

ENVIRONMENTAL IMPACT STATEMENT  
FOR

KALAHEO HIGH SCHOOL  
REVISED ULTIMATE SITE PLAN  
AT KAILUA, OAHU, HAWAII

PREPARED FOR  
DIVISION OF PUBLIC WORKS  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
MAY 1984



ENGINEERS-SURVEYORS HAWAII, INC.  
(FORMERLY WILLIAM HEE & ASSOCIATES, INC.)

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BY

ENGINEERS SURVEYORS HAWAII, INC.

MAY 1984

## SUMMARY

The proposed master plan calls for the expansion of the existing Kalaheo High School site from 19.3 acres to 54.6 acres and the construction of the following additional school facilities:

1. Football/Track Field with Bleachers and Lights
2. Baseball Field
3. Two Playcourt Units
4. Tennis Courts
5. Varsity/J.V. Locker/Shower
6. Swimming Pool
7. Parking for 219 cars

In the construction of the baseball field and play and tennis courts, approximately 800 linear feet of Hawaiian Electric Co. (HECO) electrical transmission lines will have to be relocated.

Until the additional facilities are constructed, the School will be deficient in that respect and Kalaheo High School students will have to continue to go off campus for certain athletic activities. Each facility will be constructed only after its financial impact has been reviewed by the State Departments of Education (DOE), Budget and Finance (DBF), and Planning and Economic Development (DPED) and funds are appropriated by the Legislature and allocated by the Governor.

Approximately 35.3 acres are proposed to be added to the existing school site, 32.8 acres are on the hillside on the north side of Mokapu Boulevard, and 2.5 acres are within the fringe of Kawainui Marsh on the south side of Mokapu Boulevard.

The land on the hillside is owned by the Estate of Harold K. L. Castle. There are 29.6 acres located to the northwest of the existing school site; it varies in elevation from 20 to 400 feet. There are 3.2 acres located to the northeast of the existing school site above 6 residential lots fronting Iiaina Street; it varies in elevation from 50 to 130 feet.

The portion of land in the Kawainui Marsh is owned by Iolani School. This area is located to the southwest of the existing school, across Mokapu Saddle Road; it is very flat and is at approximately 6 feet elevation. It is identified as Tax Map Key 4-2-17: Portion 20. The only facility proposed for this area is a parking lot which will cover about 2.5 acres and be located between the Mokapu Saddle Road and the Kapaa Quarry Road. This area is lower than both of these roads. The "Resource Management Plan for Kawainui Marsh", prepared by the Department of Planning and Economic Development indicates the area between the Mokapu Saddle Road and the Kapaa Quarry Road is located at least 600 feet from any improved waterbird habitat and is isolated from the Marsh by the Kapaa Quarry Road. When the design of the parking lot is implemented the State will apply for a Department of the Army Permit pursuant to Section 404 of the Clean Water Act.

The areas to be added to the school, both on the hillside and in the Marsh, are vacant and overgrown with vegetation. They are in the State Land Use Urban and Conservation Districts, zoned R-4, R-6, and P-1 and identified for Residential and Preservation use on the County Development Plan adopted in 1983. The existing school site and a portion of the areas to be added are located within the Shoreline Management Area.

The impacts from the proposed action are as follows:

1. Social: The educational needs of the community will be better served. The existing neighborhood character in the vicinity of the school will not be altered. There will be no displacements.
2. Economic: Expansion of the school will remove approximately 35.3 acres from the tax base. The estimated land acquisition cost is \$870,000 and the estimated design and construction cost is \$16.2 million, based on January 1984 prices.
3. Environmental: Approximately 35.3 acres of undeveloped land will be urbanized for education, recreation, and athletic purposes. Some minor noise, dust and water pollution will occur during construction of the proposed facilities. However, these effects will be temporary and will be controlled by enforcing applicable grading, soil erosion, and pollution control measures. Construction of the facilities will alter the topography and change the visual appearance of the hillside above the school. Landscaping will be provided to offset this visual impact. Within Kawainui Marsh, some fill may be necessary in the construction of the parking lot. However, this area is separated from the Marsh proper by the existing Quarry road and will have minimal impact on the Kawainui Marsh and its eco-system. Long-term impacts would be increased generation of traffic, noise and solid waste; and increased consumption of water, gas and electricity. No rare or endangered species of flora will be affected. The action will have a minimal effect on the four endangered water birds - Hawaiian Coot, Hawaiian Duck, Hawaiian Gallinule and Hawaiian Stilt; which inhabit Kawainui Marsh. No archaeological or historic sites will be affected.

The following alternatives were considered but rejected:

1. No expansion of the school site nor construction of additional school facilities.
2. Construction of additional school facilities within the proposed Kawainui Park in accordance with the February 1974 Ultimate Site Plan for the Kalaheo High School.
3. Construction of additional school facilities through expansion of the school site to the northeast and northwest in accordance with the April 1977 Ultimate Site Plan for Kalaheo High School.
4. Construction of additional school facilities through expansion of the school site to the northwest, northeast, and southwest in accordance with Alternative Plans B, C, D, E and F, made in 1982.

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ENVIRONMENTAL IMPACT STATEMENT  
FOR  
KALAHEO HIGH SCHOOL  
REVISED ULTIMATE SITE PLAN

**I. PROJECT DESCRIPTION**

**A. Introduction**

This environmental impact statement is prepared for the Revised Ultimate Site Plan for Kalaheo High School. Its purpose is to expose all of the concerns associated with expansion of the existing school site and construction of additional school facilities as reflected in the Revised Ultimate Site Plan for Kalaheo High School.

**B. Objective**

The primary objective of the Department of Education (DOE) is to provide adequate educational opportunities to all school-age children residing in the State of Hawaii. A sub-objective is to provide adequate educational facilities for these children. The Revised Ultimate Site Plan developed for Kalaheo High School is to facilitate implementing these objectives.

**C. Background**

Kalaheo High School is located in the northwest corner of Kailua as indicated on Figure 1. The school was initially opened in September 1966 as the Kalaheo Hillside Intermediate School. However, in July 1971, the DOE adopted the following plan to relieve the overcrowded conditions at Kailua Intermediate and High Schools and implement the desired grade level organization:

1. Kailua High - Change the organization from grades 10-12 to grades 9-12.
2. Kalaheo Intermediate - Convert to a high school with grades 9-12.
3. Kailua Intermediate - Change the organization from grades 7-9 to grades 7-8.
4. Maunawili Intermediate - Construct a new intermediate school with grades 7-8.

This plan provided another secondary school to relieve the overcrowded conditions at Kailua High and Kailua Intermediate Schools, provided the best method of splitting the Aikahi-Kailua area with Kailua Intermediate and Kalaheo High serving one area and Maunawili Intermediate and Kailua High serving the other area, and provided the opportunity to implement the desired DOE organization of grades 7-8 and 9-12. Proposed implementation of this plan was as follows:

1. Expand Kalaheo Hillside Intermediate School and convert it from grades 7-9 intermediate school to grades 7-12 intermediate-high school to relieve Kailua High School.



2. Change Kailua High School from grades 10-12 to grades 9-12 to relieve Kailua Intermediate School.
3. Construct the proposed Maunawili Intermediate School and phase in students from Kailua Intermediate School.
4. Phase out the intermediate students from Kalaheo High School to Kailua Intermediate School.

Subsequently, due to a sharp decline in enrollments, the DOE decided to delete construction of the proposed Maunawili Intermediate School. Therefore, Kailua Intermediate School serves all of the grades 7-8 students from the Kailua area.

The conversion of Kalaheo from an intermediate to a high school was initiated in September 1973 with the addition of the 10th grade. In September 1974, the 11th grade was added. In September 1975, the 12th grade was added and the 7th grade phased out. In September 1976, the conversion was completed with the phasing out of the 8th grade.

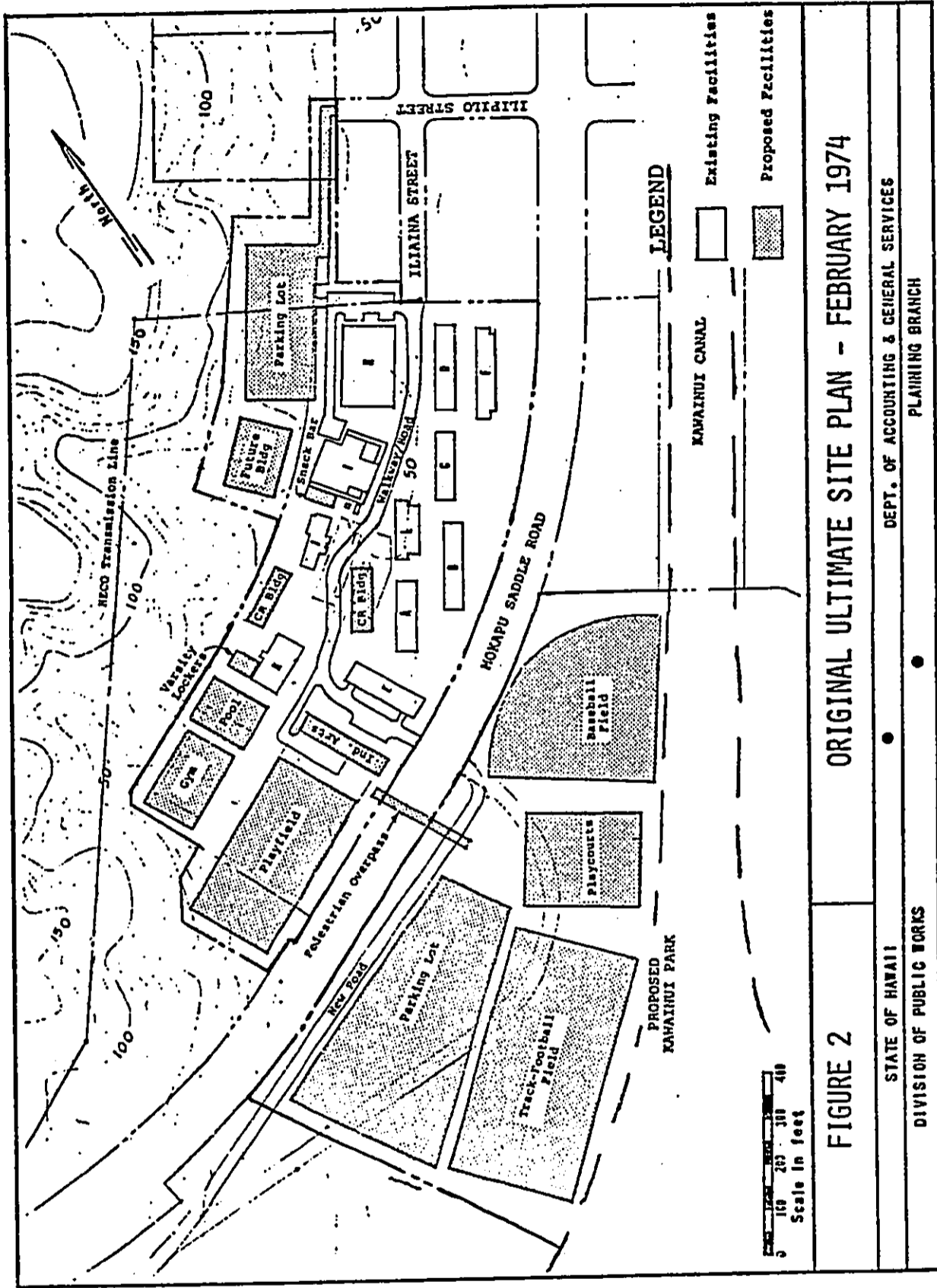
To plan the conversion of the school from an intermediate to a high school, the ultimate site plan shown on Figure 2 was adopted by the DOE on February 1974. This plan was developed for a design enrollment of 2,000, grades 9-12 students. It called for land acquisition and the construction of school facilities on the lands adjacent to the school site and development of some school facilities within the Department of Parks and Recreation's proposed Kawainui Park. The school facilities within the park were to be constructed by the State, while the City and County retained title to the land. The facilities within the park were to be used jointly by the school and the park.

Since the adoption of the original ultimate site plan, the outlined areas shown on Figure 3 were added to the school and the following improvements constructed:

1. Parking Lot
2. Industrial Arts Building M
3. Playfield Expansion
4. Gymnasium

Because of the delay in the park development, the gymnasium was resited so it would not displace the existing paved courts. While the DOE was able to proceed with construction of school facilities on lands adjacent to the school site, it was not able to construct any of the school facilities sited within the proposed Kawainui Park. Because of concerns expressed about the Kawainui Marsh's eco-system, the Department of Parks and Recreation agreed to conduct a scientific study of the marsh prior to developing the park. Also, much community sentiment was expressed on retaining the marsh in its present state.

