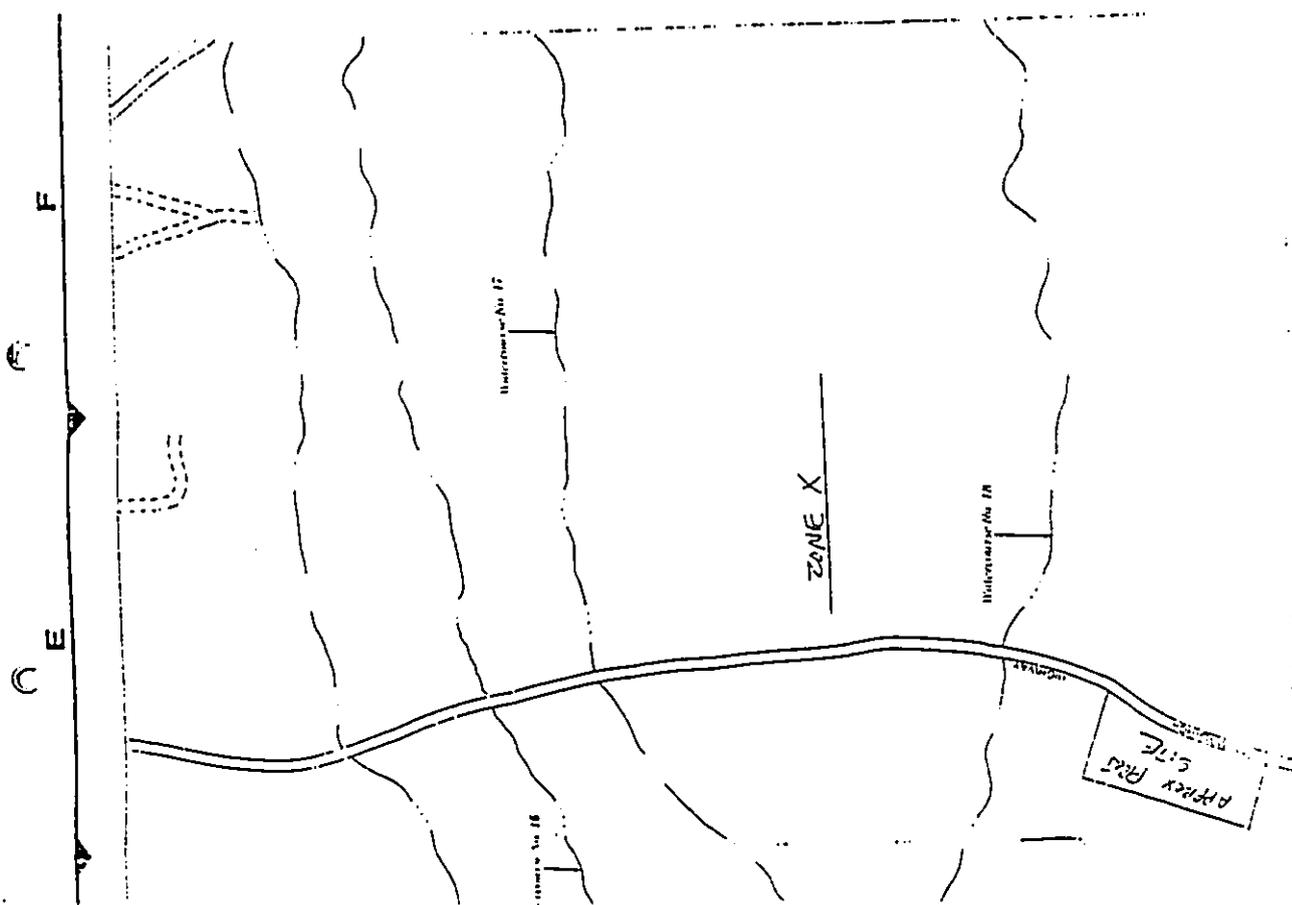
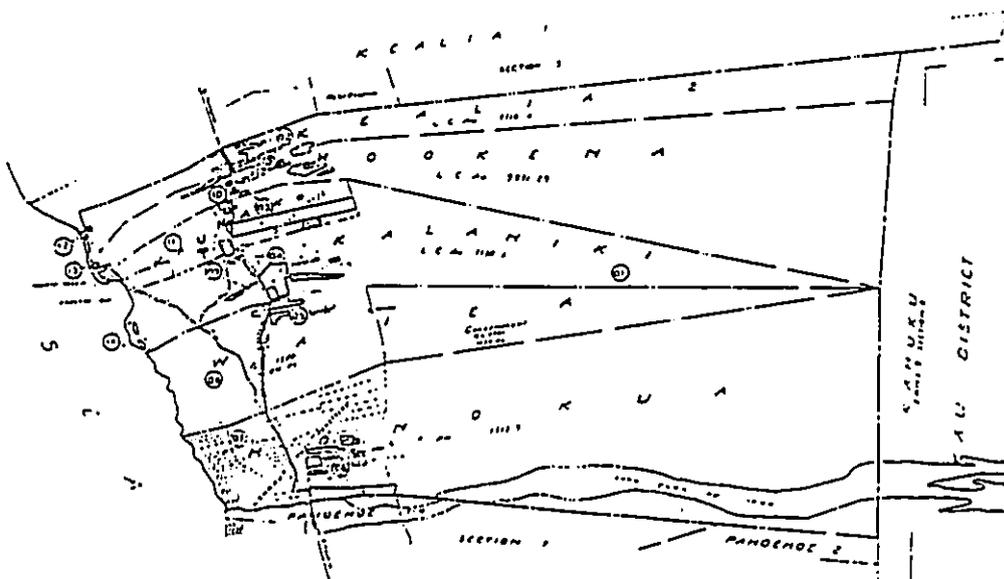
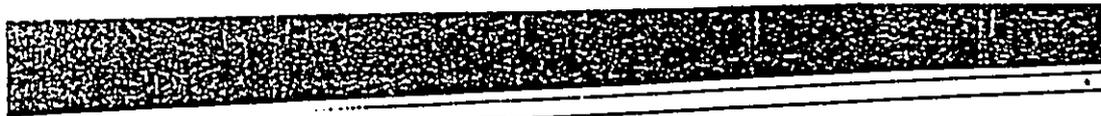
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STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 111, HONOLULU, HAWAII 96810

MAIL ROOM  
ADDRESS MAILING  
DIVISION OF PUBLIC WORKS  
LETTER NO. [P]1363.2

APR 21 1992

Mr. Kisuk Cheung  
Director of Engineering  
Department of the Army  
U. S. Army Engineer District, Honolulu  
Building 230  
Fort Shafter, Hawaii 96850-5440

Dear Mr. Cheung:

Subject: Hookena Elementary School Expansion  
EIS Consultation Phase

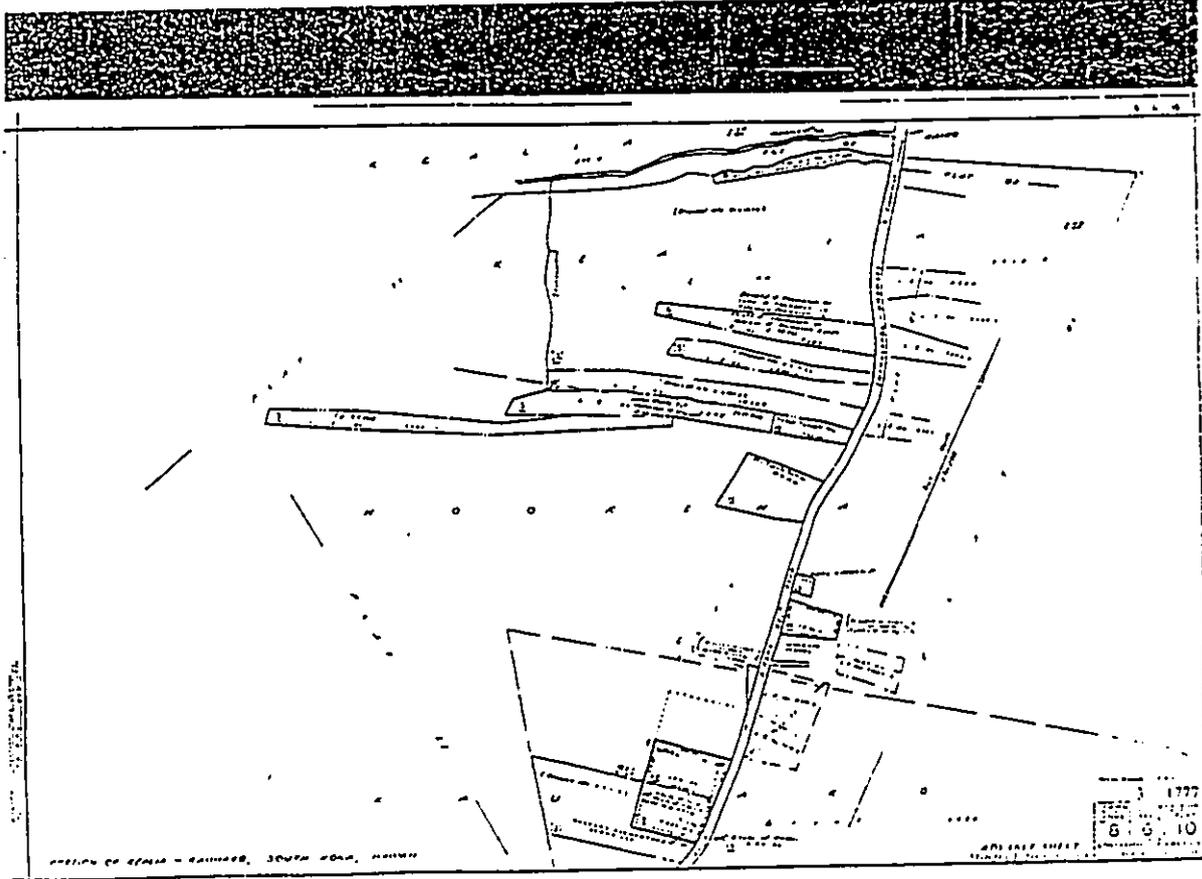
Thank you for your March 31, 1992 letter stating that a Department of the Army permit would not be required for the project site. Your comments regarding the Flood Insurance Rate Map classification for the project site will be incorporated into the Draft EIS.

We appreciate your input for this project.