Faced with this dilemma of not being able to construct the school facilities located within the proposed Kawainui Park and the possibility that the construction of the facilities may never be permitted, the DOE



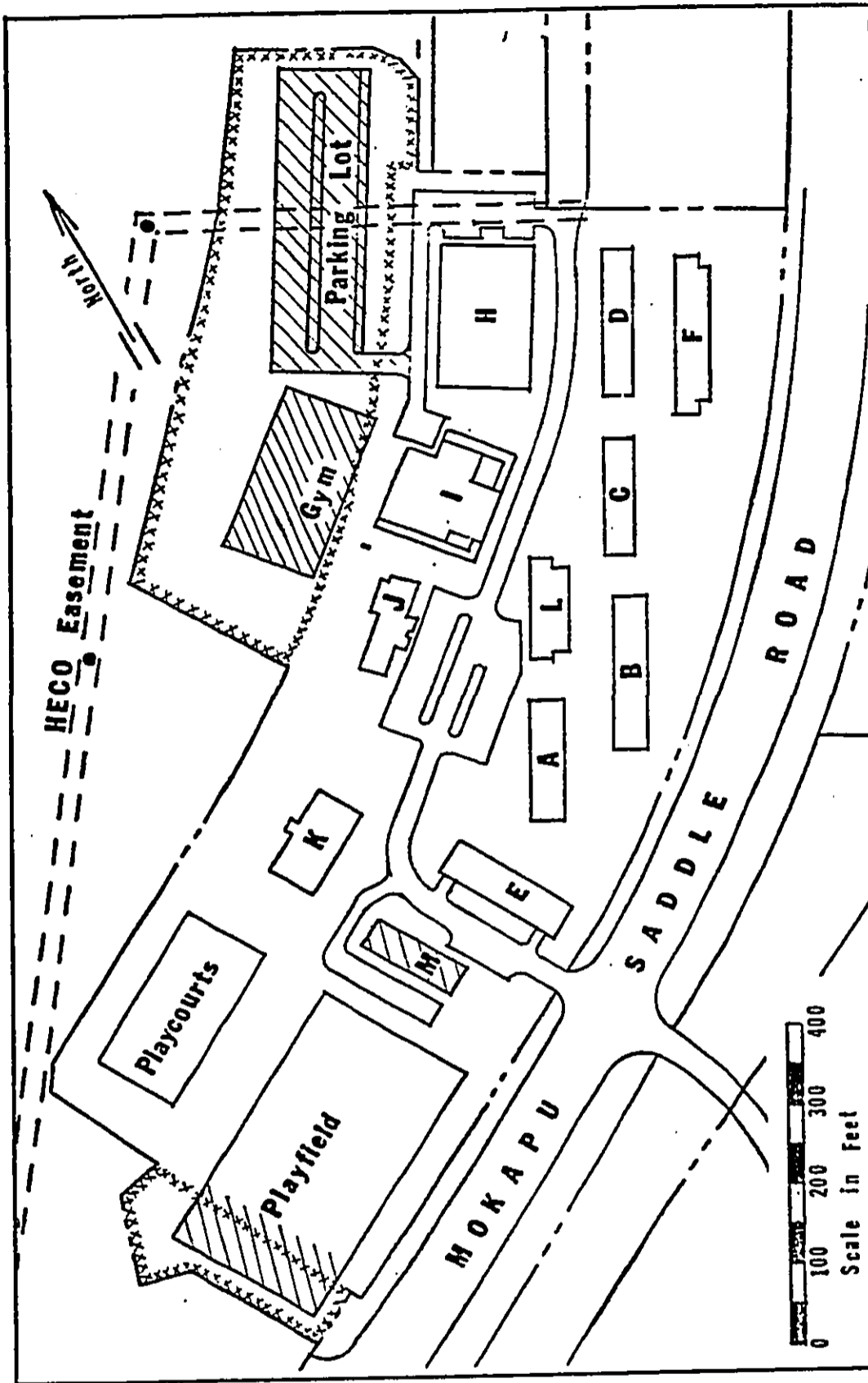


FIGURE 3 AREAS ADDED TO SCHOOL AND IMPROVEMENTS CONSTRUCTED

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decided to revise the school's ultimate site plan to resite the school facilities that were to be located within the proposed Kawainui Park.

Shown on Figure 4 is the Ultimate Site Plan (USP) for Kalaheo High School which was adopted by the DOE in April 1977. However, when the Draft EIS for the USP was circulated, comments opposing the USP were received. The major objection being the placement of the football/track field above the homes on Iiaina Street.

Because of the strong opposition to the USP, the DOE decided to have other alternative site plans developed. For these alternative site plans, the DOE requested that the football/track field be sited along Mokapu Saddle Road where the school's existing play field is located. The alternative site plans which were developed are contained in Appendix B - "Evaluation Report for Kalaheo High School Alternative Site Plans, 1982."

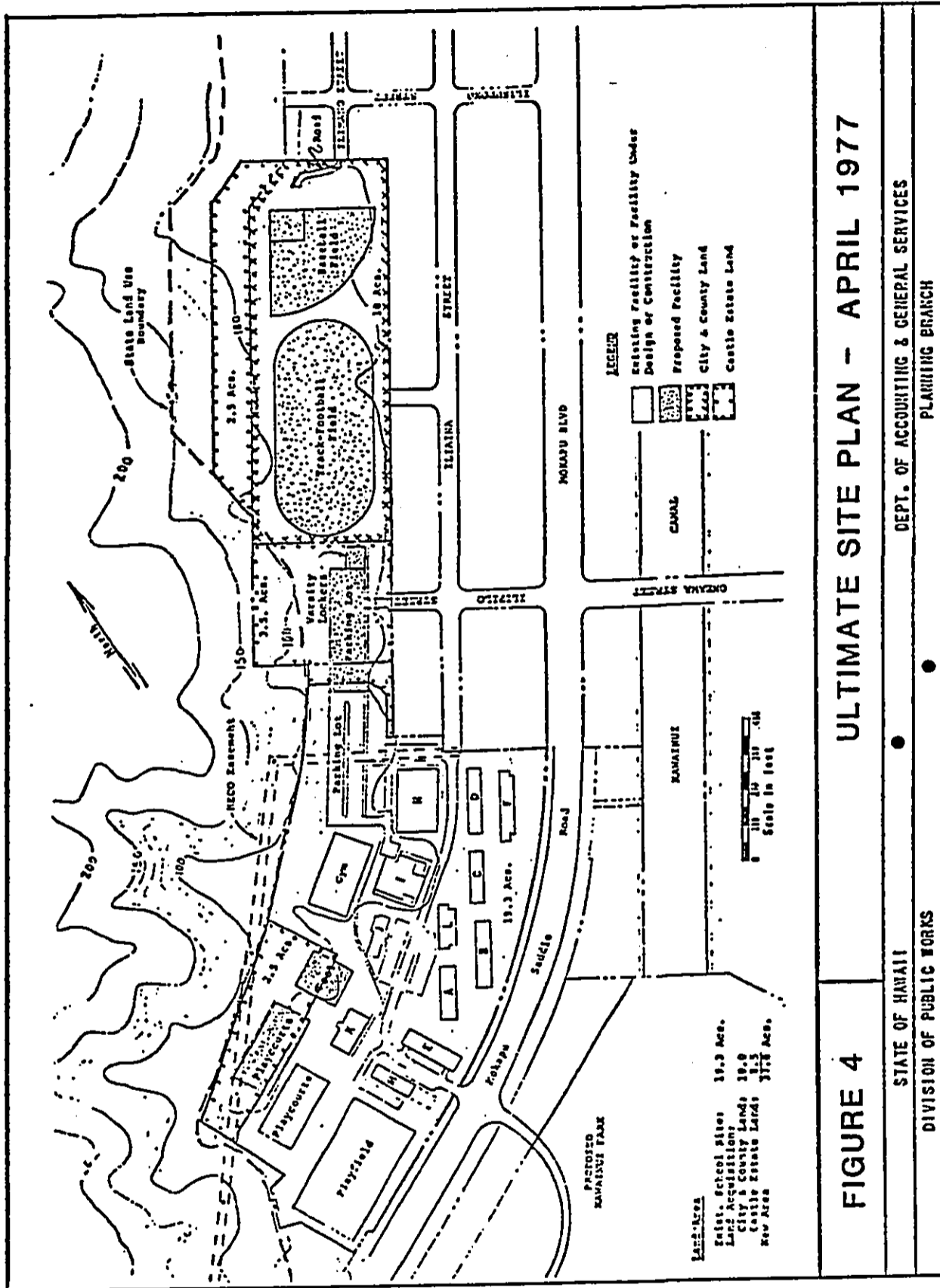
**D. Revised Ultimate Site Plan**

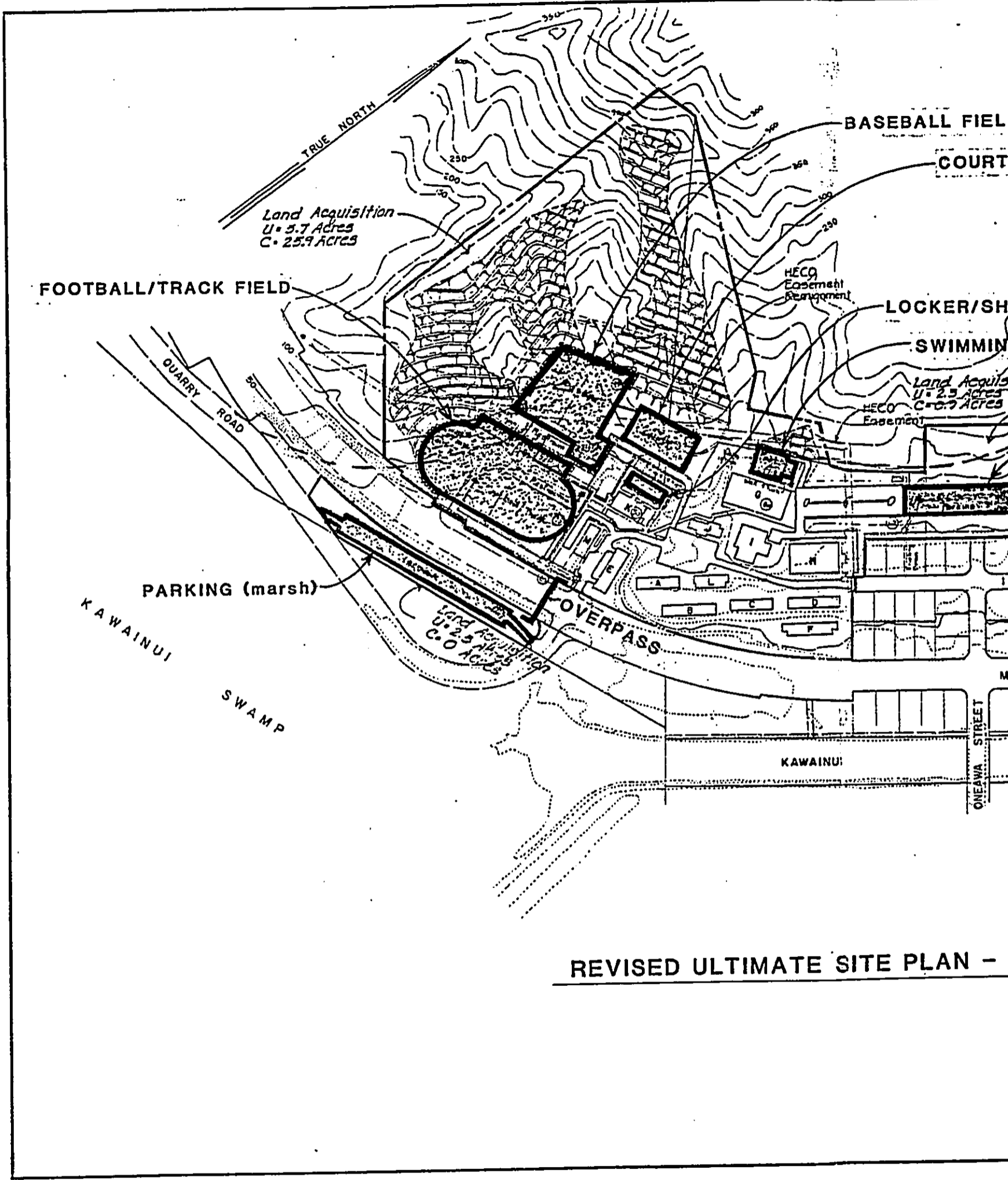
The Revised Ultimate Site Plan for Kalaheo High School shown on Figure 5 was adopted by the DOE on February 14, 1983. This plan was presented at a public meeting held on March 1, 1983 at Kalaheo High School. The plan is based on the following:

1. A design enrollment of 1,400, grades 9-12 students.
2. "The Educational Specifications and Standards for Facilities, Volume III: The High School," September 1980.
3. DOE's wish to resite the proposed school facilities to accommodate school, community, and neighborhood desires.

Pertinent items regarding the Revised Ultimate Site Plan - February 1983 are as follows:

1. The following proposed facilities are sited:
  - a. Football/Track Field with Bleachers and Lights
  - b. Baseball Field
  - c. Two Playcourt Units
  - d. Tennis Courts
  - e. Varsity/J.V. Locker/Shower
  - f. Swimming Pool
  - g. Parking for 219 cars
2. About 32.8 acres of Harold K.L. Castle Estate land and 2.5 acres of Iolani School land will have to be acquired.
3. The new total area for the school site will be about 54.6 acres.
4. Two additional parking lots are proposed. One is an extension to the existing parking lot by the Gym (hillside parking lot), and the other is within Kawainui Marsh (Marsh parking lot) across Mokapu Saddle Road from the school.