Very truly yours,

*Teuane Tohinaga*  
TEUANE TOHINAGA  
State Public Works Engineer

EB:jk



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STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE  
100 SOUTH KONA BOULEVARD  
KONA, HAWAII 96701-0001



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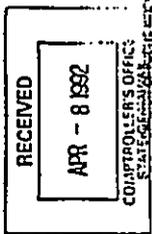
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PHONE (808) 334-3100

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE  
100 SOUTH KONA BOULEVARD  
KONA, HAWAII 96701-0001

April 3, 1992



TO: The Honorable Russel S. Nagata, Comptroller  
Department of Accounting and General Services

ATTENTION: Mr. Earl Methke

FROM: Roy C. Price Sr.  
Vice Director of Civil Defense

SUBJECT: EIS PREPARATION NOTICE FOR HOOKENA ELEMENTARY SCHOOL EXPANSION

We appreciate this opportunity to comment on the EIS Preparation Notice for the expansion of the existing Hookena Elementary School, located in the South Kona District, County of Hawaii, TRK:8-6-10-09, 8-6-10-12.

While we do not have negative comments specifically directed at the EIS Preparation Notice, we do have a proposal that entails the addition of at least one new siren simulator device. The location normally is in any 24-hour manned office. However, in a school facility, a location such as the Administration Office can be used.

Siren simulators are large, suitcase size, portable sirens, complete with built-in battery backup power. The siren simulators are triggered to sound by the same radio system that triggers the outdoor sirens. The installation of a siren simulator consists of a siren simulator, an antenna, an antenna cable duct, 110 volt AC electrical power and a backup source for AC electrical power, if available.

Just as parks, schools, fire hydrants, underground/overhead utilities and sidewalks are planned as integral parts of planned developments, so must emergency warning systems be planned for the safety and well-being of the users of this expansion. A well planned installation of siren simulators would include the design of antenna cable duct typically from ground floor level to the rooftop.

The Honorable Russel S. Nagata  
April 3, 1992  
Page 2

In addition to the natural hazards of volcanic activity, seismicity, lava flow inundation and flood hazards, the impact of high winds and heavy rainfall associated with tropical cyclones and hurricanes require consideration.

Our State Civil Defense planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Hal Nishihara of my staff at 736-2161.

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STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS

P. O. BOX 111, HONOLULU, HAWAII 96810

MUSTEL S. HIGETA  
COMPTROLLER  
KOHOLA HIGETA  
MAY 1992

LETTER NO. (P)1394.2

APR 24 1992

Mr. Roy C. Price, Sr.  
Vice Director of Civil Defense  
Department of Defense  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Price:

Subject: Hookena Elementary School Expansion  
EIS Consultation Phase

Thank you for your April 3, 1992 letter on the subject project. Your proposal regarding siren simulator devices will be discussed with the Department of Education (DOE) for possible inclusion in the master plan of the subject school. Should the DOE decide to proceed with plans for the device, they will contact your office for details.

We appreciate your input for this project.

Very truly yours,

*[Signature]*  
TEUNE TOMINAGA  
State Public Works Engineer

EB:JK  
cc: Mr. Alfred Suga

RECEIVED AS FOLLOWS

RUSSELL S. NAGATA  
COMPTROLLER  
ROBERT P. TAKUSHI  
DEPUTY COMPTROLLER  
LETTER NO. (P)1392.2



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96810

APR 24 1992

JOHN LEWIN  
DIRECTOR

Honorable John Lewin  
Director  
Department of Health  
State of Hawaii  
Honolulu, Hawaii

Dear Dr. Lewin:

Subject: Hookena Elementary School Expansion  
EIS Consultation Phase

Thank you for your April 3, 1992 letter on the subject project.

The EIS will be revised to indicate that an individual wastewater system, such as a septic tank system, will be required as part of the school sewer improvements to meet applicable State and County rules and regulations. Accordingly, design plans for the improvements will conform to applicable provisions of the Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems" and will be submitted to your office for review.

We appreciate your input for this project.

Very truly yours,  
RUSSELL S. NAGATA  
State Comptroller

*Arina D...*

RECEIVED  
APR - 9 1992  
COMPTROLLER'S OFFICE  
STATE OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 370  
HONOLULU, HAWAII 96810

April 3, 1992

92-104/opo

TO: The Honorable Russel S. Nagata, State Comptroller  
Department of Accounting and General Services

FROM: John C. Lewin, M.D. *John C. Lewin*  
Director of Health

SUBJECT: Environmental Impact Statement Preparation Notice  
Hookena Elementary School  
Site Expansion  
THX: 8-6-10:09 and 8-6-10:12

The subject project is located in a non-critical wastewater disposal area. The Department of Health concurs with the proposal for the expansion of the Hookena Elementary School to accommodate the projected increase in enrollment, provided that an individual wastewater system (septic tank system) be utilized for wastewater treatment and disposal. Existing cesspools are to be abandoned and rendered safe at the time that modifications are constructed.

All wastewater plans must conform to applicable provisions of the Department of Health Administrative Rules, Chapter 11-62, "Wastewater Systems", and we reserve the right to review those plans.

If you should have any questions, please contact Ms. Lori Kojimura of the Wastewater Branch at 586-4290.

c: Wastewater Branch

DIVISION OF PUBLIC WORKS WASTEWATER BRANCH	
State E.W. Exp.	Approved
PH 583	Sign
State Sew. Br.	File
Planning Br.	PH
PH Impact Br.	Sign
PH-20	General
PH-21	PH-2
PH-22	PH-2
PH-23	PH-2
PH-24	PH-2
PH-25	PH-2
PH-26	PH-2
PH-27	PH-2
PH-28	PH-2
PH-29	PH-2
PH-30	PH-2



RECEIVED AS FOLLOWS

APPLICATION FOR SPECIAL PERMIT  
COUNTY OF HAWAII  
PLANNING DEPARTMENT - PLANNING COMMISSION

THIS APPLICATION MUST BE ACCOMPANIED BY:

- (a) 16 copies of the completed application form with attachments.
- (b) 16 copies of a location map.
- (c) 16 copies of a site plan with existing and proposed uses.
- (d) any additional information.
- (e) \$100.00 processing fee.
- (f) One (1) copy of full size site plan drawn to scale. Site plan should include property lines, reference points (roadways, shoreline, etc.), and existing and proposed structures and uses. Site plan shall be 2 feet by 3 feet in size at a minimum.

APPLICANT: \_\_\_\_\_

APPLICANT'S SIGNATURE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

TAX MAP KEY: \_\_\_\_\_ AREA: \_\_\_\_\_ (Size of Parcel)

OWNER: \_\_\_\_\_

OWNER'S SIGNATURE: \_\_\_\_\_

APPLICANT'S INTEREST, IF NOT OWNER: \_\_\_\_\_

REQUESTED USE: \_\_\_\_\_

APPLICANT'S REASON(S) FOR REQUESTING SPECIAL PERMIT: (Please attach)

- NOTE: The applicant must show that:
- (a) such use shall not be contrary to the objectives sought to be accomplished by the Land Use Law and Regulations;
  - (b) the desired use shall not adversely affect surrounding properties;
  - (c) such use shall not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage, school improvements, and police and fire protection;
  - (d) unusual conditions, trends, and needs have arisen since the district boundaries and regulations were established;
  - (e) the land upon which the proposed use is sought is unsuited for the uses permitted within the district;
  - (f) the proposed use will not substantially alter or change the essential character of the land and the present use; and
  - (g) the request will not be contrary to the General Plan and official Community Development Plan and other documents such as Design Plans.

RECEIVED AS FOLLOWS

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, AOMAKUA, HAWAII 96741  
LETTER NO. (P)1408.2



APR 30 1992

Honorable Rex Johnson  
Director  
Department of Transportation  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Johnson:

Subject: Hookena Elementary School Expansion  
EIS Consultation Phase

Thank you for your April 16, 1992 comments on the subject project. Our responses to your comments are as follows:

1. Your support for the West Scheme (Site 3) for the reasons given is noted and will be considered in the final selection process.
2. Plans for all work within the State right-of-way will be submitted for your department's review and approval.

We appreciate your input for this project.

Very truly yours,  
RUSSELL S. NAGATA  
State Comptroller

REED JOHNSON  
DIRECTOR  
TRANSPORTATION  
JOYCE OMBRE  
AL PAHO  
JAMIE K. SCHULTZ  
CALVIN T. SUDA  
MARKY REFER TO

RECEIVED  
APR 20 1992



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
419 KUAHOLOA STREET  
HONOLULU, HAWAII 96813-5011

RECEIVED  
APR 20 1992  
COMPTROLLER'S OFFICE  
STATE OF HAWAII

TO: Russel S. Nagata, Comptroller  
Department of Accounting and General Services

FROM: Rex D. Johnson, Director  
Department of Transportation

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE  
(EISP), HOOKENA ELEMENTARY SCHOOL EXPANSION,  
HOOKENA, SOUTH KOHA, HAWAII, TRK: 8-6-10: 09, 12

Thank you for your transmittal of March 9, 1992, requesting our comment on the subject EISP.

For traffic operational reasons, we would prefer the West Scheme (Site 1) for the proposed Hookena Elementary School expansion. The other schemes, however, would not have a major adverse impact on our facilities.

Plans for construction work within the State right-of-way must be submitted for our review and approval.

Mr. Tolson	
Mr. DeLoach	
Mr. Mohr	
Mr. Bishop	
Mr. Casper	
Mr. Callahan	
Mr. Conrad	
Mr. Felt	
Mr. Gale	
Mr. Rosen	
Mr. Sullivan	
Mr. Tavel	
Mr. Trotter	
Tele. Room	
Miss Holmes	
Miss Gandy	

RECEIVED AS FOLLOWS

Lanika B. Joooy  
Name  
Nanaka K. Wipahi  
Phone

1234567890  
1234567890



Planning Department

County of Hawaii • 11 August Street, Room 104 • Hilo, Hawaii 96720 • Oahu 931-8118

April 22, 1992

Mr. Russel S. Nagata  
State Comptroller  
Department of Accounting and  
General Services  
P. O. Box 119  
Honolulu, HI 96810

Dear Mr. Nagata:

EIS Preparation Notice  
Hookuna Elementary School Expansion

We have reviewed the subject EIS Preparation Notice for the expansion of the Hookuna Elementary School site and provide the following comments:

1. Please be informed that the proposed expansion site should read as Tax Map Key: 8-6-10:Portion of 2. The existing school site is TMS: 8-6-10:9 and 12. The Draft EIS should include the appropriate TMX for the expansion site.
2. As the proposed sites are privately owned by the McGandies Estate, the Draft EIS should include discussions on land lease and/or acquisition.
3. The County of Hawaii General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the subject area as Extensive Agriculture. The property is County zoned Unplanned. The State Land Use classification is Agriculture.
4. Discussion on student population and a map of the service area for Hookuna Elementary School should be included in the Draft EIS.
5. On February 21, 1979, the State Land Use Commission voted to approve Special Permit No. 406 to allow the continued use of the Hookuna/School site, among others. The total land area to be encumbered by the existing Hookuna Elementary School and its proposed expansion is approximately 9 acres. An amendment to Special Permit No. 406 would be the appropriate procedure to allow the school site expansion. The County Planning Commission would be the decision maker for such an amendment.

Mr. Russel S. Nagata  
April 22, 1992  
Page 2

Thank you for the opportunity to comment on this matter. Should you have any questions, please feel free to contact Alice Kawaha of this office.

ELIZABETH

*Elizabeth*  
JOHAN K. HAYASHI  
Planning Director

AK:cmo  
5063D  
cc: DEOC  
Ms3 Deguchi



RECEIVED AS FOLLOWS

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 119, HONOLULU, HAWAII 96810



MAY 28 1992

LETTER NO. (P)1508.2

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE  
SOIL  
CONSERVATION SERVICE  
P. O. BOX 50004  
HONOLULU, HAWAII  
96850

MAY 11 9 25 AM '92

DIVISION OF PUBLIC WORKS  
96850

Mr. Russel S. Nagasa, State Comptroller  
Department of Accounting and General Services  
P.O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Nagasa:

Subject: Hookena Elementary School Site Expansion Environmental Impact  
Statement Preparation Notice (EIS/EN) Review

We have reviewed the Site Selection Report and the EIS/EN for the Hookena  
Elementary School Project and would like to offer the following comments:

- 1) The EIS/EN notes that there are existing storm drainage outlets nearby.  
The Draft EIS should address the potential effects of the increase in storm  
runoff that will probably occur due to the expansion of the school.
- 2) Due the relatively high rainfall of the project area, we would hope to  
see the Draft EIS address the nonpoint source pollution control methods  
planned for this project. The Draft EIS should address methods to reduce  
sediments produced during the construction phase and the nutrients and  
pesticides that may be used after construction.

Thank you for the opportunity to comment on this document.

Sincerely,

*Warren H. Lee*

WARREN H. LEE  
State Conservationist

Mr. Warren H. Lee  
State Conservationist  
Soils Conservation Service  
U. S. Department of Agriculture  
P. O. Box 50004  
Honolulu, Hawaii 96850

Dear Mr. Lee:

Subject: Hookena Elementary School  
EIS Consultation Phase

Thank you for your letter of May 7, 1992 regarding the  
subject project. Our responses to your comments are as  
follows:

1. The EIS will address the potential effects of the  
increase in storm runoff that might occur due to the  
expansion of the school.
2. The EIS will be expanded to address the following  
items:
  - a. Nonpoint source pollution control methods  
planned for this project.
  - b. Methods to reduce sediments dug to  
construction.
  - c. The nutrients and pesticides used after  
construction.

We appreciate your input for this project.

Very truly yours,  
*Gordon Hatsuoka*  
GORDON HATSUOKA  
State Public Works Engineer

EB:jk

SEARCHED INDEXED  
SERIALIZED FILED  
MAY 28 1992  
FBI - HONOLULU

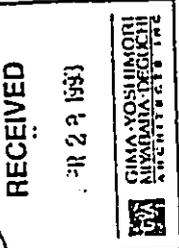
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Appendix F: Public Review Phase Comments and Responses

KOHU WAHIES  
Governor  
MUTUHANAHU  
Deputy  
BARBARA KIM STANLEY  
Deputy Director  
SUE IGGID  
Deputy Director  
ESTHER UEDA  
Deputy Director

DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

Central Post Office 212 South King Street, 4th Floor, Honolulu, Hawaii  
Telephone: (808) 521-1444 FAX: (808) 521-2377



April 19, 1993

Mr. Brian J.J. Choy  
Director  
Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Choy:

The Department of Business, Economic Development & Tourism is pleased to submit the enclosed comments on the Draft Environmental Impact Statement for the Hookeena Elementary School Expansion.

The comments were provided by the Land Use Commission. Questions regarding these comments may be directed to Esther Ueda, LUC Executive Officer at 587-3826.

Thank you for the opportunity to comment.

Sincerely,

Mufi Fingelmann

Enclosure  
cc: Mr. Ralph Morita  
/ Mr. Pono Lunn



DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
FORT SHAFTER, HAWAII 96814-5410

April 19, 1993

ATTENTION

Planning Division

Office of Environmental Quality Control  
State of Hawaii  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Sir:

Thank you for the opportunity to review and comment on the Environmental Impact Statement for the Hookeena Elementary School Expansion (THK 8-6-10; 09, 12; and 8-6-11: 2). We do not have any additional comments beyond those provided in our previous letter dated March 31, 1992.

Sincerely,

Kisuik Cheung, P.E.  
Director of Engineering

Copies Furnished:

Mr. Ralph Morita  
Department of Accounting and General Services  
1151 Punchbowl Street, Room 430  
Honolulu, Hawaii 96813

Mr. Pono Lunn  
Gima, Yoshimori, Miyabara, Deguchi  
1357 Kapiolani Boulevard, Suite 1230  
Honolulu, Hawaii 96814



RECEIVED  
: PR 2 - 1993



OPTIONAL FORM NO. 10  
MAY 1962 EDITION  
GSA FPMR (41 CFR) 101-11.6



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 411  
HONOLULU, HAWAII 96807

REF: OCEAN/KOK

File No.: 93-539  
DOC. ID.: 2720

MAY 7 1993

Hr. Brian J. J. Gray, Director  
Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Gray:

Subject: Draft Environmental Impact Statement (DEIS): Iiokena Elementary School Expansion, South Kona, Hawaii, TRK 8-6-10, 09, 12; 8-6-11; por. 2

We have reviewed the DEIS information for the subject school expansion proposal received by our Department on April 6, 1993, and note that page 21 incorrectly indicates the State Land Use Designation of the proposed site as being within the "Extensive Agriculture District."

According to our information, this area is located within the State Land Use "Agricultural" District. We suggest that the State Land Use Commission office be consulted to clarify this information.

We will forward our Historic Preservation Division comments as they become available.

Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tegawa of our Office of Observation and Environmental Affairs, at 507-0377, should you have any questions.

Very truly yours,

*Keith W. Rice*  
KEITH W. RICE

cc: Ralph Horita  
Percy Iann



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII  
25 AUPUNI STREET • HILO, HAWAII 96720  
TELEPHONE (808) 969-1421 • FAX (808) 969-6996

April 27, 1993

State of Hawaii  
Office of Environmental Quality Control  
220 South King Street, Fourth Floor  
Honolulu, HI 96813

IIOKENA ELEMENTARY SCHOOL EXPANSION SITE SELECTION AND DRAFT ENVIRONMENTAL IMPACT STATEMENT  
APPLICANT - DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
TAX MAP KEY 8-6-10:9, 8-6-10:12 AND 8-6-11:POR. 2

It is our understanding that the proposed expansion is to provide adequate facilities for an enrollment of 310 students. Further, this enrollment is currently reached or already exceeded. Water consumption through our existing 1-inch and a 2-inch meter is minimal.

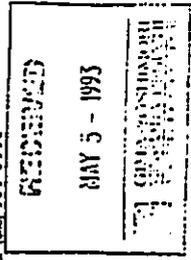
In view of the above information, we have no objections to the proposed project. The necessary fire-flow requirements are under the jurisdiction of the Fire Department and Building Division of the Department of Public Works. Should water system improvements be necessary, construction plans shall be reviewed and approved by our Department.

*William S. Swakewich*  
W. S. Swakewich  
Manager

QA

copy - State of Hawaii Department of Accounting and General Services  
Gima, Yoshimori, Miyabara, Deguchi

140  
Pono  
File



... Water brings progress...



DEPARTMENT OF THE NAVY  
 COMMANDER  
 NAVAL BASE PEARL HARBOR  
 BOX 110  
 PEARL HARBOR HAWAII 96849-0110

RECEIVED  
 APR 20 1993  
 GIMA YOSHIMORI  
 MIYABARA MIYABARA  
 SUICHA SUICHA

WHILE REFER TO  
 11011  
 SOX H41/1419  
 16 APR 1993

Governor  
 State of Hawaii  
 c/o Office of Environmental Quality Control  
 220 South King St., 4th Floor  
 Honolulu, HI 96813

Gentlemen:

**HOOKENA ELEMENTARY SCHOOL EXPANSION**

Thank you for the opportunity to review the subject Draft Environmental Impact Statement (DEIS). The Navy has no comments to offer at this time. Since we have no further use for the DEIS, it is being returned to your office.

Again, thank you for the opportunity to review the draft.

Sincerely,

  
 R. K. REISER  
 Lieutenant Junior Grade, CEC, USN  
 By direction of  
 the Commander

Encl:  
 (1) Draft Environmental Impact Statement

Copy to: (w/o encl)  
 Mr. Ralph Horita  
 Department of Accounting  
 and General Services  
 1151 Punchbowl Street  
 Kalanikōkū Building, Room 430  
 Honolulu, HI 96813

Mr. Pono Lum  
 Gima, Yoshimori, Miyabara, Deguchi  
 1257 Kapiolani Blvd., Suite 1230  
 Honolulu, HI 96814

JOHN WAIHIE  
 GOVERNOR



STATE OF HAWAII  
 DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM  
 LAND USE COMMISSION  
 Room 105, Old Federal Building  
 1125 Keeaumoku St.  
 Honolulu, Hawaii 96813  
 Telephone 537-3823

April 16, 1993

Subject: Site Selection Report and Draft Environmental Impact Statement (DEIS) for the Hookena Elementary School Expansion

We have reviewed the subject Site Selection Report and DEIS for the proposed Hookena Elementary School Expansion and have the following comments:

- 1) We note that the State Land Use Designation for the Tax Map Keys comprising the existing Hookena School site and the proposed expansion areas is the Agricultural District, and not the "Extensive Agriculture District" as stated on page 21 of the DEIS.
- 2) We suggest that a map showing the proposed Hookena School site and the proposed expansion areas in relation to the State Land Use Districts be included in the Final EIS. Additionally, a Tax Map to identify the subject parcels should be included.

We have no further comments to offer at this time.

EU:BS:th

SETHIAGADA  
 COLLECTIONS OFFICER



United States Department of the Interior

GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
677 Ala Moana Blvd., Suite 415  
Honolulu, Hawaii 96813



April 9, 1993

Governor, State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: Hookena Elementary School Expansion Site Selection and DEIS,  
South Kona, Hawaii

We are in receipt of the subject DEIS. We regret that due to prior commitments, we are unable to review the DEIS by the May 23rd deadline. We are returning the DEIS to your office for your future use.

Sincerely,  
*William Meyer*  
William Meyer  
District Chief

Enclosure

cc: Mr. Ralph Morita  
Department of Accounting and General Services  
1151 Punchbowl Street  
Kalanimoku Building, Room 430  
Honolulu, HI 96813

Mr. Pono Lunn  
Gima, Yoshimori, Miyabara, Deguchi  
1357 Kapiolani Blvd., Suite 1230  
Honolulu, HI 96814

Hawaiian Electric Company, Inc. - PO Box 2750 - Honolulu, HI 96840 004



May 27, 1993

William A. Bonnet  
Manager  
Environmental Department

The Honorable John Waihee  
Governor, State of Hawaii  
c/o Office of Environmental  
Quality Control  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: Draft Environmental Impact Statement  
Hookena Elementary School Expansion  
Site Selection

We have reviewed the subject DEIS, and have the following minor comment on the draft EIS:

At page 25, "Hawaiian Electric Light Company, Inc." should be revised to read "Hawaii Electric Light Company, Inc."