**REVISED ULTIMATE SITE PLAN -**



BASEBALL FIELD

COURTS

LOCKER/SHOWER

SWIMMING POOL

STATE LAND USE BOUNDARY

Land Acquisition  
11.25 Acres  
HECO Easement  
C-0.3 Acres

Conservation  
Urban

PARKING (hillside)









ILIANA STREET

MOKAPU BOULEVARD

CANAL

ONEAWA STREET

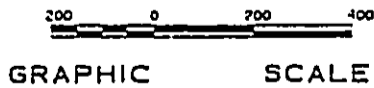
LEGEND

- 25' CONTOUR 
- 5' CONTOUR 
- EXISTING 
- PROPOSED 
- RETAINING WALL 
- 2:1 CUT SLOPE BENCH (8' WIDE) 
- DRAINAGE MANHOLE & INLET 
- FINISH ELEVATION 

NOTE: TOPOGRAPHIC MAP DRAWN BY CONSOLIDATING  
AERIAL TOPO MAP AND AVAILABLE AS BUILT  
GRADING PLANS

FIGURE 5

SITE PLAN - FEBRUARY 1983



REVISION NO.	DATE	DESCRIPTION	BY	DATE	APPROVED BY PUBLIC WORKS ENGINEER
DEPT. OF ACCOUNTING & GENERAL SERVICES DIVISION OF PUBLIC WORKS STATE OF HAWAII					
<b>KALAHEO HIGH SCHOOL</b> <b>REVISED ULTIMATE SITE PLAN</b> <b>FEBRUARY 1983</b>					
DESIGNED BY:	CHECKED BY:	DATE FOR SET:	DRAWING NO.:		
DRAWN BY:	APPROVED BY:	DATE:	JOB NO.:		
SCALE:					

5. A pedestrian overpass is proposed to be placed over Mokapu Saddle Road connecting the Marsh parking lot and the school.
6. Fencing and landscaping will be provided to create a buffer zone between the homes and the school parking lot above Iliaina Street.
7. The two-multi-purpose playcourt units and the tennis courts have been grouped together and occupy a paved area of approximately 150-feet by 260-feet.
8. No field lights will be provided for the baseball field.
9. Football/track field, baseball field, courts and locker/shower are located in the same general area at the west end of campus; which is as far away as possible from the existing residences.
10. The only facility located above the homes on Iliaina Street is a parking lot.
11. The baseball field and courts are located on steeply sloped areas resulting in large mountain side cuts and considerable land acquisition.
12. Approximately 800 linear feet of Hawaiian Electric Co. electrical transmission lines will be relocated for construction of the baseball field and courts.
13. The football/track field is located approximately 15 feet above the existing playfield elevation and the baseball field and the courts are located approximately 40-feet above the football/track field.
14. The pool is located approximately 20-feet above the Gym.

E. Cost

The estimated land acquisition cost associated with the revised ultimate site plan is approximately \$870,000, based on January 1984 prices. The estimated cost of designing and constructing the new facilities shown on the plan is approximately \$16.2 million, based on January 1984 prices.

F. Schedule

The proposed schedule for the EIS is as follows:

November 1984      Complete the EIS.

December 1984      Obtain Governor's approval of the EIS.

No schedules have been set for land acquisition or construction of the proposed facilities.

Until the additional facilities are constructed, the School will be deficient in that respect and Kalaheo High School students will have to continue to go off campus for certain athletic activities. Each facility will be

constructed only after its financial impact has been reviewed by the State Departments of Education (DOE), Budget and Finance (DBF), and Planning and Economic Development (DPED) and funds are appropriated by the Legislature and allocated by the Governor.

G. Funding

An appropriation of \$100,000 is contained in Act 1 SLH 1981 Section 104 Item III E-31 for plans and construction of athletic facilities and ground improvements at Kalaheo High School. These funds lapse on June 30, 1984.

An appropriation of \$110,000 was provided for by the 1984 Legislature, for plans and construction of athletic facilities and ground improvements at Kalaheo High School. These funds lapse on June 30, 1986.

II. ENVIRONMENTAL SETTING

A. Kailua-Kalaheo Educational Complex

The Kailua-Waimanalo service area shown on Figure 6 is served by the Kailua-Kalaheo Educational Complex. It is organized as shown on Figure 7 which depicts the movement of students as they advance from elementary school (kindergarten to 6th grade) to intermediate school (7th and 8th grades) and on to high school (9th to 12th grades). The enrollment projections for the schools within the Kailua-Kalaheo Educational Complex are provided in Table 1.

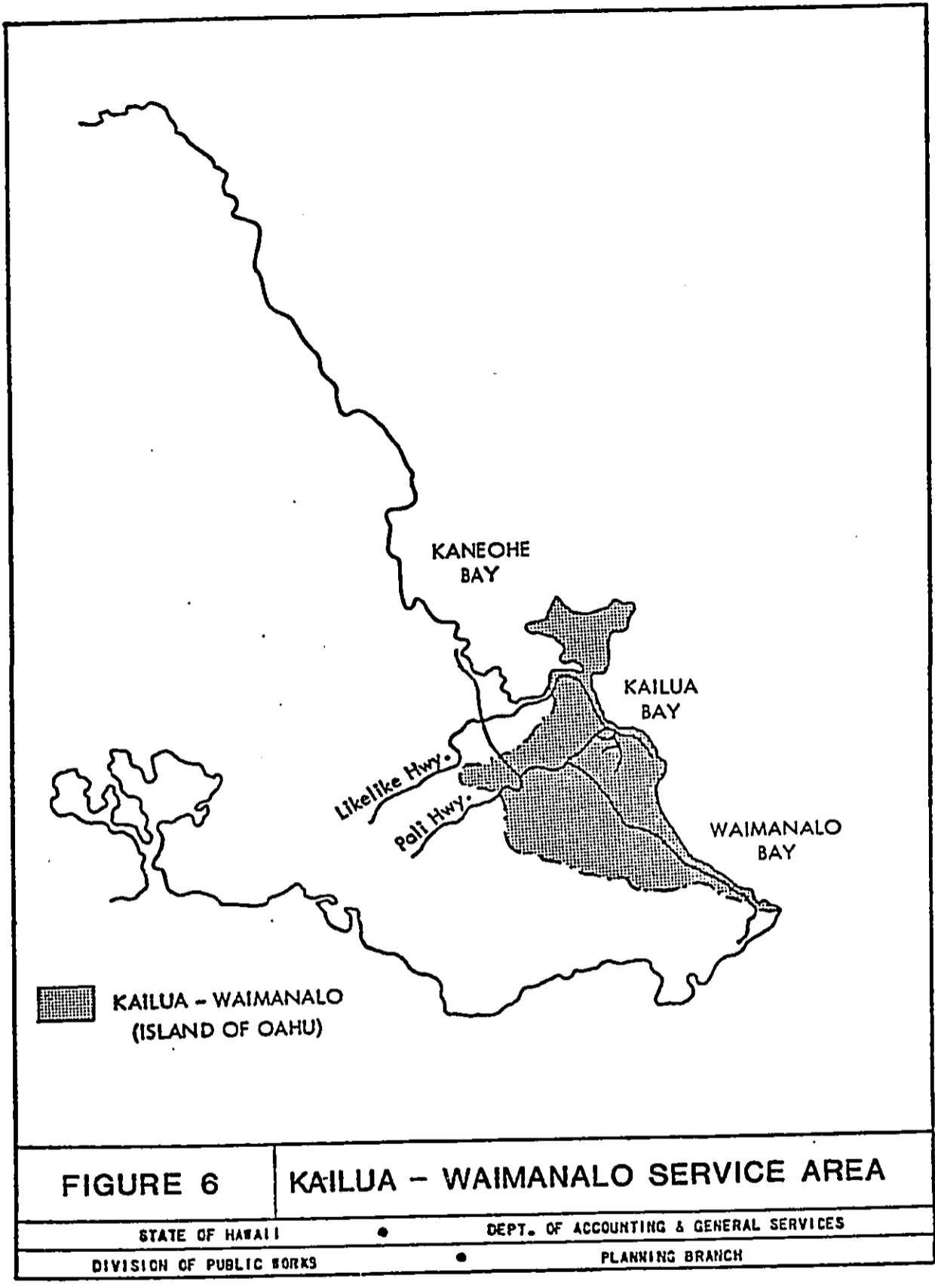
B. Service Area

The service area for Kalaheo High School is delineated on Figure 8. It is generally bound on the north by the Pacific Ocean; on the east by Kailua Bay; on the west by Kaneohe Bay; and on the south by the Ulumawao Ridge, Kawainui Marsh, Kaelepulu Stream, Mid-Pacific Country Club and Keolu Hills. Located within the service area are the Kaneohe Marine Corps Air Station, the communities of Kailua and Lanikai, and a strip of residential area along Kaneohe Bay.

The area is mainly residential in character. Many of the homes are of high quality. A considerable number of residents from the service area work in Honolulu.

The Kaneohe Marine Corps Air Station is located on the northern end of the service area. It is a vital element affecting the economy of the area by providing jobs, requiring goods and services from businesses and also creating a need for housing and personal services.

The climate within the service area is considered subtropical. Although fairly humid, it is mild and free from extremes. The average temperature is about 75°F with fluctuations of about 5°F above or below the average. The median annual rainfall across the service area is shown on Figure 9. The prevailing winds are from the northeast at moderate velocities.



**FIGURE 6**

**KAILUA - WAIMANALO SERVICE AREA**

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KAILUA-KALAHEO  
FEEDER COMPLEX