HELCO shall reserve further comment pertaining to the protection of existing power line facilities surrounding the project area until construction plans are finalized.

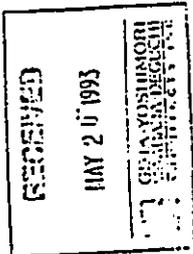
Sincerely,  
*William A. Bonnet*  
for William A. Bonnet

cc: Ralph Morita/DACS  
Pono Lunn/Gima, et al.

An HEI Company

JOHN WAINWRIGHT  
DIRECTOR  
GENERAL EDWARD W. RICHMONDSON  
DIRECTOR OF CIVIL DEFENSE

ROY C. PRICE, SA  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE



STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE  
2145 OAHU ROAD  
HONOLULU, HAWAII 96819-4111

May 18, 1993

TO: Governor, State of Hawaii  
c/o Office of Environmental Quality Control

FROM: Roy C. Price, Sr.  
Vice Director of Civil Defense

SUBJECT: Site Selection Report and Draft Environmental Impact Statement  
(DEIS) for the HOOKENA ELEMENTARY SCHOOL EXPANSION

We appreciate this opportunity to comment on the Site Selection Report and DEIS for the expansion of the existing HOOKENA Elementary School, located in the South Kona District, County of Hawaii, THK: 86-10-09, 8-6-10:12.

It is noted that our previous comments of April 2, 1992, were included in Section XIV, "APPENDICES," paragraph E, "Consultation Phase Comments and Responses." While we do not have negative comments specifically directed at this Site Selection Report and DEIS, we do have specific comments regarding the general project sites.

In addition to the natural hazards of volcanic activity, seismicity, lava flow inundation and flood hazards, the impact of terrain amplification of high winds and heavy rainfall associated with tropical cyclones and hurricanes require consideration. The general location of the project sites appear to be approximately at the 1,000 foot elevation. Structures for the HOOKENA Elementary School expansion should be designed and constructed to resist winds at that elevation. These structures could then be surveyed for use as potential public shelters.

Our State Civil Defense planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Mel Hishihara of my staff at 734-2161.

c: Mr. Ralph Harita, DAGS

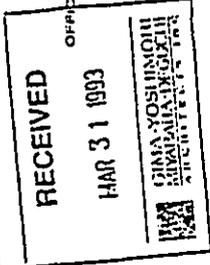
✓ Ms. Pono Lunn  
Gima, Yoshimori, Miyabara, Deguchi

JOHN WAINWRIGHT  
DIRECTOR



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL  
220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813-4541  
TELEPHONE 968-6116

March 29, 1993



TO: Mr. Pono Lunn  
Gima, Yoshimori, Miyabara, Deguchi  
1357 Kapiolani Boulevard, Suite 1230  
Honolulu, Hawaii 96814

FROM: Margaret Wilson, Planner (M)  
Office of Environmental Quality Control

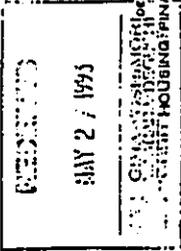
SUBJECT: DRAFT EIS FOR HOOKENA ELEMENTARY SCHOOL EXPANSION,  
SOUTH KONA, HAWAII

This is to confirm that the information received for the distribution of the Draft Environmental Impact Statement for the subject project has been verified, therefore, distribution of the document may proceed.

Please note the following change of address for the Department of Business Economic Development and Tourism when distributing the document:

New Address: Director  
Department of Business Economic Development and Tourism  
220 South King Street, 11th Floor  
Honolulu, Hawaii 96813-4541

Old Address: Director  
Department of Business and Economic Development  
250 South King Street, 9th Floor  
Honolulu, Hawaii 96813



STATE OF HAWAII  
 DEPARTMENT OF BUDGET AND FINANCE  
 FINANCE AND DEVELOPMENT CORPORATION  
 517 OLIVER STREET, SUITE 300  
 HONOLULU, HAWAII 96813  
 FAX (808) 537-2000

JOSEPH M. COMANT  
 EXECUTIVE DIRECTOR

MEMO REFER ID:  
 93:PPE/2417

May 21, 1993

TO: The Honorable John Waihee  
 Governor, State of Hawaii  
 c/o Office of Environmental Quality Control

FROM: Joseph M. Comant  
 Executive Director

SUBJECT: Site Selection Report and Draft EIS for the Iiookena  
 Elementary School Expansion

Thank you for the opportunity to review the subject report. We  
 have no comments to offer.

C: Ralph Morita, DAGS  
 Pono Lunn, Gima, Yoshimori, Miyabara, Deguchi

To: Honorable Governor John Waihee State of Hawaii  
 C/O Office of Environmental Quality Control  
 220 South King Street 4th Floor  
 Honolulu, Hawaii 96813

From: Iiookena School SCBH Council  
 86-4355 Manalahaia Hwy.  
 Captain Cook, Hawaii 96704

5/11/93

Dear Governor John Waihee,

Subject: Iiookena Elementary School  
 Expansion Draft EIS

The S.C.B.H. council of Iiookena school is very pleased  
 to see the completion of the draft EIS for our school's  
 expansion.

Please accurately identify the campus in Figure 1.  
 All the classrooms are portables except the four contained  
 within the building that is labeled cafeteria. The library  
 needs to be included.

The planned reorganizing of our school to serve K-5  
 on page 20 paragraph 2 is not supported by the community, or  
 the S.C.B.H. council.

In considering fire and safety, are the over abundance  
 of portables mentioned on page 14 paragraph 3 considered a  
 fire hazard? There is concern regarding the potential fire  
 hazard created by our totally wooden structures, one 62  
 years old.

The traffic noise as referred to on page 45, Slight  
 Evaluation 1. b. highlights the West Scheme as the best  
 alternative for expansion due to less traffic noise because  
 its short side is located on the thoroughfare. Would this  
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Are there alternative designs that could lower the  
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Is there any way to bring down borrow costs in the  
 On-Site Development/Site Work (west scheme) after page 87?

Is there a county or state lot where the material  
 could be gotten from at a lower cost?

Sincerely,

*Malani Merril*

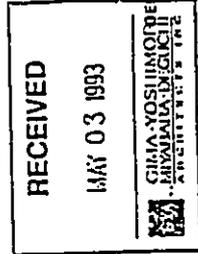
Malani Merril  
 Representative for  
 Facilities Expansion Committee  
 Iiookena School SCBH

JOHN WAIHEE  
Governor



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
100 KUCUKONA STREET  
HONOLULU, HAWAII 96813-5087

REX D. JOHNSON  
Director  
OPERATIONS  
JOYCE T. OAHNE  
ALFANG  
JEANNE K. SCHULTZ  
CATHY H. TSUDA  
INHERITANCE TO:  
STP 8-1178



April 28, 1993

TO: The Honorable John Waihee, Governor  
c/o Office of Environmental Quality Control

FROM: Rex D. Johnson  
Director of Transportation

SUBJECT: Draft Environmental Impact Statement and Site Selection Report  
Hookena Elementary School Expansion

We have no objections to the proposed Hookena Elementary School expansion project. As a reminder, all plans for work within the State highway right-of-way must be submitted to our department for review and approval.

From a safety standpoint, we are suggesting that consideration be given to providing crosswalks, insuring good sight distances at access points, constructing a boundary wall instead of fencing to attenuate traffic noise and to act as a barrier, and installing acceleration/deceleration lanes and left-turn pockets.

Thank you for the opportunity to provide comments.

c: Mr. Ralph Morita - Dept. of Accounting and General Services  
Mr. Pono Lunn - Gima, Yoshiimori, Miyabara, Deguchi

JOHN WAIHEE  
Governor  
MUII IIAHIELOAHI  
Deputy Director  
BARBARA HUI SIUWOKI  
Deputy Director  
RICK EGGLID  
Deputy Director  
DAIHEI YOSHIMURA  
Deputy Director

DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

ENERGY DIVISION, 333 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE (808) 547-3100 FAX (808) 537-2820



April 8, 1993

The Honorable John Waihee  
Governor, State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street  
Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

SUBJECT: Hookena Elementary School Expansion, Site Selection  
and Environmental Impact Statement.  
Island of Hawaii  
District of South Kona  
Tax Map Key: 8-6-10:09, 8-6-10:12 and 8-6-11:Por.2

We wish to inform you that we have no comments to offer on the subject Environmental Impact Statement (EIS). We are returning the EIS with no comments.

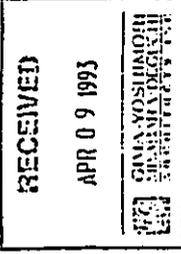
Thank you for the opportunity to review the document.

Sincerely,

Maurice H. Kaya  
Energy Program Administrator

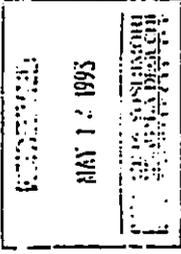
HIK:hke1s80

cc: Mr. Ralph Morita, DAGS  
Mr. Pono Lunn, Gima, Yoshiimori, Miyabara, Deguchi



To: Pono Lunn  
Girma, Yoshimori, Miyabara, Deguchi  
1357 Kapiolani Blvd., Suite 1230  
Honolulu, Hawaii 96814

From: Ho'okena School SCBM Council  
86-4355 Mamelahoa Hwy.  
Captain Cook, Hawaii 96704



May 10, 1993

Dear Pono Lunn,

The Ho'okena School SCBM Council would like to express it's gratitude, and thank you for your support as we move through the land acquisition, master plan, and construction process for our school.

The enclosed letter from SCBM Council member Nalani Merrill addresses our concerns in relation to the land acquisition EIS.

The council would like to also address it's concern in regards to (1) the upgrading of our water system, (2) the timeliness with which the process proceeds, (3) the K-8 versus K-5 configuration, and (4) the amount and placement of land to be acquired.

First the council is aware of the county regulations required to upgrade the water system at Ho'okena School in order to construct a permanent building. Since the 1993-95 biennium legislative session has approved the Department of Education's budget including monies for the construction of a six classroom building at Ho'okena, we assume that this matter is being addressed or soon will be. We ask for confirmation of this.

Secondly, as we are all aware, \$2.17 million was deferred from Ho'okena in the 1991-93 biennium because the funds could not be encumbered before they lapsed. We trust that all will be done to make sure this unfortunate incident will not be repeated.

Thirdly, the council understands the desire of the DOE to create a

Middle School for South Kona. Ho'okena has been referred to as an elementary school since 1984, but we are an elementary and intermediate school. We continue to plan for and service our intermediate students. Since both the plans for Kealahou High School and Konawaena Elementary School are in difficulty and since the planned reorganization of our school from a K-8 to a K-5 is not supported by the community or this SCBM Council, we request that a larger portion of land be acquired to facilitate, if need be, our continued growth as a K-8 school.

Lastly, the council requests for immediate safety reasons that a portion of the south parcel be purchased for access to our current cafeteria. This would divert the large delivery trucks from the center of our campus, thus making it safer for our students. The council agrees with the DOT that the west parcel would be safest for our student population, but also perceive that the north parcel could immediately expand our playing field. But we are also aware that the current owner of the adjoining land wishes to maintain the north parcel, at least in part.

Therefore, we suggest the BOE consider acquiring part of the south parcel plus the full west parcel and as much of the north parcel as can be obtained without a suit. We call for eloquent negotiators to obtain as much land for the school as possible.

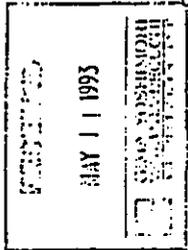
Sincerely,

*Purna Zei*

Purna Zei  
Secretary, Ho'okena SCBM

FACILITIES COPY

STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
SUPERINTENDENT



STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P. O. BOX 2180  
HONOLULU, HAWAII 96821

OFFICE OF THE SUPERINTENDENT

April 27, 1993

Governor State of Hawaii

-2-

April 27, 1993

The DOE is anxious to proceed with land acquisition for the school as soon as the final environmental impact statement is published. The school urgently needs the additional land and to complete a master plan to allow development of adequate facilities for the children of South Kona.

Should there be any questions, please call the Facilities Branch at 737-4743.

CTT:hy/ky

cc: A. Suga, Asst Supt.  
A. Garson, HIDO  
R. Morita, DAGS  
P. Lunn, Consultant

MEMO TO: Governor, State of Hawaii  
c/o Office of Environmental Quality Control

FROM: Charles T. Toguchi, Superintendent  
Department of Education

SUBJECT: Site Selection Report and  
Draft Environmental Impact Statement (EIS)  
Hookena Elementary School Expansion

After review of the subject report and draft EIS the Department of Education DOE has the following comments:

- 1) The report summarizes the need for additional land at the school and adequately discusses the impact of the options available to add to the site.
- 2) In discussions about the three schemes on pages 42 to 44, scheme two is said to be costly to develop "relative to the other two candidate sites." The site summary on pages 43-44 state that the western site would "require more site preparation work than the northern site and be more costly to develop. A following paragraph states that "Site preparation and development costs are likely to be greater for the southern site as compared with the northern or even the western sites."

The cost estimates on Page 47 and cost comparisons shown beginning on Page 87 should reflect the higher costs of developing the south scheme. The cost calculations should be clarified.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Honorable Governor John Kaihe'e State of Hawaii  
C/O Office of Environmental Quality Control  
220 South King Street 4th Floor  
Honolulu, Hawaii 96813

From: Ho'okena School SCBH Council  
86-4365 Mamelahoa Hwy.  
Captain Cook, Hawaii 96704

5/11/93

Dear Governor John Kaihe'e,

Subject: Ho'okena Elementary School  
Expansion Draft EIS

The S.C.B.M. council of Ho'okena school is very pleased to see the completion of the draft EIS for our school's expansion.

Please accurately identify the campus in Figure 1. All the classrooms are portables except the four contained within the building that is labeled cafeteria. The library needs to be included.

The planned reorganizing of our school to serve K-5 on page 20 paragraph 2 is not supported by the community, or the S.C.B.M. council.

In considering fire and safety, are the over abundance of portables mentioned on page 14 paragraph 3 considered a fire hazard? There is concern regarding the potential fire hazard created by our totally wooden structures, one 62 years old.

The traffic noise as referred to on page 45, Sight Evaluation 1. b. highlights the West Scheme as the best alternative for expansion due to less traffic noise because its short side is located on the thoroughfare. Would this site also be safer by having the children farther from the highway?

Are there alternative designs that could lower the grading costs of the West Scheme?

Is there any way to bring down borrow costs in the On-Site Development/Site Work (west scheme) after page 87? Is there a county or state lot where the material could be gotten from at a lower cost?

Sincerely,

  
Nalani Merrill

Representative for  
Facilities Expansion Committee  
Ho'okena School SCBH

To: Pono Lunn  
Gima, Yoshimori, Miyabara, Deguchi  
1357 Kapiolani Blvd., Suite 1230  
Honolulu, Hawaii 96814

From: Ho'okena School SCBH Council  
86-4355 Mamelahoa Hwy.  
Captain Cook, Hawaii 96704

May 10, 1993

Dear Pono Lunn,

The Ho'okena School SCBH Council would like to express it's gratitude, and thank you for your support as we move through the land acquisition, master plan, and construction process for our school.

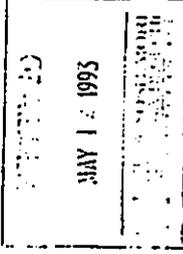
The enclosed letter from SCBH Council member Nalani Merrill addresses our concerns in relation to the land acquisition EIS.

The council would like to also address it's concern in regards to (1) the upgrading of our water system, (2) the timeliness with which the process proceeds, (3) the K-8 versus K-5 configuration, and (4) the amount and placement of land to be acquired.

First the council is aware of the county regulations required to upgrade the water system at Ho'okena School in order to construct a permanent building. Since the 1993-95 biennium legislative session has approved the Department of Education's budget including monies for the construction of a six classroom building at Ho'okena, we assume that this matter is being addressed or soon will be. We ask for confirmation of this.

Secondly, as we are all aware, \$2.17 million was deferred from Ho'okena in the 1991-93 biennium because the funds could not be encumbered before they lapsed. We trust that all will be done to make sure this unfortunate incident will not be repeated.

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Middle School for South Kona. Ho'okena has been referred to as an elementary school since 1984, but we are an elementary and intermediate school. We continue to plan for and service our intermediate students. Since both the plans for Kealakehe High School and Konawaena Elementary School are in difficulty and since the planned reorganization of our school from a K-8 to a K-5 is not supported by the community or this SCBM Council, we request that a larger portion of land be acquired to facilitate, if need be, our continued growth as a K-8 school.

Lastly, the council requests for immediate safety reasons that a portion of the south parcel be purchased for access to our current cafeteria. This would divert the large delivery trucks from the center of our campus, thus making it safer for our students. The council agrees with the DOT that the west parcel would be safest for our student population, but also perceives that the north parcel could immediately expand our playing field. But we are also aware that the current owner of the adjoining land wishes to maintain the north parcel, at least in part.

Therefore, we suggest the BOE consider acquiring part of the south parcel plus the full west parcel and as much of the north parcel as can be obtained without a suit. We call for eloquent negotiators to obtain as much land for the school as possible.

Sincerely,

*Purna Zei*

Purna Zei  
Secretary, Ho'okena SCBM

70.  Please continue with  
 Please continue with

71.  Comment/Recommendation (required)  
 Approval/Signature (required)  
 Your information/Title  
 Draft reply for Governor's (required)  
 Follow up report  
 Submit copy of response (if any)  
 Copy attachments  
 Return attachments  
 Other



DEPARTMENT OF HEALTH  
 HONOLULU, HAWAII 96820  
 MAY 25, 1993

DDEW  
 JOHN C. LEWIN, M.D.  
 DIRECTOR OF HEALTH

93 JUN -1 AM 124  
 In reply, please refer to:  
 93-105/epo

10: 93-286-04/4498  
 MAY 25 1993

To: The Honorable John Haihee  
 Governor, State of Hawaii

From: John C. Lewin, M.D.  
 Director of Health

Subject: Draft Environmental Impact Statement and Site Selection Report  
 Hookena Elementary School Expansion  
 South Kona, Hawaii  
 THK: 8-6-10; 9,12 and 8-6-11; por. 2

Thank you for allowing us to review and comment on the subject document.  
 We have the following comments to offer:

Wastewater

The Department of Health concurs with the proposal for wastewater treatment and disposal. All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems" and we reserve the right to review these detailed plans.

If you should have any questions on this matter, please contact Ms. Lori Kajiwara of the Wastewater Branch at 586-4290.

Solid Waste

This document addresses mitigating the impacts of the school expansion and cites the generation of construction waste as one possible impact. The plan suggests that the contractor will be advised to comply with all applicable federal, state and county laws pertaining to construction waste collection and disposal. The Department of Health strongly suggests that the contractor is also required to develop and implement a solid waste minimization plan before construction begins. Attached are several suggested considerations for inclusion in a waste minimization plan designed to reduce the volumes of waste generated during construction of the project.

The State of Hawaii, in Act 324-91, has established waste minimization and diversion goals of 25% by 1995 and 50% by the year 2000. As this is a State sponsored project, the design must address waste diversion measures and should include secondary resources whenever practicable. Local compost may be used for landscaping purposes and crushed glass in asphalt for road paving purposes. Act 213-92 requires all State and County construction projects to incorporate glassphalt when available.

The Honorable John Haihee  
 May 25, 1993  
 Page 2

If you should have any questions on this matter, please contact Ms. Carrie McCabe of the Office of Solid Waste Management at 586-4227.

Water Pollution

A National Pollutant Discharge Elimination System (NPDES) permit is required for any discharge to waters of the State including the following:

1. Storm water discharges relating to construction activities for projects greater than five acres;
2. Storm water discharges from industrial activities;
3. Construction dewatering activities;
4. Cooling water discharges less than one million gallons;
5. Ground water remediation activities; and
6. Hydrotesting water.

Any person wishing to be covered by the NPDES general permit for any of the above activities should file a Notice of Intent with the Department's Clean Water Branch at least 90 days prior to commencement of any discharge to waters of the State.

Any questions regarding this matter should be directed to Mr. Denis Lau of the Clean Water Branch at 586-4309.

Attachment

- C: Wastewater Branch  
 Office of Solid Waste Management  
 Clean Water Branch
- C: DAGS, Ralph Morita  
 DAGS, Ralph Yukumoto  
 Gima, Yoshinori, Miyabara, Deguchi, Attn: Pono Lunn

THE FOLLOWING ARE A FEW WASTE MINIMIZATION MEASURES FOR IMPLEMENTATION IN DESIGN AND CONSTRUCTION OF NEW DEVELOPMENTS:

I. WASTE REDUCTION DURING CONSTRUCTION/DEMOLITION

GREENWASTE - SOD AND TOP SOIL COMPOSTING  
CONCRETE OR ASPHALT RECYCLING - ROCK & BOULDER SEPARATION  
SALVAGE OF DIMENSIONAL LUMBER  
METALS RECOVERY

WASTE MINIMIZATION PLAN - USUAL PRACTICE BUT EMPHASIZE  
SALVAGE BY LOCAL NON-PROFIT  
HAZWASTE MINIMIZATION - ESPECIALLY SUB-CONTRACTORS

II. USE OF RECYCLED MATERIALS

LOCAL COMPOST - SOIL AMENDMENTS  
CRUSHED GLASS IN PAVING - BASE - BACKFILL  
CONSTRUCTION BOARD WITH RECYCLED CONTENT  
RECYCLED CONCRETE OR ASPHALT IN BASE  
RECYCLED PLASTIC "LUMBER" IN OUTDOOR FURNITURE, FENCING, ETC.