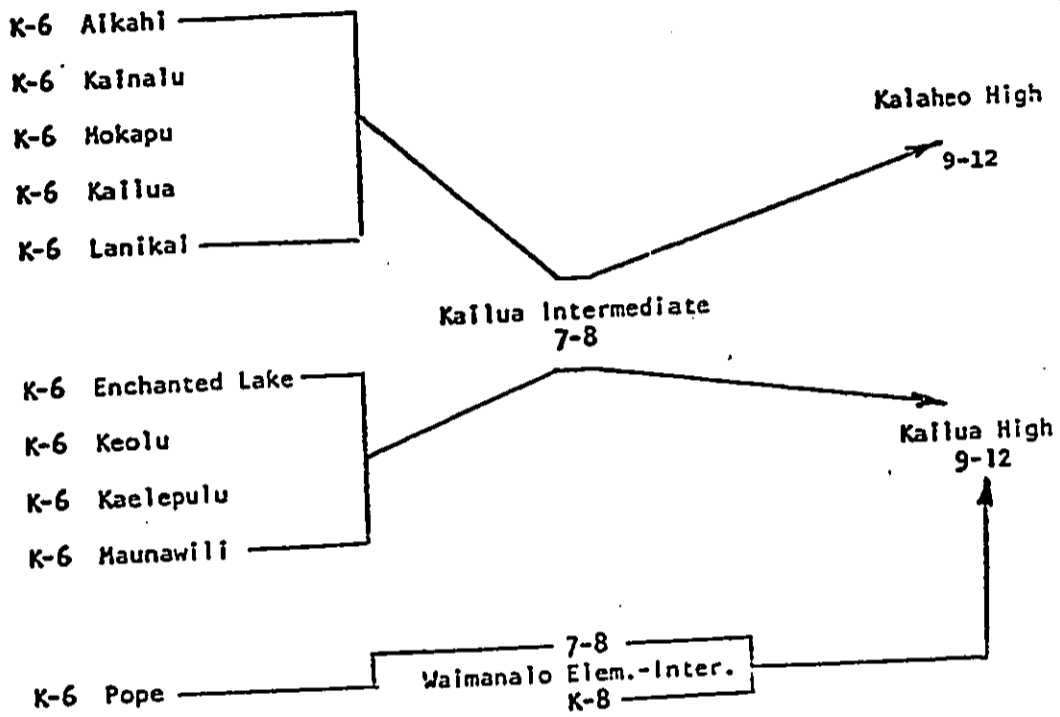


FIGURE 7

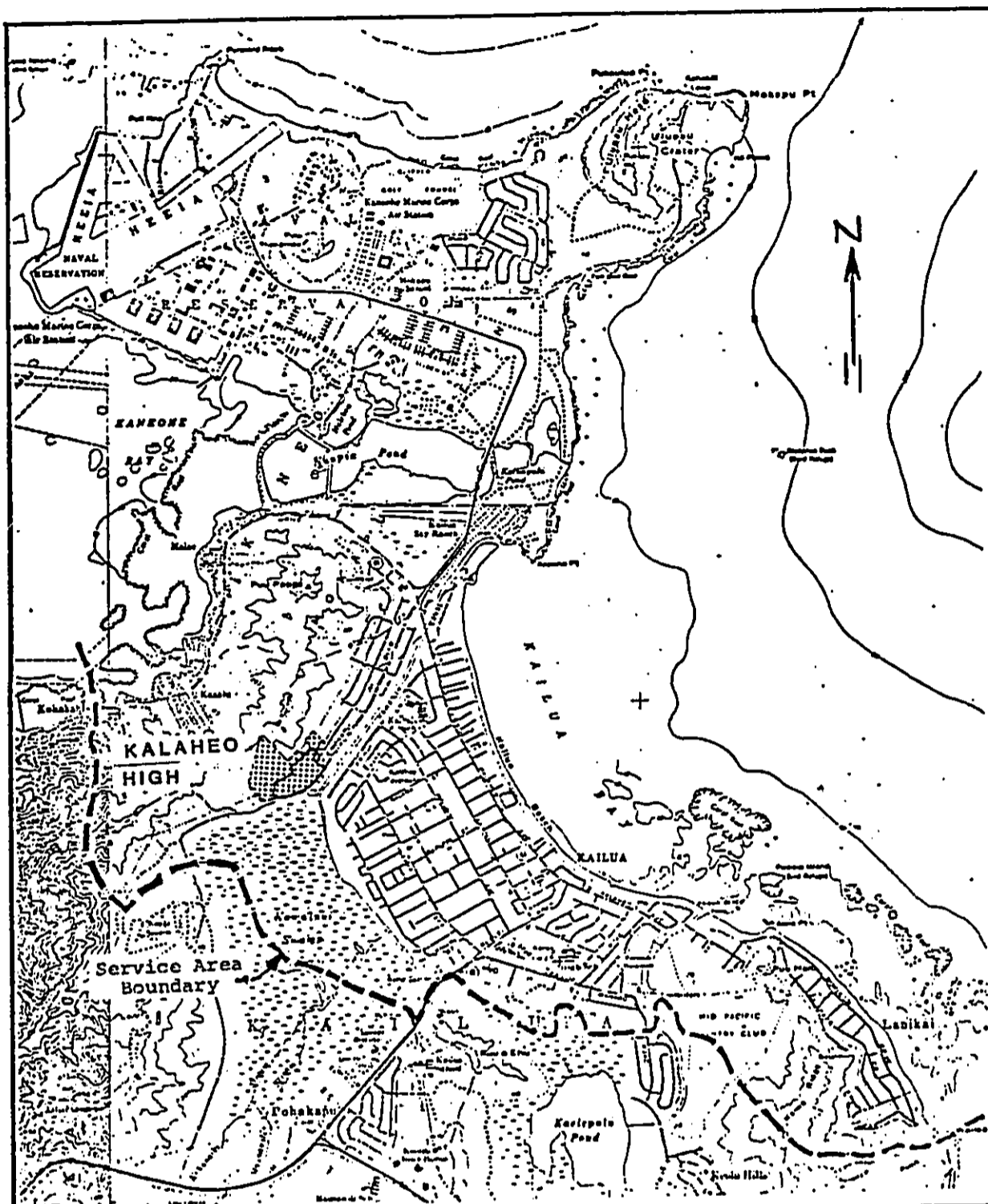
FEEDER COMPLEX

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TABLE 1  
KAILUA-KALAHEO COMPLEX  
ENROLLMENT PROJECTIONS

<u>School</u>	<u>1982 (Actual)</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Aikahi Elementary	534	519	524	512	526	543	547
Enchanted Lake Elementary	479	455	464	440	430	435	437
Kaelepulu Elementary	212	200	193	199	201	201	201
Kailua Elementary	519	471	459	442	437	430	432
Kainalu Elementary	579	544	519	503	505	526	519
Keolu Elementary	373	368	352	347	360	370	384
Lanikai Elementary	176	179	182	177	181	185	190
Maunawili Elementary	387	392	391	385	385	398	408
Mokapu Elementary	1,011	1,010	1,005	990	1,002	1,019	1,023
Pope Elementary	405	385	387	402	432	446	450
Kailua Intermediate	1,159	1,135	1,070	912	870	836	808
Waimanalo El.-Inter.	715	695	677	668	677	678	700
Kailua High	1,638	1,604	1,599	1,560	1,427	1,311	1,238
Kalaheo High	1,491	1,500	1,448	1,387	1,278	1,197	1,107



**FIGURE 8**

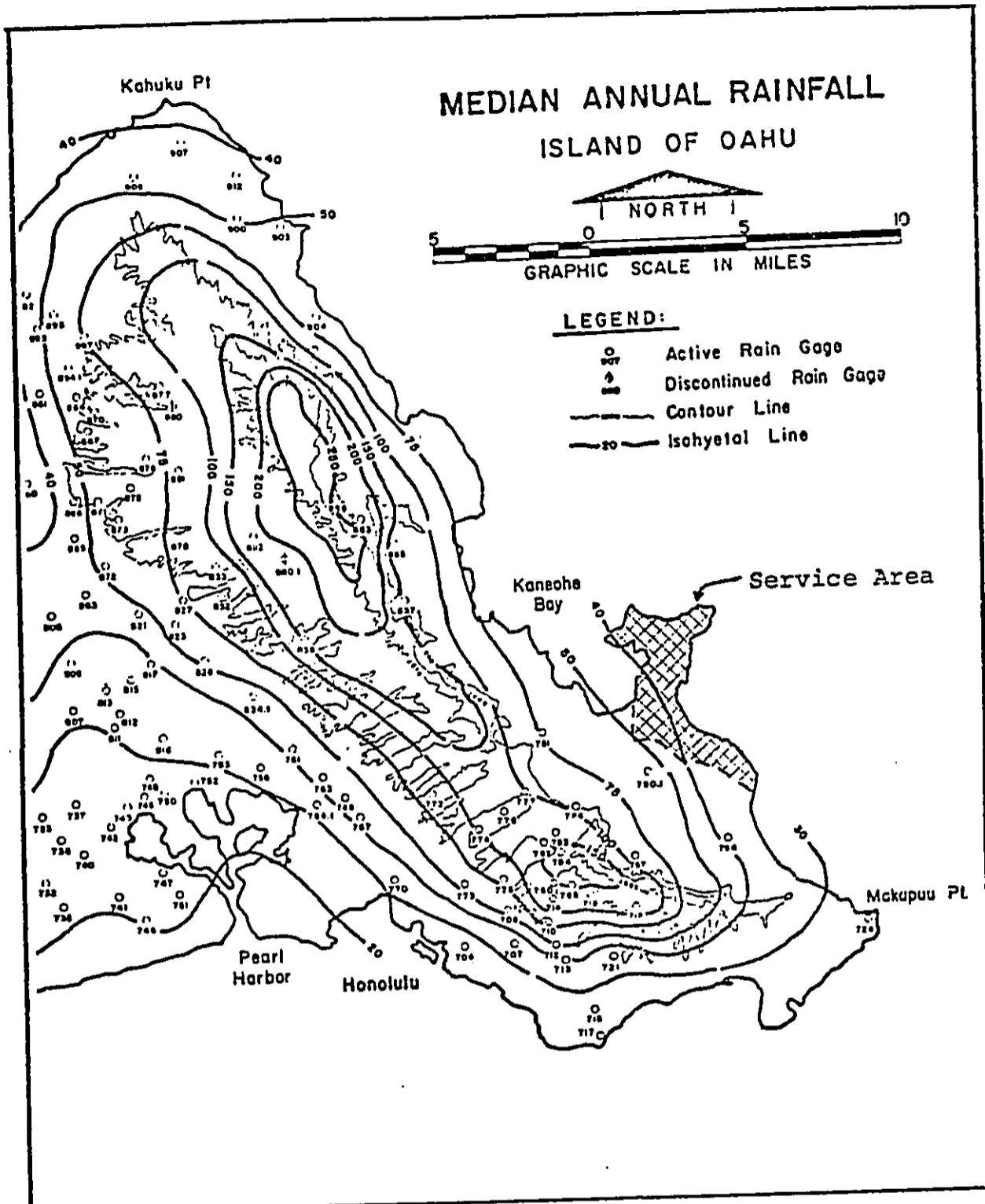
**KALAHEO SERVICE AREA**

STATE OF HAWAII

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**FIGURE 9**

**MEDIAN ANNUAL RAINFALL MAP**

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C. Site Description

The Kalaheo High School site and the areas to be added to it, herein called the expanded school site, are shown on Figure 10.

The existing school site contains 19.3 acres and varies in elevation from 20 to 100 feet. The school's existing site plan and facilities are shown on Figure 11 and listed on Table 2, respectively.

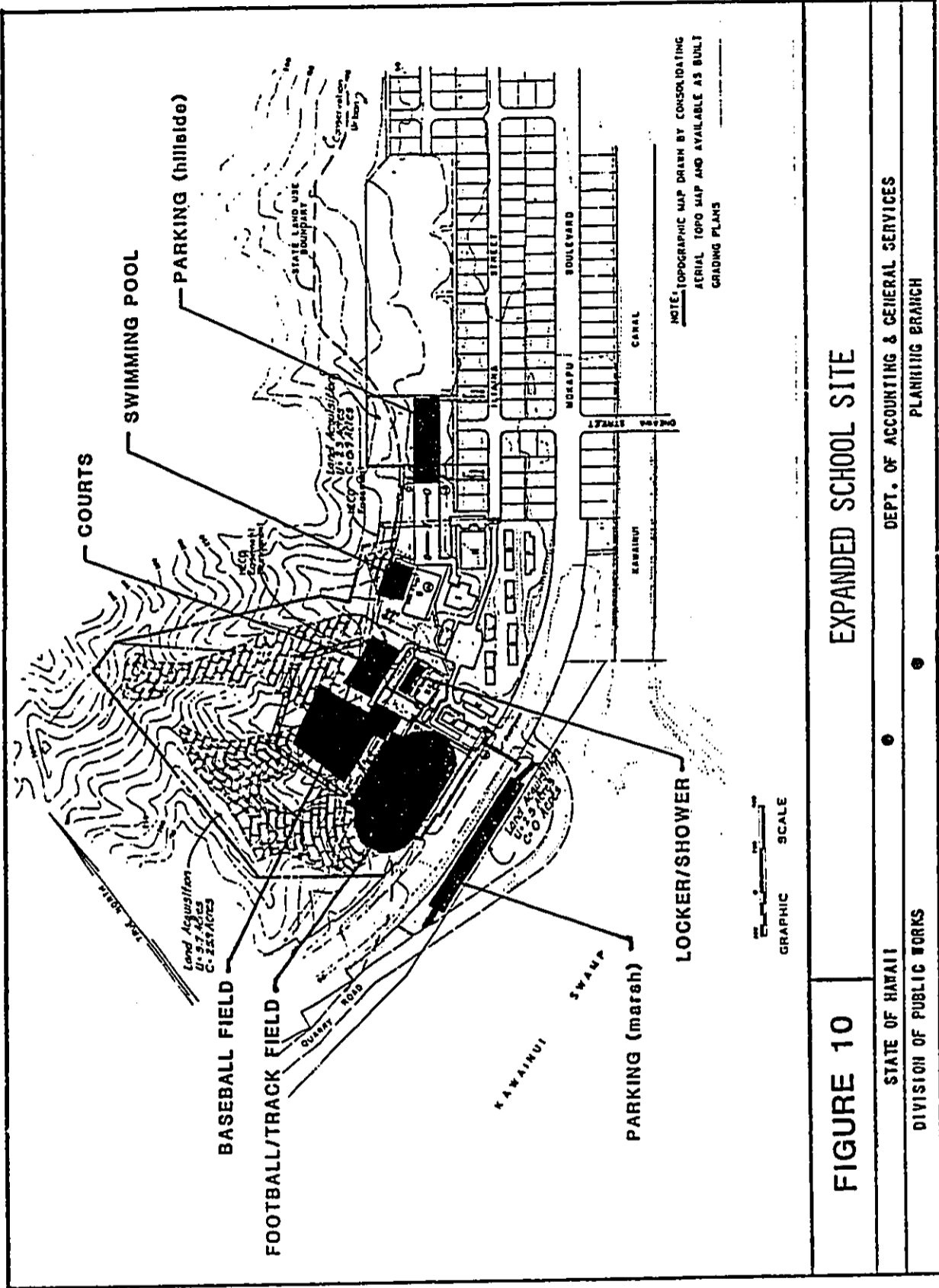
All of the areas to be added to the school, both on the hillside and in the Marsh, are vacant and overgrown with vegetation. Approximately 35.3 acres are proposed to be added to the existing school site. The additional lands can be divided into two areas; 32.8 acres on the hillside on the north side of Mokapu Boulevard and 2.5 acres within the fringe of Kawainui Marsh on the south side of Mokapu Boulevard.

The land on the hillside is owned by the Estate of Harold K. L. Castle. There are 29.6 acres located to the northwest of the existing school site; it varies in elevation from 20 to 400 feet. There are 3.2 acres located to the northeast of the existing school site above 6 residential lots fronting Iliaina Street; it varies in elevation from 50 to 130 feet.

The 2.5 acres located on the fringe of Kawainui Marsh is owned by Iolani School. It is flat; has an elevation of approximately 6-ft. MSL and located between Mokapu Saddle Road and the Kapaa Quarry Road. The 2.5 acres are also identified as wetlands by the Corps of Engineers and located within the limits of the Kawainui Flood Control Project.

*For the discharge of fill material into a wetland area, a Department of the Army permit under the authority of Section 404 of the Clean Water Act must be obtained.*

Listed on Table 3 are the Tax Map Key (TMK) approximate area and ownership of the existing school site and lands proposed to be acquired.