III. DESIGN AND OPERATIONAL REQUIREMENTS

CONSIDER SPACIAL REQUIREMENTS AT INTERNAL.  
COLLECTION AND EXTERNAL STORAGE AREAS  
REVIEW OPERATIONAL REQUIREMENTS WITH MAINTENANCE AND CUSTODIAL STAFF  
PROVIDE COLLECTION CAPABILITIES FOR SEPARATED GREENWASTE  
DISCUSS EQUIPMENT AND CONTAINER REQUIREMENTS WITH HAULERS AND VENDORS  
MULTI-MATERIAL CHUTES IN HIGH RISES  
CONVENIENT DROP-OFF SITES IN TOWN HOUSES  
INTERNAL TENANT RECYCLING IN SHOPPING CENTERS



STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P. O. BOX 334  
HONOLULU, HAWAII 96808

OFFICE OF THE SUPERINTENDENT

May 25, 1993

Mr. Craig Fuller  
President  
Hookena School SCBH Council  
86-4355 Mamalahoa Highway  
Captain Cook, Hawaii 96704

Dear Mr. Fuller:

SUBJECT: Letter From Purna Zei  
Site Selection Report/Draft  
Environmental Impact Statement (EIS)  
Hookena Elementary School

Thank you for the letter written on behalf of the SCBH Council by Ms. Purna Zei dated May 10, 1993, regarding the Site Selection/EIS. The attached letter from SCBH Councilmember Merrill to the Governor will be addressed by the consultant and the Department of Accounting and General Services as part of the EIS process.

In answer to the questions directed to me:

- 1) Upgrading of the water system  
The appropriation request which was recently passed by the State Legislature includes estimated funds to address the water system upgrade. As the master plan and design of the classroom building progress, a more accurate projection of the costs will become evident.

- 2) Prior Appropriation  
As we have explained to the Council in the past, the \$2.174 million was reappropriated to other school projects because there was no chance the funds would be ready to be encumbered by June 30, 1994. Since master planning and design of the building are still required and not completed, our decision was justified although it did upset your Council and community. The funds are being used at other schools in a more timely manner so as not to waste taxpayers money.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Mr. Craig Fuller

-2-

May 25, 1993

In fact, the funds would have been inadequate and the project would have had to be suspended for lack of sufficient funds if the Governor was requested to release the money. The recent appropriation of \$6 million greatly enhances the chances of completing the project. In the end, Hookena Elementary has benefited greatly from our decisions.

The Department of Education anticipates reappropriating the funds from Act 300/1992, Item G-19 for land acquisition and design in the event we cannot initiate either before June 30, 1994. The request will be made in the 1994 legislative session. Your support will be requested to lobby for the request.

- 3) The decision of the Department of Education (DOE) to convert Hookena School to a K-5 school in the future is based on an approved complex development plan dated October 4, 1991. We will continue to plan based on the approved plan unless the district directs us otherwise. Hence, land acquisition will be based on a K-5 school population.

- 4) Purchase of land on the south side for delivery trucks seems inappropriate at this time since the master plan will determine the placement of a new cafeteria structure. During the master plan phase, the council should be providing your recommendations regarding this issue as well as safety issues.

Your suggestions regarding acquisition of various parcels should be included in comments for the EIS. The DOE will make a decision regarding the parcels after the final EIS is printed so as to have the benefit of all interested parties in consideration.

Thank you for your input. Should there be any questions, please call the Hawaii District Office or the Facilities Branch at 737-4743.

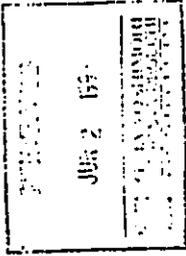
Sincerely,

*Alfred K. Suga*  
Alfred K. Suga  
Assistant Superintendent

AKS:hy (11)

Attach.

cc: C. Toguchi, Supt.  
A. Garson, HIDO  
R. Morita, PH, DAGS



STATE OF HAWAII  
BOARD OF EDUCATION

P. O. BOX 2380  
HONOLULU, HAWAII 96828

June 18, 1993

Ms. Barbara Domingo  
Gima, Yoshimori, Miyabara  
Deguchi Architects, Inc.  
7 Waterfront Plaza - Suite 400  
500 Ala Moana Boulevard  
Honolulu, Hawaii 96813

Dear Ms. Domingo:

The Board of Education received input by the School Community Based Management Council of Hookena School which I am attaching for your consideration as you develop the Environmental Impact Statement. A letter by the secretary, Ms. Purna Zei, and from the representative of the Facilities Expansion Committee, Ms. Malani Merrill, reflect concerns of the committee.

Thank you for the opportunity for these submittals.

Sincerely,

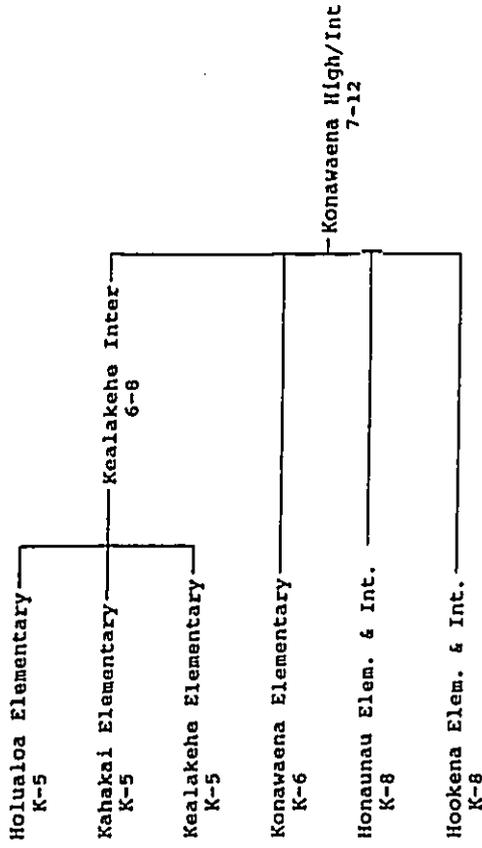
*Debi Hartman*  
DEBI HARTMAN  
Chairperson

Attachment

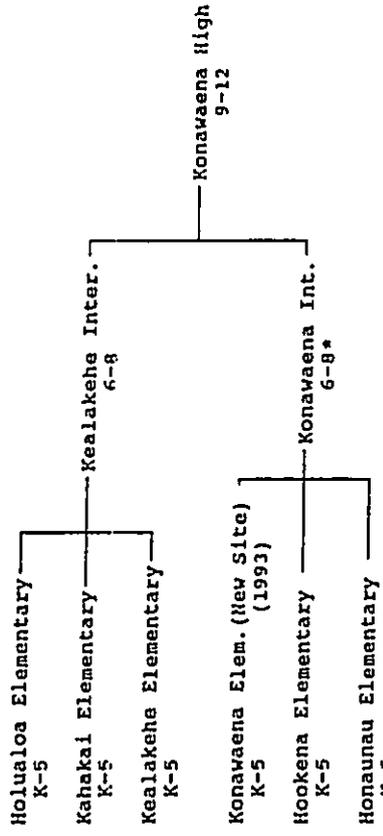
cc: Mr. Toguchi, Supt  
Dr. Garson, HI Dist Supt  
Mr. Suga, Asst Supt OBS  
Mr. Morita, DAGS

COMPLEX FEEDER ORGANIZATION  
KONAWAENA COMPLEX

EXISTING STRUCTURE



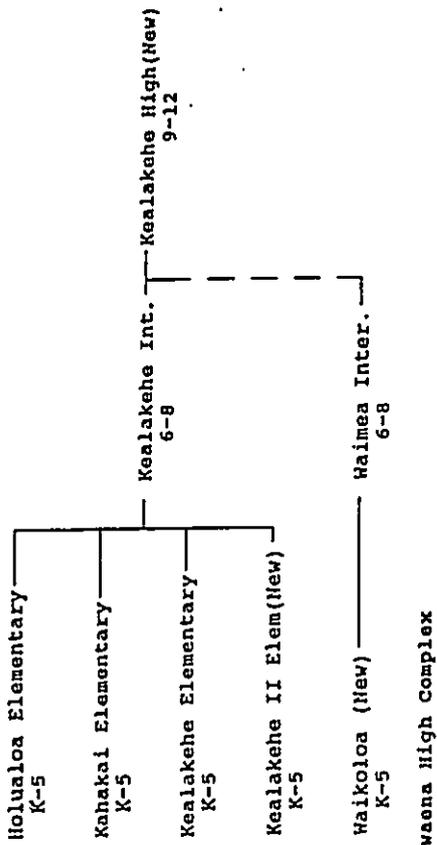
PROPOSED STRUCTURE (1994)



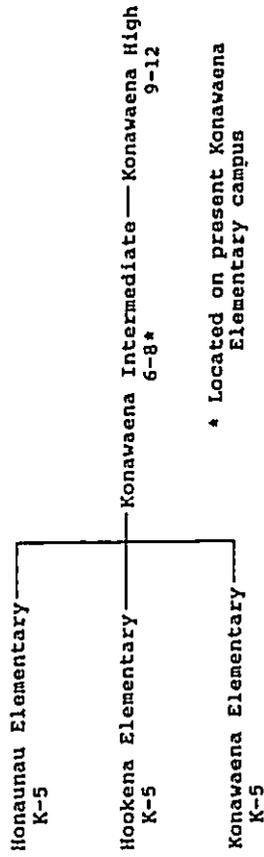
\* - Located on present Konawaena Elementary campus

**PROPOSED STRUCTURE (2010)**

**Kealahou High Complex**



**Konawaena High Complex**



\* Located on present Konawaena Elementary campus

A Facilities Assessment and Development Schedule (FADS) will be required and an ultimate site plan will be requested to determine the siting of new buildings and portables and replacement of old buildings.

Current CIP projects include a 4-classroom building under design. Additional funds for the construction of the building must be requested.

**Hookena Elementary and Intermediate**

The enrollment in the 1980's increased from 136 in 1980 to 229 in 1988. In 1989 enrollment increased dramatically to 271 in grades K-8, leveled to 269 in 1990, but increased again to 306 in 1991. Enrollment projections for 1996 are 362 students. The design enrollment for grades K-5 is 310 and 500 for grades K-8.

Facilities planning will be based on a K-5 school at Hookena. An ultimate site plan is needed for the school in order that much needed CIP projects can be identified for budgeting purposes. The school has a very old wooden building built in 1931 housing four classrooms, a cafeteria, and a library. The ultimate site plan must take into account the terrain of the site as well as the limited space of 4.033 acres.

The school is presently facing a shortage of classrooms. A portable classroom will be provided for school year 1991-92.

Current CIP projects include a site selection study to acquire additional land and additional toilet facilities. The present biennium budget includes design of a six classroom building as phase I of a replacement program and construction funds will be requested in a future biennium.

**Kahakai Elementary**

Kahakai School experienced a large enrollment growth from 477 students in 1987 to 618 in 1988. The growth slowed in 1989 with enrollment steady at 618 but rose sharply again to 663 students in 1990 and to 727 in 1991. Enrollment projections in the next six years show an increase of nearly 80 students by 1996 to 743. The design enrollment is 800 students.

Developments in the area include the Kahakai Associates subdivision north of the campus. The development will include a vehicular access near the makai-north corner of the campus and a proposed park adjacent to the school. The proposed realignment of the A111 Highway will eliminate the current school access.

DEPARTMENT OF EDUCATION  
FACILITIES BRANCH

REVISED 9/91

COMPLEX DEVELOPMENT PLANS  
KAWAENA COMPLEX

ENROLLMENT IMPACT - (6 YEAR) SCHOOL	1991 CAPACITY	1990 ACTUAL ENROLLMENT	1996 PROJECTIONS		ENROLLMENT CHANGE
			1996 PROJ. CR.	1996 AUJ TOTAL	
HELIJULOA	366	373	457	2	84
HEWAIWAI	394	444	415	0	-29
HOOKAHA	250	259	362	0	93
KAWAI	559	663	743	0	80
KEALAHEHE ELEM.	792	946	1283	0	337
KAWAENA ELEM.	555	689	769	0	80
KEALAHEHE INTER.	932	792	1164	0	372
KAWAENA HIGH	1408	1616	1728	0	-388
KEALAHEHE HIGH	0	0	1060	0	1060
CLASSROOM REQUIREMENTS - (1996 PROJECTIONS)					

SCHOOL	1996 CLASSROOMS REQUIRED		TOTAL	INVENTORY (1991)		TOTAL	C.U.R. OR OVER/ NET SURPLUS
	REG	SUPP		PERM	PORT CR.		
HELIJULOA	19	2	22	9	11	18	4
HEWAIWAI	17	2	21	10	10	20	-1
HOOKAHA	15	4	21	4	9	13	-8
KAWAI	30	3	33	30	2	32	-5
KEALAHEHE ELEM.	54	0	57	26	14	40	-17
KAWAENA ELEM.	30	2	32	32	0	32	0
KEALAHEHE INTER.	45	11	59	40	5	42	-17
KAWAENA HIGH	44	14	68	54	16	68	0
KEALAHEHE HIGH	42	0	42	0	0	0	-42
ENROLLMENT IMPACT - (20 YEAR)							

SCHOOL	2010 DESIGN ENROLLMENT	CURRENT GR.	CLASSROOMS REQUIRED	20 YEAR EXCESS OR SHORTAGE
HELIJULOA	525		26	-8
HEWAIWAI	300	GR. K-8 (500)	15	5
HOOKAHA	310	GR. K-8 (500)	16	-3
KAWAI	800		41	-11
KEALAHEHE ELEM.	1000 **		49	-9
KAWAENA ELEM.	800	GR. K-6	41	-11
KEALAHEHE INTER.	1525		69	-27
KAWAENA HIGH	800		73	-5
& INTER.	680		0	
KEALAHEHE HIGH	2200 *** - NEW SCHOOL		97	-97
KEALAHEHE II	1260 *** - PROPOSED NEW SCHOOL			

\*\* - NOT INCLUDING NEW KEALAHEHE EL.  
\*\*\* - DE TO KEALAHEHE PLANNED CAPACITY

0 - ROUNDED

To: Ms. Debbie Hartman  
Chairperson,  
Board of Education  
P.O. Box 2360  
Honolulu, Hawaii 96804

From: Ho'okena School SCBM Council  
86-4355 Mamalaha Hwy.  
Captain Cook, Hawaii 96704

May 10, 1993

Dear Ms. Hartman,

The Ho'okena School SCBM Council would like to express it's gratitude, and thank you for your support as we move through the land acquisition, master plan, and construction process for our school.

The enclosed letter from SCBM Council member Nalani Merrill addresses our concerns in relation to the land acquisition EIS.

The council would like to also address it's concern in regards to (1) the upgrading of our water system, (2) the timeliness with which the process proceeds, (3) the K-8 versus K-5 configuration, and (4) the amount and placement of land to be acquired.

First the council is aware of the county regulations required to upgrade the water system at Ho'okena School in order to construct a permanent building. Since the 1993-95 biennium legislative session has approved the Department of Education's budget including monies for the construction of a six classroom building at Ho'okena, we assume that this matter is being addressed or soon will be. We ask for confirmation of this.

Secondly, as we are all aware, \$2.17 million was deferred from Ho'okena in the 1991-93 biennium because the funds could not be encumbered before they lapsed. We trust that all will be done to make sure this unfortunate incident will not be repeated.

Thirdly, the council understands the desire of the DOE to create a Middle School for South Kona. Ho'okona has been referred to as an elementary school since 1984, but we are an elementary and intermediate school. We continue to plan for and service our intermediate students. Since both the plans for Kealahou High School and Kona Elementary School are in difficulty and since the planned reorganization of our school from a K-8 to a K-5 is not supported by the community or this SCBM Council, we request that a larger portion of land be acquired to facilitate, if need be, our continued growth as a K-8 school.

Lastly, the council requests for immediate safety reasons that a portion of the south parcel be purchased for access to our current cafeteria. This would divert the large delivery trucks from the center of our campus, thus making it safer for our students. The council agrees with the DOT that the west parcel would be safest for our student population, but also perceives that the north parcel could immediately expand our playing field. But we are also aware that the current owner of the adjoining land wishes to maintain the north parcel, at least in part.

Therefore, we suggest the BOE consider acquiring part of the south parcel plus the full west parcel and as much of the north parcel as can be obtained without a suit. We call for eloquent negotiators to obtain as much land for the school as possible.

Sincerely,

*Purna Zei*

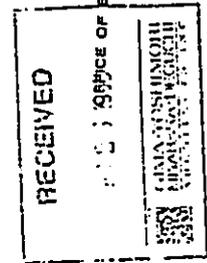
Purna Zei  
Secretary, Ho'okona SCBM

cc. Robert Fox

FORM REVERSE  
Sheet 1 of 2



STATE OF HAWAII  
DEPARTMENT OF ENVIRONMENTAL QUALITY CONTROL  
270 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE 508-884-1185



IRVING J. CHOY  
Director

Letter to Mr. Gordon Matsuoka  
April 21, 1993  
Page 2

If you have any questions, please call Margaret Wilson at 586-4185. Thank you.  
Sincerely,

*Brian J. Choy*

Brian J.J. Choy  
Director

c: Pono Lunn, Gima, Yoshimmi, Miyabara, Deguchi (Consultants)

Mr. Gordon Matsuoka, State Public Works Engineer  
Department of Accounting and General Services  
State of Hawaii  
P.O. Box 119  
Honolulu, Hawaii 96810

Attention: Mr. Ralph Yukomoto, Planning Branch

Dear Mr. Matsuoka:

SUBJECT: DRAFT EIS FOR THE HOOKENA ELEMENTARY SCHOOL EXPANSION,  
SOUTH KONA, HAWAII

We have completed our review of the subject document and have several comments. Please include the following information when submitting the Final EIS for this project, as required by § 11-200-17 Hawaii Administrative Rules:

- ▶ A summary sheet which concisely discusses the following: a brief description of the action, significant beneficial and adverse impacts, proposed mitigation measures, alternatives considered, unresolved issues, and compatibility with land use plans and policies, and a listing of permits or approvals (§ 11-200-17 (b));
- ▶ Probable adverse environmental effects which cannot be avoided (§ 11-200-17(i)); and
- ▶ Summary of unresolved issues (§ 11-200-17(n)).

Please include copies of all substantive comment letters and responses in the Final EIS. Letters of no comment need not be reproduced in the Final, however, all persons, organizations, and public agencies who have commented on the Draft EIS (no comment letters included) shall be listed in the Final pursuant to § 11-200-18.



ARCHAEOLOGICAL CONSULTANTS  
of  
HAWAII

59-624 Pupukea Rd.  
Haleiwa, Hawaii 96712  
(808) 638-7442

JOSEPH KENNEDY  
Archaeologist

Mr. Wil Chee  
Wil Chee Planning  
1585 Kapiolani Blvd, Suite 840  
Honolulu, Hawaii 96814

August 2, 1993

Dear Mr. Chee:

As you know, Archaeological Consultants of Hawaii, Inc. conducted an inventory level survey of proposed expansion lands at Hookena School, Island of Hawaii, TMK: 9-6-10: 2 (por). At the time of this survey (April 1992) the northern portion of the property was covered with a thick mat of grass which had grown overhead. This area was probed as best as could have been done under the circumstances and given the scope of the proposal. In addition, informant testimony was obtained for this portion of the property and we were told it was devoid of sites.

Last week, a representative of our office conducted an archaeological tour of the property at the request of some members of the local community. During this unofficial visit it was noticed that the thick grasses covering the northern portion of the property had either been burned or perhaps grazed-off.

With the benefit of this clearing, our representative noticed a cave opening which was not visible in April 1992 and therefore not recorded in our initial survey. A preliminary inspection confirmed that at least two sizable tubes are present and that they clearly run through a portion of the subject property.

It is our opinion that these tubes should be properly investigated and that the results of these investigations should be added to our initial report as an addendum.

Our initial inventory report has been sitting on a reviewer's desk at the Department of Land and Natural Resources for the past year so there is time for such an addendum to be prepared and added to the original.

Mr. W. Chee  
8-2-93  
Page 2

We estimate the survey would take approximately four days with write-up time dependent on presence or absence of cultural materials. We are prepared to conduct this work immediately after a notice to proceed and would bill according to our "Additional Archaeological Work Proposal" which was submitted on November 20, 1991.

If there are any questions regarding this letter, please feel free to contact me.

Aloha,

  
Joseph Kennedy  
Consulting Archaeologist



(P)1596.3

AUG 10 1993

Mr. Joseph Kennedy  
Archaeologist  
Archaeological Consultants of Hawaii  
59-624 Pupukea Road  
Haleiwa, Hawaii 96712

Dear Mr. Kennedy:

Subject: Hookena Elementary School, SS/EIS  
Additional Archaeological Survey Inventory

Thank you for your August 2, 1993 letter regarding the lava tubes on the proposed north site for the Hookena Elementary School expansion site selection study/environmental impact statement (SS/EIS) and alerting us to the possible need for further archaeological investigations. If the north site is chosen, then additional archaeological work will be done during the master plan or design phase (as required).