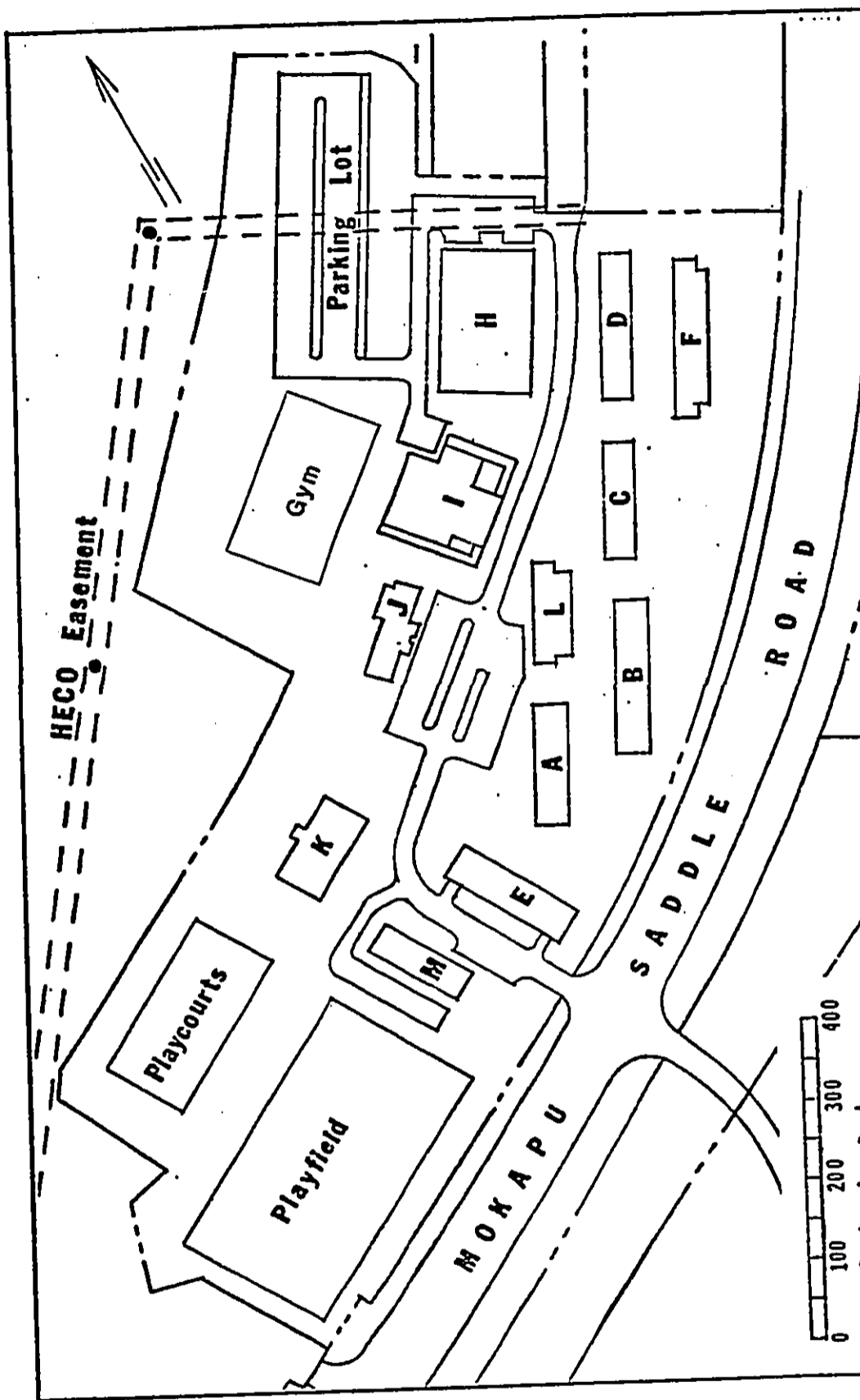


EXPANDED SCHOOL SITE

FIGURE 10

DEPT. OF ACCOUNTING & GENERAL SERVICES  
PLANNING BRANCH

STATE OF HAWAII  
DIVISION OF PUBLIC WORKS



EXISTING SITE PLAN

FIGURE 11

DEPT. OF ACCOUNTING & GENERAL SERVICES  
PLANNING BRANCH

STATE OF HAWAII  
DIVISION OF PUBLIC WORKS

**TABLE 2**  
**EXISTING FACILITIES**

<u>Building Designation</u>	<u>Use of Facility</u>
A	4 Regular Classrooms 2 Special Education Classrooms
B	5 Science Classrooms 2 Regular Classrooms
C	2 Art Classrooms 2 Homemaking Classrooms
D	10 Regular Classrooms
E	2 Industrial Arts Facilities
F	7 Regular Classrooms
G	Gymnasium
H	Administration 7 Regular Classrooms
I	Cafeteria
J	1 Band Classroom 1 Choral Classroom
K	4 Regular Classrooms Boy's P.E. Locker/Shower Girl's P.E. Locker/Shower
L	6 Regular Classrooms
M	3 Industrial Arts Facilities

TABLE 3  
TAX MAP KEY

Existing School Site:

<u>Tax Map Key</u>	<u>Acres</u>	<u>Owner</u>	<u>Location</u>
4-4-34:24	15.0	City & County of Honolulu	Hillside
4-4-34:28	0.6	State of Hawaii	Hillside
4-4-34:29	3.7	State of Hawaii	Hillside

Land Proposed To Be Acquired:

<u>Tax Map Key</u>	<u>Acres</u>	<u>Owner</u>	<u>Location</u>
4-2-17: Portion of 19	23.4	Estate of Harold K.L. Castle	Hillside
4-2-17: Portion of 20	2.5	Iolani School	Marsh
4-4-11: Portion of 3	6.3	Estate of Harold K.L. Castle	Hillside
4-4-33:17	3.1	Estate of Harold K.L. Castle	Hillside

D. Soil Classification

The classification of the soils within the expanded school site are indicated on Figure 12 and explained in Table 4. This data was extracted from the United States Department of Agriculture Soil Conservation Service's, "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii," published in August 1972.

TABLE 4  
SOIL CHARACTERISTICS

<u>Symbol</u>	<u>Description</u>
KIB	Kawaihapai clay loam, 2 to 6 percent slopes. On this soil, runoff is slow and the erosion hazard is slight.
KtC	Kokokahi clay, 6 to 12 percent slopes. Permeability is slow to moderately slow. Runoff is medium and the erosion hazard is slight to moderate. The shrink-swell potential is high.
PYD	Papaa clay, 6 to 20 percent slopes. On this soil, runoff is slow to medium and the erosion hazard is slight to moderate.

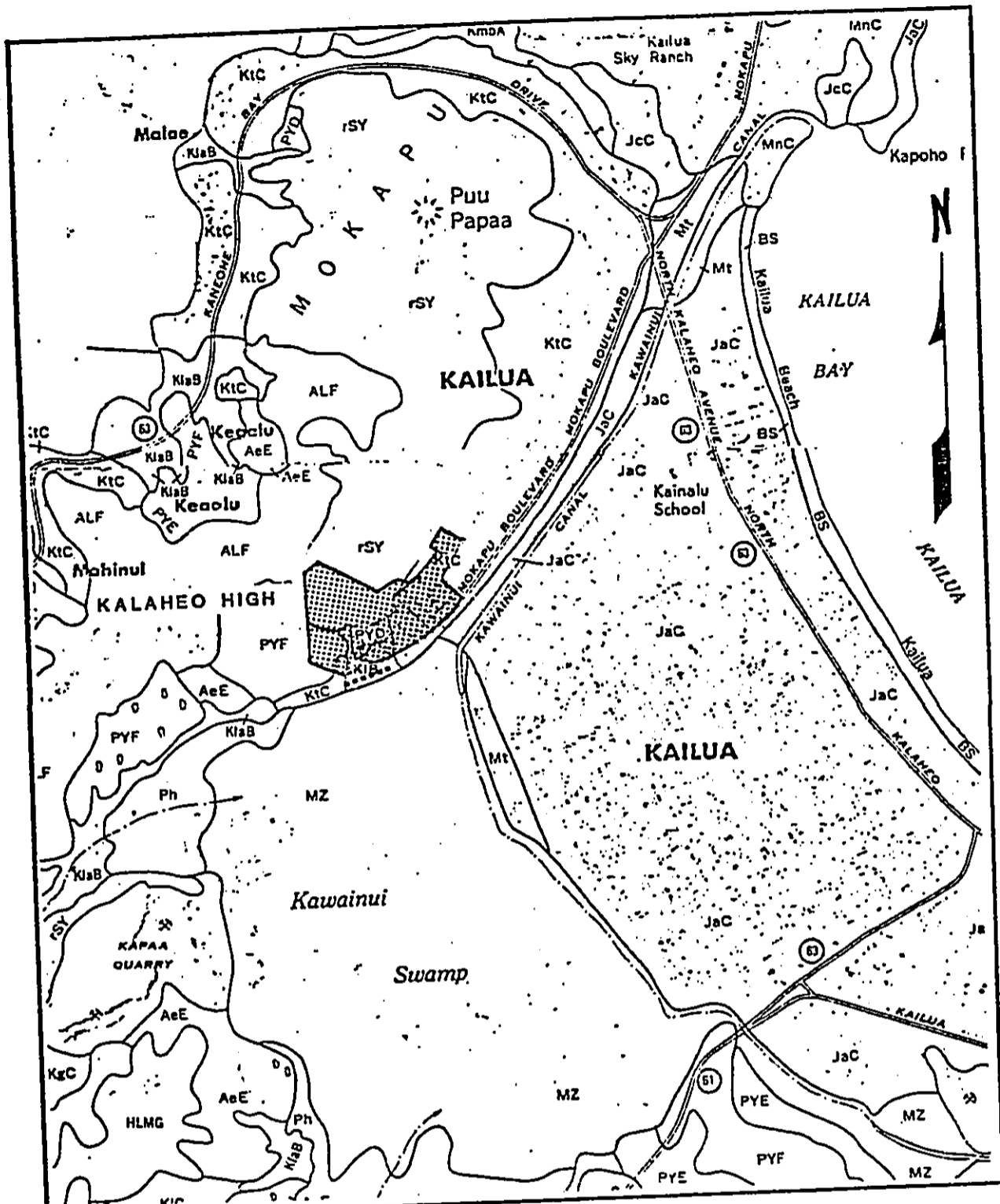


FIGURE 12

SOIL CLASSIFICATION MAP

STATE OF HAWAII  
 DIVISION OF PUBLIC WORKS

DEPT. OF ACCOUNTING & GENERAL SERVICES  
 PLANNING BRANCH

- PYF      Papaa clay, 35 to 70 percent slopes. Permeability is slow. Runoff is rapid, and the erosion hazard is severe.
- rSY      Stony steep land. Consists of a mass of boulders and stones deposited by water and gravity on side slopes of drainageways. The slope ranges from 40 to 70 percent. Elevations range from 100 to 1,500 feet. The annual rainfall amounts to 20 to 80 inches. Stones and boulders cover 50 to 90 percent of the surface. There is a small amount of soil among the stones that provides a foothold for plants. Rock outcrops occur in many places.
- MZ      Marsh. Consists of wet periodically flooded areas covered dominantly with grasses and bulrushes or other herbaceous plants. It occurs as small, low-lying areas along the coastal plains.

E. Land Classification

The urban land classification map in the vicinity of Kalaheo High School is shown on Figure 13 and explained in Table 5. This data was extracted from the University of Hawaii's Land Study Bureau Circular No. 14, "Oahu Lands Classified by Physical Qualities for Urban Usage," published in June 1969.

The hillside portion of the expanded school site is classified III4L which indicated that the soil is expanding soil, non-rocky, surface well-drained with a depth of more than 15 feet to consolidated lava. Note that the mauka portion slopes more than 30 percent and these steeply sloping lands are not classified by the above mentioned University study.

The marsh portion of the expanded school site is classified V4W which indicated that the soil is marshy soil, nonrocky, surface poorly drained with a depth of more than 15 feet to consolidated material.

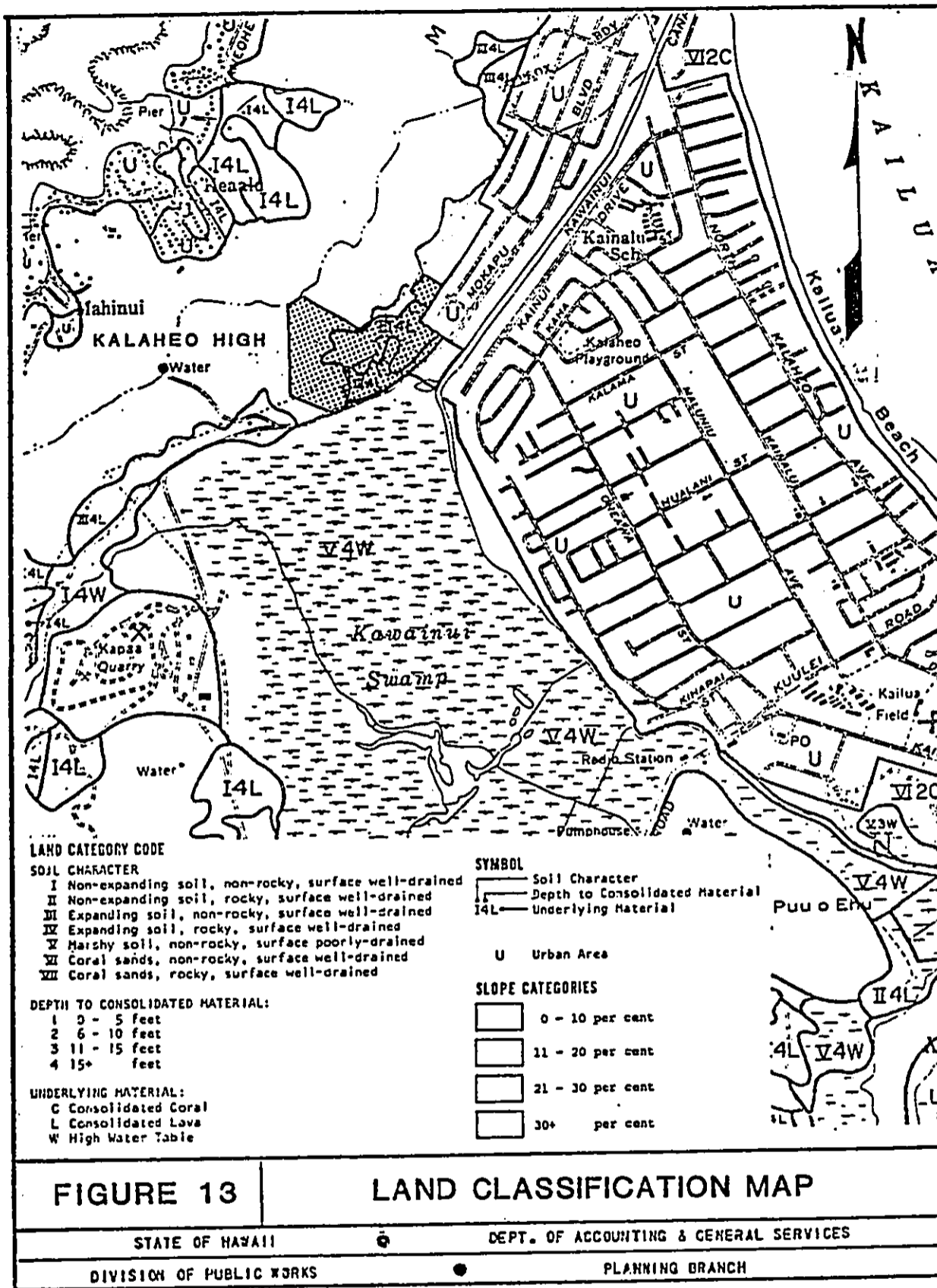
F. Utilities

Water, sewer, electrical and telephone services are provided to the existing school site. These services can be easily provided to areas to be added to the school. Gas service is provided from an on-site refillable storage tank. Existing service lines can be extended or an additional tank provided as required.