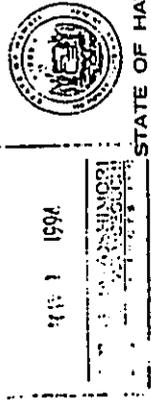
If you have any questions on this matter, please contact Mr. Ralph Morita of Planning Branch at 586-0486.

Very truly yours,

GORDON MATSUOKA  
State Public Works Engineer

RH:jk  
cc. Mr. Paul Kiyabu, DOE  
✓ Mr. Pono Lunn, Gima Yoshimori Miyabara Deguchi

*Copy to Pao*



MAIL ROOM

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD UHEBASAMI  
DEPUTY COMPTROLLER

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96813

LETTER NO. (P)1411.4

Ms. Nalani Merril  
Page 2

Ltr. No. (P)1411.4

MAY 13 1994

Ms. Nalani Merril  
Hookena School SCBM Council  
86-4155 Manalaha Highway  
Captain Cook, Hawaii 96704

Dear Ms. Merril:

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your May 11, 1993 comments on the subject project. We offer the following in response to your comments:

1. Figure 1 will be corrected to note the portable classrooms and to include the library.
2. The objection of the SCBM and the community to the reorganization to serve K to 5 is noted. However, since the DOE has not provided us with instructions to do otherwise, the planning will continue on the assumption that the school will be reorganized to serve K to 5.
3. The use of wooden buildings is not considered a fire hazard in this case since the use is allowed within Uniform Building Code requirements.
4. Relocating the playground away from the highway may reduce the safety hazards and will be noted in the final EIS.
5. The cost estimates are included for the purpose of comparing the relative costs of developing each site. It is not an accurate representation of the actual cost which would be incurred to develop the West Scheme. Means to reduce the cost of the borrow can be investigated during the design phase of the project. However, such measures would also serve to reduce the costs for the North and South Schemes. A

more accurate projection of costs will be able to be made once the site has been selected and a more defined scope of work developed.

Thank you once again for your assistance on this project. If there are any questions on this matter, please contact Mr. Ralph Morita of the Planning Branch at 586-0486.

Very truly yours,  
*Gordon Matsuo*  
GORDON MATSUOKA  
State Public Works Engineer

RM:jk  
cc: Gima, Yoshimori, Miyabara, Deguchi Architects, Inc.

✓ copy to Yono  
7/11/1 1-b



MAHIEE  
18-02A

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD L. UHEBASAMI  
DEPUTY COMPTROLLER  
LETTER NO. (P) 1415.4  
STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96819

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96819

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD L. UHEBASAMI  
DEPUTY COMPTROLLER  
LETTER NO. (P) 1417.4

JOHN WALKER  
GOVERNOR

MAY 16 1994

Honorable Keith Ahue  
Chairperson  
Department of Land and  
Natural Resources  
State of Hawaii  
Honolulu, Hawaii

Honorable John Lewin  
Director  
Department of Health  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Ahue:

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your May 7, 1993 comments on the subject project. The final EIS will be revised to correct the designation of the proposed site to "Agricultural District."

Thank you for your May 25, 1993 comments on the subject project. We offer the following responses to your comments:

If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Public Works Division at 586-0486.

The final EIS will be revised to include your recommendations for solid waste minimization.

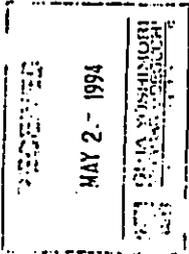
Very truly yours,  
*Robert P. Takushi*  
ROBERT P. TAKUSHI  
State Comptroller

Water Pollution

The final EIS will be revised to include the requirements for a National Pollutant Discharge Elimination System permit for any discharge to State waters.

If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Public Works Division at 586-0486.

Very truly yours,  
*Robert P. Takushi*  
ROBERT P. TAKUSHI  
State Comptroller



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96819

ROBERT P. TANUSHI  
COMPTROLLER  
LLOYD I. UHEBASAKI  
DEPUTY COMPTROLLER  
LETTER NO. (P) 1300.4

Page 2

Ltr. No. (P)1300.4

APR 21 1994

Mr. H. William Sewake, Manager  
Department of Water Supply  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Sewake:

Subject: Hookena Elementary School  
Fire Protection System Requirements for  
New Classroom Building

This is to request a meeting with your department to discuss the fire protection system requirements for Hookena Elementary School. The following comments are provided on this matter:

1. The State of Hawaii, Department of Accounting and General Services (DAGS) and the Department of Education (DOE) staff are currently working on a master plan for Hookena Elementary School.
2. This master plan will determine how best to expand the existing Hookena Elementary School site (TMK: 3rd Division, 8-6-10: 9 and 12; 4.033 acres) by about 4 acres to accommodate future school needs.
3. This master plan will also determine the location for a new 6 or 8 classroom building being planned for a September 1997 opening.
4. The firm of Gima, Yoshimori, Miyabara, Deguchi Architects (GYA) has been retained by DAGS to do the master plan.

To expedite the new classroom building project, we would appreciate an early meeting between DAGS, DOE, GYA and the County of Hawaii, Department of Water Supply (DWS) staff to discuss the following issues:

1. Anticipated size and length of water lines and

size of storage tanks needed to address the fire protection system requirements.

2. Acceptable alignment(s) and location(s) of new water lines and storage tanks for subsequent dedication to the DWS.

Please have your staff call Mr. Ralph Morita of the Public Works Division at 586-9486 to arrange a meeting.

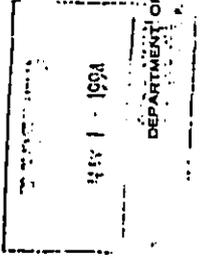
Very truly yours,

*Gordon Matsuoaka*  
GORDON MATSUOKA

State Public Works Engineer

cc: Mr. Alfred Suga, DOE  
Mr. Wes Deguchi, GYA

1-b copy to Pano



ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD UKEBASAMI  
DEPUTY COMPTROLLER  
LETTER NO. (P)1413.4

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 115, HONOLULU, HAWAII 96810

MAY 13 1994

JOHN WAIHEE  
GOVERNOR

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD UKEBASAMI  
DEPUTY COMPTROLLER  
LETTER NO. (P)1416.4



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 115, HONOLULU, HAWAII 96810

MAY 16 1994

WAIHEE  
GOV

Honorable Mufi Hannemann  
Director  
Department of Business, Economic  
Development, and Tourism  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Hannemann:

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your April 19, 1993 comments on the subject project. We offer the following responses to your comments:

1. The State Land Use Designation for the proposed expansion areas will be corrected to "Agricultural District."
2. The final EIS will be revised to include a map showing proposed expansion areas in relationship to State Land Use Districts and a Tax Map showing the subject properties.

Thank you once again for your assistance on this project. If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Public Works Division at 586-0486.

Very truly yours,

*Robert P. Takushi*  
ROBERT P. TAKUSHI  
State Comptroller

Mr. Brian J. J. Choy  
Director  
Office of Environmental  
Quality Control  
Central Pacific Plaza  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Choy:

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your April 21, 1993 comments on the subject project. The final EIS will be revised to incorporate your comments.

Thank you once again for your assistance on this project. If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Planning Branch at 586-0486.

Very truly yours,

*Gordon Matsuoaka*  
GORDON MATSUOKA  
State Public Works Engineer

RM:jk

cc: Gima, Yoshimori, Miyabara, Deguchi Architects, Inc.

WAIHEE  
5-1408



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 118, HONOLULU, HAWAII 96818

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD UENESAKI  
DEPUTY COMPTROLLER  
LETTER NO. 1414.4  
(P) 1414.4

JOHN WAIHEE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 118, HONOLULU, HAWAII 96818

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD UENESAKI  
DEPUTY COMPTROLLER  
LETTER NO. 1420.4  
(P) 1420.4

MAY 16 1994

Honorable Herman Aizawa  
Superintendent  
Department of Education  
State Of Hawaii  
Honolulu, Hawaii

Dear Dr. Aizawa:

Subject: Hookeana Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your April 27, 1993 comments on the subject project. The final EIS will be revised to incorporate your comments.

Thank you once again for your assistance on this project. If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Public Works Division at 586-0486.

Very truly yours,

*Robert P. Takushi*  
ROBERT P. TAKUSHI  
State Comptroller

MAY 16 1994

Honorable Rex Johnson  
Director  
Department of Transportation  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Johnson:

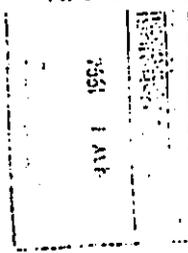
Subject: Hookeana Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your April 28, 1993 comments on the subject project. The final EIS will be revised to incorporate your recommendations regarding safety.

If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Public Works Division at 586-0486.

Very truly yours,

*Robert P. Takushi*  
ROBERT P. TAKUSHI  
State Comptroller



ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD I. UMEBASAMI  
DEPUTY COMPTROLLER  
LETTER NO. (P)1419.4

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96811

MAY 13 1994

Mr. Roy Price, Sr.  
Vice Director of Civil Defense  
Department of Defense  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Price:

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

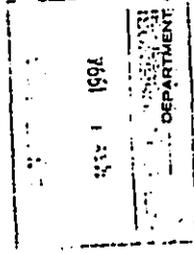
Thank you for your May 18, 1993 comments on the subject project. The final EIS will be revised to include the recommendation that the structures for Hookena Elementary School be designed to resist the high winds at the 1,000-foot elevation associated with tropical cyclones and hurricanes.

If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Planning Branch at 586-0486.

Very truly yours,

*Gordon Matsuoka*  
GORDON MATSUOKA  
State Public Works Engineer

RM:jk  
cc: Gima, Yoshimori, Miyabara, Deguchi Architects, Inc.



ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD I. UMEBASAMI  
DEPUTY COMPTROLLER  
LETTER NO. (P)1418.4

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96811

MAY 13 1994

Mr. William A. Bonnet  
Manager  
Environmental Department  
Hawaiian Electric Company, Inc.  
P. O. Box 2750  
Honolulu, Hawaii 96840-0001

Dear Mr. Bonnet:

Subject: Hookena Elementary School Expansion  
Draft EIS and Site Selection Report  
DAGS Job No. 11-16-4940

Thank you for your May 27, 1993 comments on the subject project. The final EIS will be corrected on Page 25 to read "Hawaii Electric Light Company, Inc."

If there are any questions on this matter, please have your staff contact Mr. Ralph Morita of the Planning Branch at 586-0486.

Very truly yours,

*Gordon Matsuoka*  
GORDON MATSUOKA  
State Public Works Engineer

RM:jk  
cc: Gima, Yoshimori, Miyabara, Deguchi Architects, Inc.