The Hawaiian Electric Company power line and easement which traverses the area to be acquired, as shown on Figure 5, will have to be relocated.

The expanded school site is within the service areas of the Kapaa Reservoir (elevation 272 ft.) and the Kailua Wastewater Treatment Plant. The treated effluent from the Kailua Wastewater Treatment Plant is disposed of via the Mokapu Point outfall.

The availability of additional water will be determined during the Building Permit Process.





URBAN LAND CLASSIFICATION

Soil Character Code	I	II	III	IV	V	VI	VII
Description	Nonexpanding Soil Nonrocky Surface Well-Drained	Nonexpanding Soil Rocky 1/2 Surface Well-Drained	Expanding Soil Nonrocky Surface Well-Drained	Expanding Soil Rocky 1/2 Surface Well-Drained	Marshy Soil Nonrocky Surface Poorly-Drained	Coral Sands Nonrocky Surface Well-Drained	Coral Sands Rocky 1/2 Surface Well-Drained
General Characteristics	<ol style="list-style-type: none"> <li>Slight expansion and contraction on wetting and drying.</li> <li>Well-drained surface and subsurface, generally suitable for cesspools.</li> <li>Good bearing capacity. Suitable for one-to two-story structures with minor foundation work.</li> <li>Land fill stable when properly compacted.</li> <li>Vertical cuts usually stable.</li> </ol>		<ol style="list-style-type: none"> <li>Considerable expansion and contraction on wetting and drying. Cracks as wide as five inches may develop on drying causing shifting and settling. Color on the surface is usually dark gray to black. Sometimes referred to as "adobe".</li> <li>Soil puddles easily, hence surface drainage depends almost entirely on slope.</li> <li>Internal permeability slow, cesspools possible but questionable.</li> <li>Bearing capacity good if soil is properly insulated to maintain relatively constant moisture content. Under these conditions, generally suitable for one-to two-story structures with minor foundation work. Extensive foundation work probably necessary for multi-story structures depending on depth to consolidated material.</li> <li>Optimum moisture content must be carefully maintained for maximum fill compaction.</li> <li>Cuts usually unstable and will slump after a few wetting and drying cycles. Soil likely to creep down-slope after it is disturbed.</li> </ol>		<ol style="list-style-type: none"> <li>Ground water at or near the surface. Poorly suited for cesspools. Usually close to sea level, hence land fill and/or forced drainage is probably necessary for any extensive development program.</li> <li>Bearing capacity poor. Poorly suited for any structure, although small localized areas presently have one-story wooden structures.</li> <li>Soils are usually of the expanding type and if drained, will retain those properties. Organic content is usually high and will subside on drying.</li> <li>If adjacent to the ocean, salt in the soil will affect underground utilities.</li> <li>Depth to consolidated material generally 15 feet or more</li> </ol>		<ol style="list-style-type: none"> <li>Surface drainage and internal permeability good although the ground water may be relatively close to the surface. Depth to ground water variable. Determine the feasibility of cesspools the greater the depth the more feasible is for cesspools.</li> <li>Bearing capacity good if the sand is properly contained. Suitable for one-to two-story structures with minor foundation work. Extensive foundation work probably necessary for multi-story structures depending on depth to consolidated material; the shallower the depth to consolidated material, the less foundation preparation required.</li> <li>Hardly any expansion and contraction on wetting and drying.</li> </ol>

Underlying Material Code	C	L	
Material	Consolidated Coral	Consolidated Lava	Ground
Characteristics	<ol style="list-style-type: none"> <li>Often vesicular and cavernous, thus allowing internal drainage. Cesspools possible.</li> <li>More easily fractured than lava. Usually does not require blasting.</li> <li>Thickness depends on the various past stands of the sea; the coral may overlie unconsolidated (soft) material.</li> <li>Bearing characteristics good, if thick.</li> <li>Where the coral is hard and at the surface, it may be suitable for coral veneer work in the buildings.</li> </ol>	<ol style="list-style-type: none"> <li>As and pahoehoe are usually intermixed and were not differentiated in the underlying material. They are differentiated when they occur on the surface.</li> <li>Thick, dense and difficult to fracture. Usually requires blasting.</li> <li>Bearing characteristics excellent. Usually no unconsolidated material beneath.</li> <li>Poor percolation in pahoehoe, thus cesspools may not function satisfactorily.</li> </ol>	<ol style="list-style-type: none"> <li></li> </ol>

1/ Designated by a three-symbol code. The first symbol, a Roman numeral, denotes the soil character; the second symbol, an Arabic number, denotes the depth to consolidated (solid) material; and the third symbol, a capital letter, denotes the type of underlying material.  
 2/ Soils behaving like gels.

3/ Describes a condition where rocks hinder earth movement but do not preclude use of blade equipment. No differentiation was made as to size and relative quantity of rocks, although it is recognized that they will affect ease of cutting and filling, as well as bearing characteristics.

Source: Oahu Lands Classification by Physical Qualities for Urban Usage  
 L.S.E. Circular No. 14, Land Study Bureau, University of Hawaii

D CLASSIFICATION SYMBOLS<sup>1/</sup>

VI	VII	VIII	IX	X	XI
Coral Sands Nonrocky Surface Well- Drained	Coral Sands Rocky 1/ Surface Well- Drained	Aa Lava Rocky 3/ Surface Well-Drained	Pahoehoe Lava Rocky 3/ Surface Well-Drained	Thixotropic Soil 2/ Nonrocky High in Moisture	Thixotropic Soil 2/ Rocky 3/ High in Moisture
<ol style="list-style-type: none"> <li>1. Surface drainage and internal permeability good although the ground water may be relatively close to the surface. Depth to ground water will determine the feasibility of cesspools; the greater the depth, the more feasible it is for cesspools.</li> <li>2. Bearing capacity is good if the sand is properly contained. Suitable for one- to two-story structures with minor foundation work. Extensive foundation work probably necessary for multi-story structures depending on depth to consolidated material; the shallower the depth to consolidated materials, the less foundation preparation required.</li> <li>3. Hardly any expansion and contraction on wetting and drying.</li> </ol>	<ol style="list-style-type: none"> <li>1. Loess, clinkery aa lava rocks with virtually no soil material or other binder.</li> <li>2. No expansion or contraction on wetting and drying.</li> <li>3. Well-drained, highly porous surface and subsurface.</li> <li>4. Excellent bearing characteristics. Generally suitable for multi-story structures with minor foundation work.</li> <li>5. Land fill stable with little or no compaction.</li> <li>6. Vertical cuts stable.</li> <li>7. Suitable as burrow material.</li> <li>8. Lava tubes (subsurface voids) possible but not likely unless the aa lava flow is underlain by pahoehoe flows at shallow depths.</li> <li>9. Ground surface usually complex with abrupt ups and downs.</li> <li>10. Clinkers can be readily pushed by bulldozers to form roads, platforms, etc.</li> <li>11. The ground surface is usually very rough; consequently, it probably requires smoothing and grading to be made more usable.</li> </ol>	<ol style="list-style-type: none"> <li>1. Consolidated, relatively smooth surfaced, large pavement-like slabs of rock with virtually no soil material.</li> <li>2. No expansion or contraction on wetting and drying.</li> <li>3. Well-drained in areas having moderate to low rainfall. Can have shallow standing water in areas of high rainfall because pavement-like surface restricts downward percolation of water. Cracking of surface rock may allow water to drain if subsurface rocks are porous.</li> <li>4. Excellent bearing characteristics. Generally suitable for multi-story structures with minor foundation work.</li> <li>5. Lava tubes (subsurface voids) possible. Would affect bearing characteristics. The tubes can sometimes be used for sewage disposal.</li> <li>6. Vertical cuts stable.</li> <li>7. Land fill stable with little or no compaction.</li> <li>8. Ground surface usually smooth or hummocky.</li> <li>9. Some pahoehoes can be broken to aa clinker-size rocks by a bulldozer equipped with a ripper, after which the material can be handled as aa clinkers.</li> </ol>	<ol style="list-style-type: none"> <li>1. In the undisturbed state the soil has the properties of a solid. On being manipulated, such as during construction, it becomes jelly-like or semi-liquid, at the same moisture content as the solid. Subsequent resting of the soil mass results in restoration of the solid properties. Thus, cuts are usually stable but handling during placement causes fill material to "ooze" out and the soils cannot be compacted by conventional methods.</li> <li>2. The soils have exceptionally high natural moisture content that exceeds 100 per cent and even 200 per cent of the soil weight on oven-dry basis; that is not free gravitational water. The natural moisture is above the plastic limit and can exceed the liquid limit.</li> <li>3. The soils cannot be rewetted to their original condition after they have been air-dried; they undergo irreversible change on drying. The change is from a soft, clayey material in its moist state to a hard, granular consistency on drying.</li> <li>4. The soils also shrink on drying with reductions between one-tenth to one-half of the original volume.</li> </ol>		

	W
	Ground Water Seasonly Within 5' of the Surface
<p>y intermixed and the underlying material is fractured.</p> <p>to fracture.</p> <p>cellent. Usually beneath.</p> <p>2. thus cesspools are usually.</p>	<ol style="list-style-type: none"> <li>1. This category identifies areas where the water table may seasonally be within five feet of the surface. If the area is adjacent to the sea, salt will affect underground utilities.</li> </ol>

Depth Code	1	2	3	4
Depth to Consolidated Material (feet)	0-5	6-10	11-15	Over 15

hinder earth movement but do not  
 No differentiation was possible as  
 rocks, although it is recognized that  
 and filling, as well as bearing

page  
 11

DEPT. OF ACCOUNTING & GENERAL SERVICES DIVISION OF PUBLIC WORKS PLANNING BRANCH STATE OF HAWAII
URBAN LAND CLASSIFICATION SYMBOLS
TABLE 5

G. Flood Hazard

The Federal Insurance Administration (FIA) has prepared the Flood Insurance Study for Oahu. Figure 14 is a portion of the flood hazard map that was prepared as part of the FIA study. It shows that the existing Kalaheo High School and the areas proposed to be added to it are located in Zone C, an area of minimal flooding. Zone C flood plains are not regulatory flood plains or special flood hazard areas under the National Flood Insurance Program.

H. Drainage

The runoff from the school and the areas to be added to it drain into the Kawainui Marsh and Drainage Canal via the drainage system shown on Figure 15. The Kawainui Marsh serves as a Corp of Engineers' flood control storage basin for a drainage area of about 7900 acres and the Kawainui Canal serves as the drainageway for the Marsh. There is a 20-foot wide drainage easement located above the residential lots along Iliaina Street. This drainage easement will be retained.

I. Flora

The flora within the existing and expanded school site, both on the hillside and in the marsh, consists of vegetation common to the area. The vegetation in the areas to be added to the school consists primarily of grasses, koa, haole and klu with occasional kiawe and guava trees. No rare or endangered native plants are located in these areas.

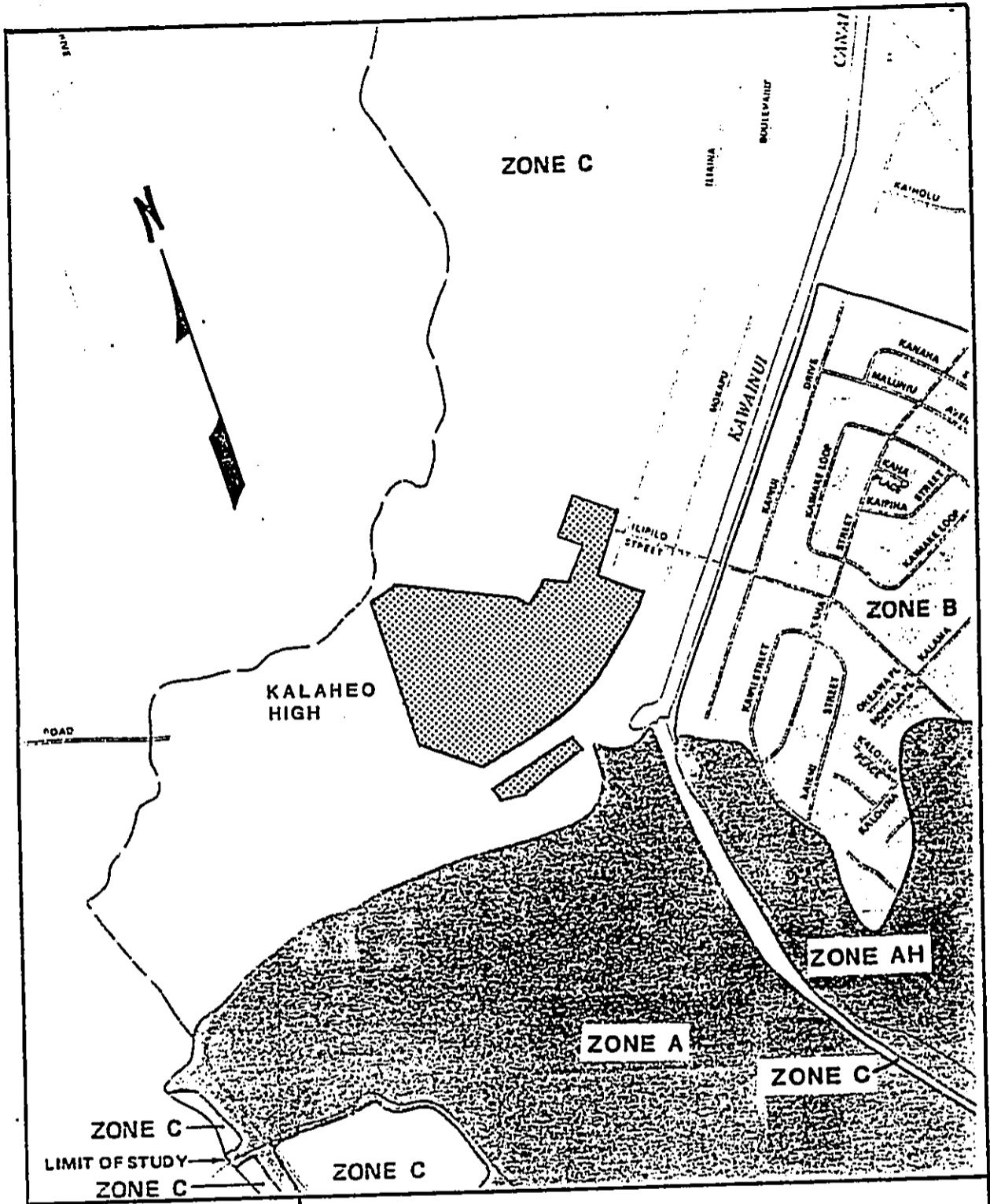
J. Fauna

The fauna of the existing and expanded school site, both in the hillside and in the Marsh, consists of introduced species which are common throughout the Koolaupoko area. They consist of rats, mice, mongoose, insects and possibly feral cats. The University of Hawaii Department of Geography's "Atlas of Hawaii," published in 1973 indicates the avifauna known to exist in the area includes cardinals, barred and spotted doves, mocking birds, mynahs, golden plovers, pueos, rice birds, sparrows and white eyes.

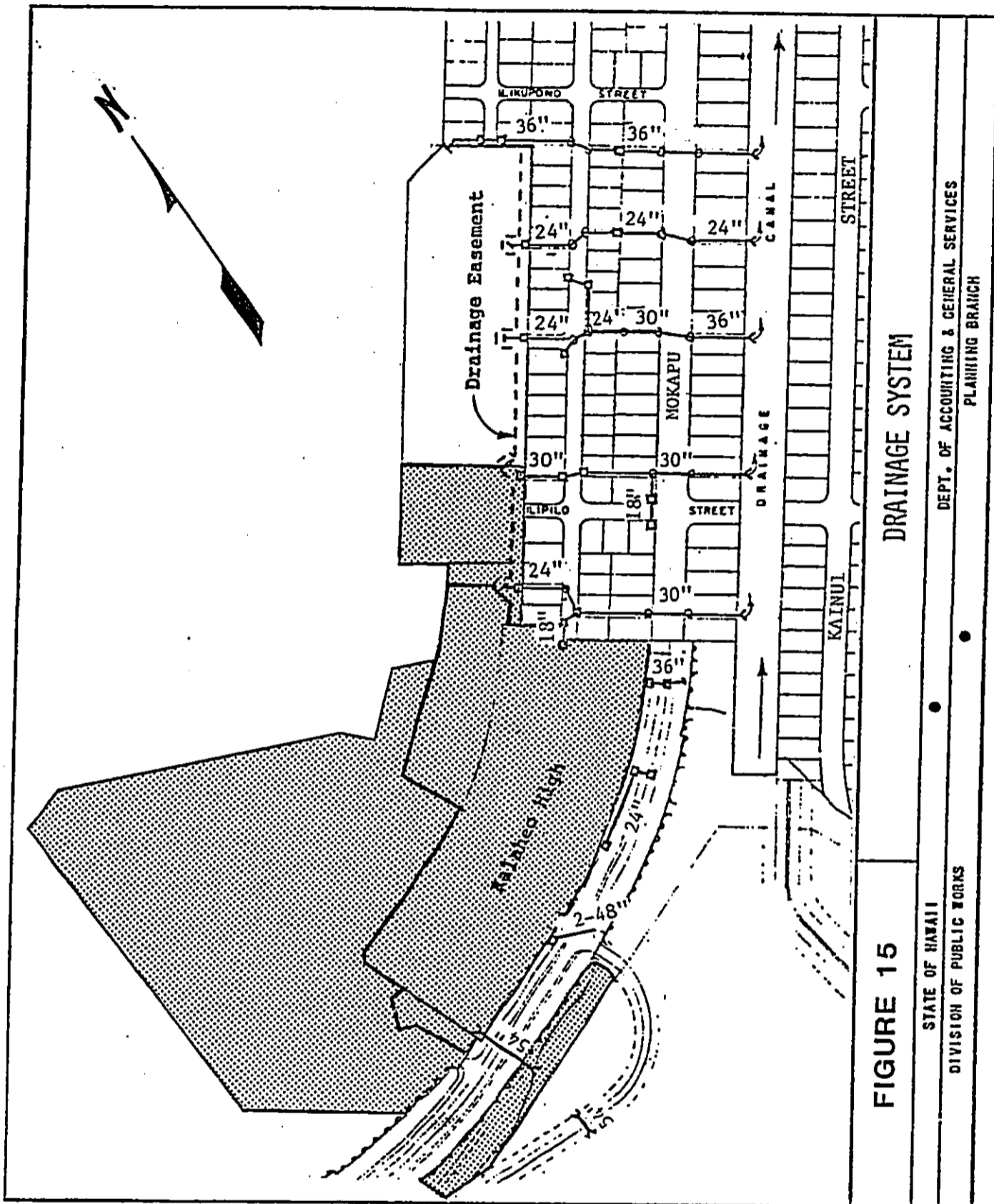
Present in the Kawainui Marsh are various fish and wildlife including four endangered waterbirds - the Hawaiian Coot, Hawaiian Duck, Hawaiian Gallinule and Hawaiian Stilt.

K. Access

The major roadways in the vicinity of the school are shown on Figure 16. Vehicular and pedestrian accesses to the school are from Mokapu Boulevard and Iliaina Street.



<b>FIGURE 14</b>	<b>FLOOD INSURANCE RATE MAP</b>
STATE OF HAWAII	DEPT. OF ACCOUNTING & GENERAL SERVICES
DIVISION OF PUBLIC WORKS	PLANNING BRANCH

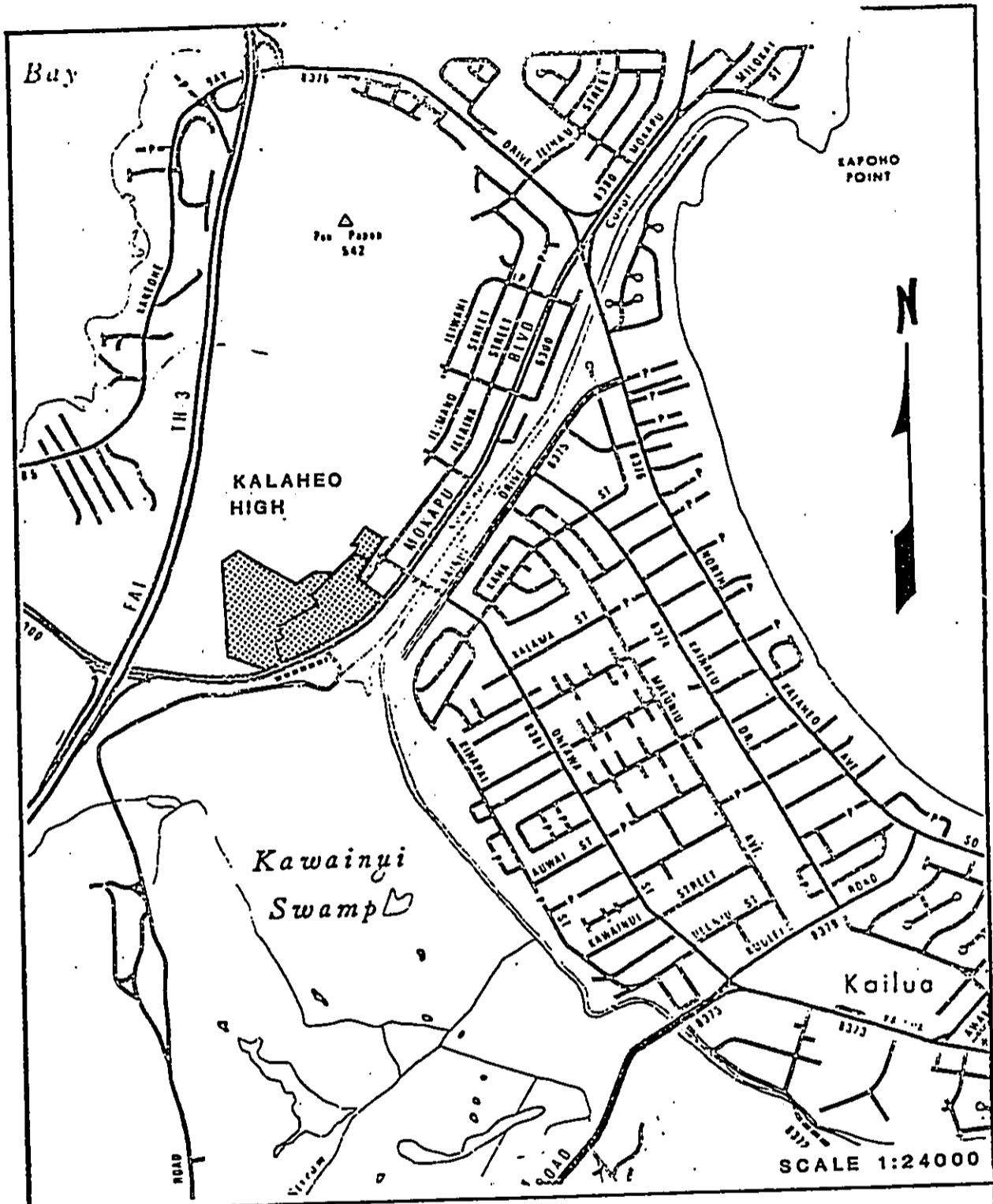


**FIGURE 15**

**DRAINAGE SYSTEM**

STATE OF HAWAII  
 DIVISION OF PUBLIC WORKS

DEPT. OF ACCOUNTING & GENERAL SERVICES  
 PLANNING BRANCH



**FIGURE 16**

**MAJOR ROADWAYS**

STATE OF HAWAII  
DIVISION OF PUBLIC WORKS

DEPT. OF ACCOUNTING & GENERAL SERVICES  
PLANNING BRANCH

Two additional parking lots are proposed. One is across Mokapu Saddle Road from the school and the other is an extension to the existing parking lot by the Gym.

The lot across Mokapu Saddle Road will utilize the existing Kapaa Quarry Road off of Mokapu Saddle Road for access; no residential streets will be affected. Rights for egress and ingress into the proposed parking area will be worked out with the owners of Kapaa Quarry Road at the time of land acquisition.

The parking lot extension by the Gym will utilize only that portion of Iiaina Street presently being used for access to the existing parking lot. This portion of Iiaina Street is fully improved to City and County of Honolulu standards. No other residential streets will be affected.

L. Emergency Services

There is adequate Medical, Police and Fire services available to Kalaheo High School. These emergency services are stationed in Kailua town; average response time is approximately three minutes. The nearest hospital is Castle Memorial Hospital which is located approximately two and a half miles away.

M. Proposed Projects

There are several proposed projects in the vicinity of the Kalaheo High School. These proposed projects are described as follows:

1. Kalaheo Sanitary Landfill

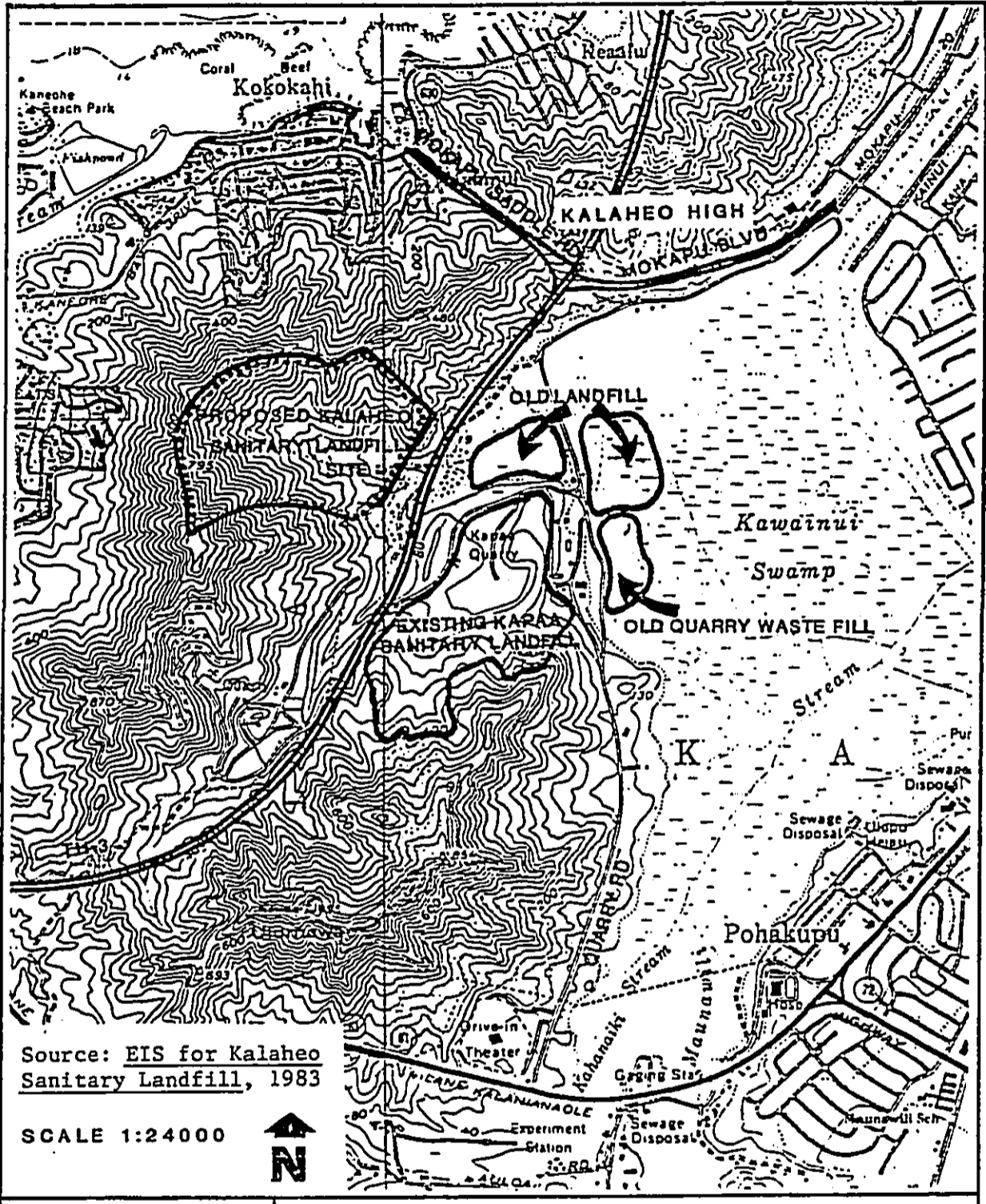
The City and County Department of Public Works is proposing to develop a sanitary landfill at Kalaheo as shown Figure 17. It is located approximately 4,000 feet downwind from Kalaheo High School.

2. Kawainui Residential Development

Figure 18 shows the proposed Kawainui Residential Subdivision. The project is divided into two phases. The first phase is located on the Pohakupu slopes and the second phase is located below Mokapu Saddle Road. The Department of Land Utilization (DLU) has indicated that a SMA permit has been issued for the first phase and that a SMA permit application has been received for the second phase. DLU has issued an EIS preparation notice for the second phase, but the developer has not prepared the EIS for the second phase yet.

3. Kawainui Regional Park

A regional park encompassing Kawainui Marsh and its abutting areas has been discussed for many years. The original park proposal was developed around 1964 by the City and County Department of Parks and Recreation. Over the years the plan has been revised several times.



Source: EIS for Kalaheo Sanitary Landfill, 1983

SCALE 1:24000



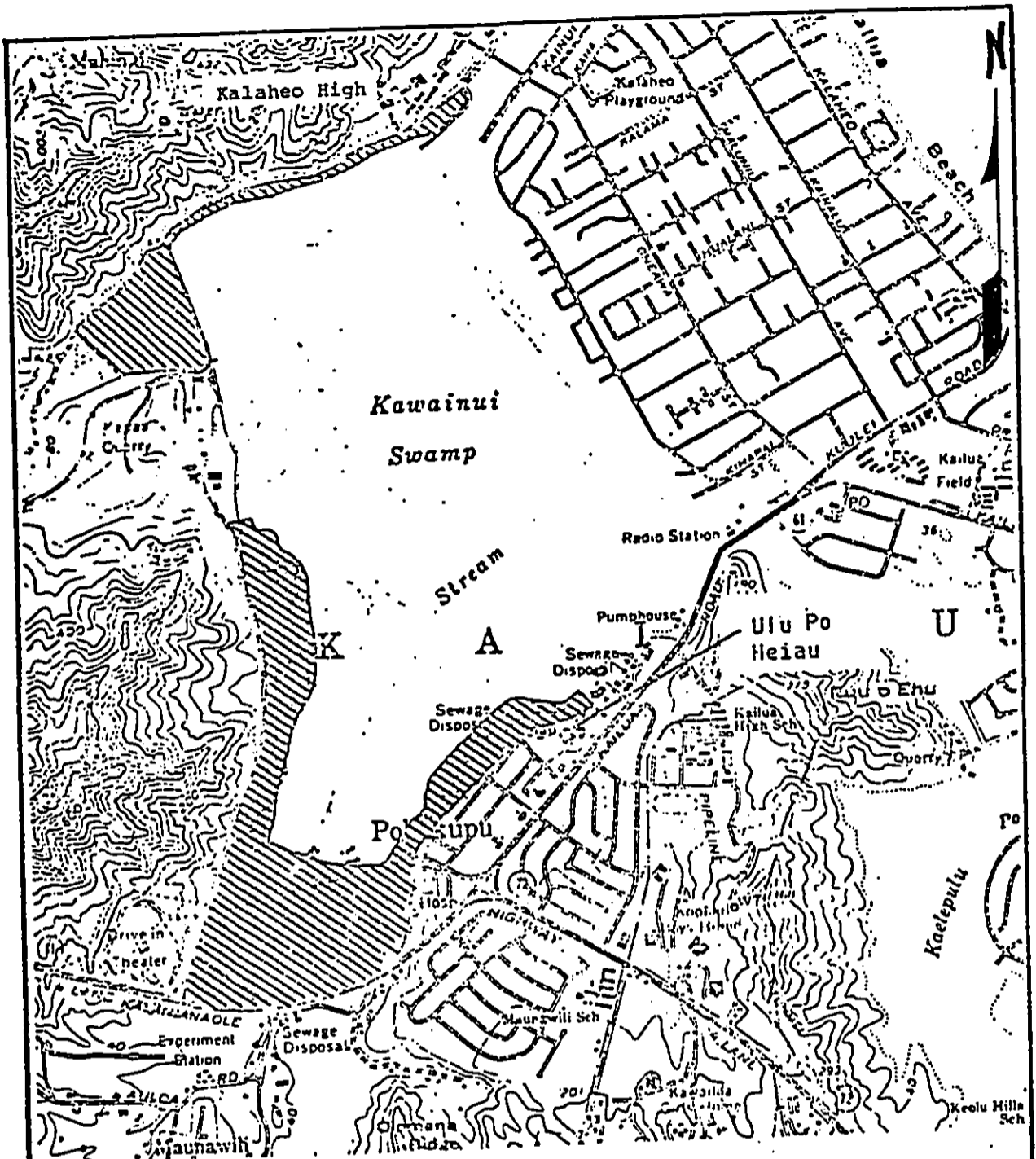
FIGURE 17

KALAHEO SANITARY LANDFILL

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Scale: 1 = 24,000

Source: EIS for Kawaihewa Residential Development, April 1977

<b>FIGURE 18</b>	<b>KAWAIHEWA RESIDENTIAL DEVELOPMENT</b>
STATE OF HAWAII DIVISION OF PUBLIC WORKS	DEPT. OF ACCOUNTING & GENERAL SERVICES PLANNING BRANCH

In 1974, the master plan for Kawainui Regional Park called for development of 750 acres of City-owned Kawainui Marsh as well as purchase of 250 acres of abutting private land. The 250 acres includes the area that has been proposed for development as the Kawainui residential subdivision. Included in this master plan was a site for the athletic and parking facilities to serve Kalaheo High School as shown on Figure 2.

Based on this master plan, the Department of Parks and Recreation was ready to initiate development of the proposed park. However, because of concerns expressed about the Kawainui Marsh's eco-system, they agreed to conduct a scientific study before developing the park. The study was never made because of funding problems. The City and County Department of Parks and Recreation has indicated that at present they have no plans to develop the Kawainui Regional Park.

### III. LAND USE PLANS, POLICIES, AND CONTROLS

#### A. State Land Use

A portion of the State Land Use District Map is shown in Figure 19. The map is a portion of the Mokapu Quadrangle Map O-14, prepared by the State Land Use Commission. The symbols used on the State Land Use District Map are as follows:

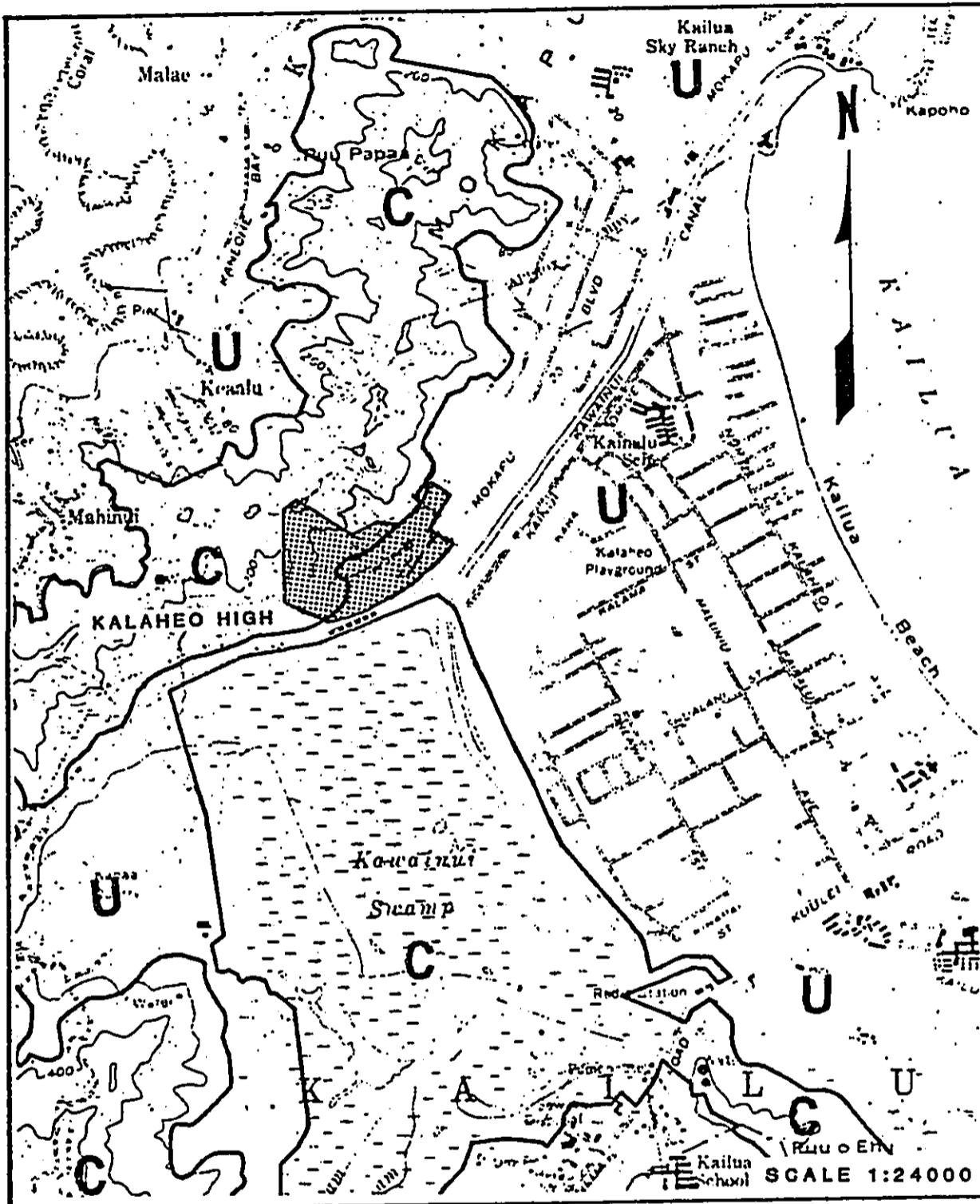
- C - Conservation District
- A - Agricultural District
- R - Rural District
- U - Urban District

The expanded school site is located in the Urban and Conservation Districts. Schools are permitted in the Urban District, while the uses of land within the Conservation District are governed by the Rules and Regulations of the State Department of Land and Natural Resources. For school uses within the Conservation District, a Conservation District Use Application (CDUA) would have to be filed with the Chairman of the Department of Land and Natural Resources. However, because of the size of the Conservation lands involved, the Department of Planning and Economic Development has stated that a State Land Use District Boundary Amendment would be the more appropriate route to follow. Therefore, instead of a CDUA, a State Land Use District Boundary Amendment will be pursued to place the expanded school site wholly within the Urban District.

#### B. County General Plan

In February 1977, the City and County of Honolulu enacted a new General Plan to replace their 1964 General Plan. The school and the areas to be added to it are located within the new General Plan's Urban Fringe Area, No. 5 Kailua.

The Development Plans for the new General Plan have been developed and were adopted by the City and County in 1983. The Development Plan



<b>FIGURE 19</b>	<b>STATE LAND USE DISTRICT MAP</b>
STATE OF HAWAII	DEPT. OF ACCOUNTING & GENERAL SERVICES
DIVISION OF PUBLIC WORKS	PLANNING BRANCH

in the vicinity of the school is shown on Figure 20. The existing school site is designated Public Facility while the areas to be added to it are designated Residential and Preservation. For the areas to be added to the school, the Development Plan must be amended to change their designation to Public Facility. Formal application to amend the Development Plan will be made to the City & County Department of General Planning after the EIS is completed.

C. County Zoning

The zoning in the vicinity of Kalaheo High School is shown on Figure 21. It shows that the expanded school site is zoned R-4, R-6 and P-1. Since schools are a permitted use for these zoning designations, no zoning changes will be required.

D. Shoreline Management

The existing school site and a portion of the area to be added are located within the Shoreline Management Area established by the City and County of Honolulu as indicated on Figure 22. Therefore, prior to implementation of improvements in this area, a Shoreline Management Permit will need to be approved by the City and County Department of Land Utilization. The primary intent of this land use control is to preserve, protect and, where possible, to restore the natural resource of the coastal zone of Hawaii.

E. Resource Management Plan for Kawainui Marsh

The State Department of Planning and Economic Development (DPED), in cooperation with the City and County, has developed the "Resource Management Plan for Kawainui Marsh" (RMPKM). This plan was undertaken as part of the Hawaii Coastal Zone Management (CZM) Program. It is based on a series of scientific studies of the Marsh conducted in the late 1970's and early 1980's.

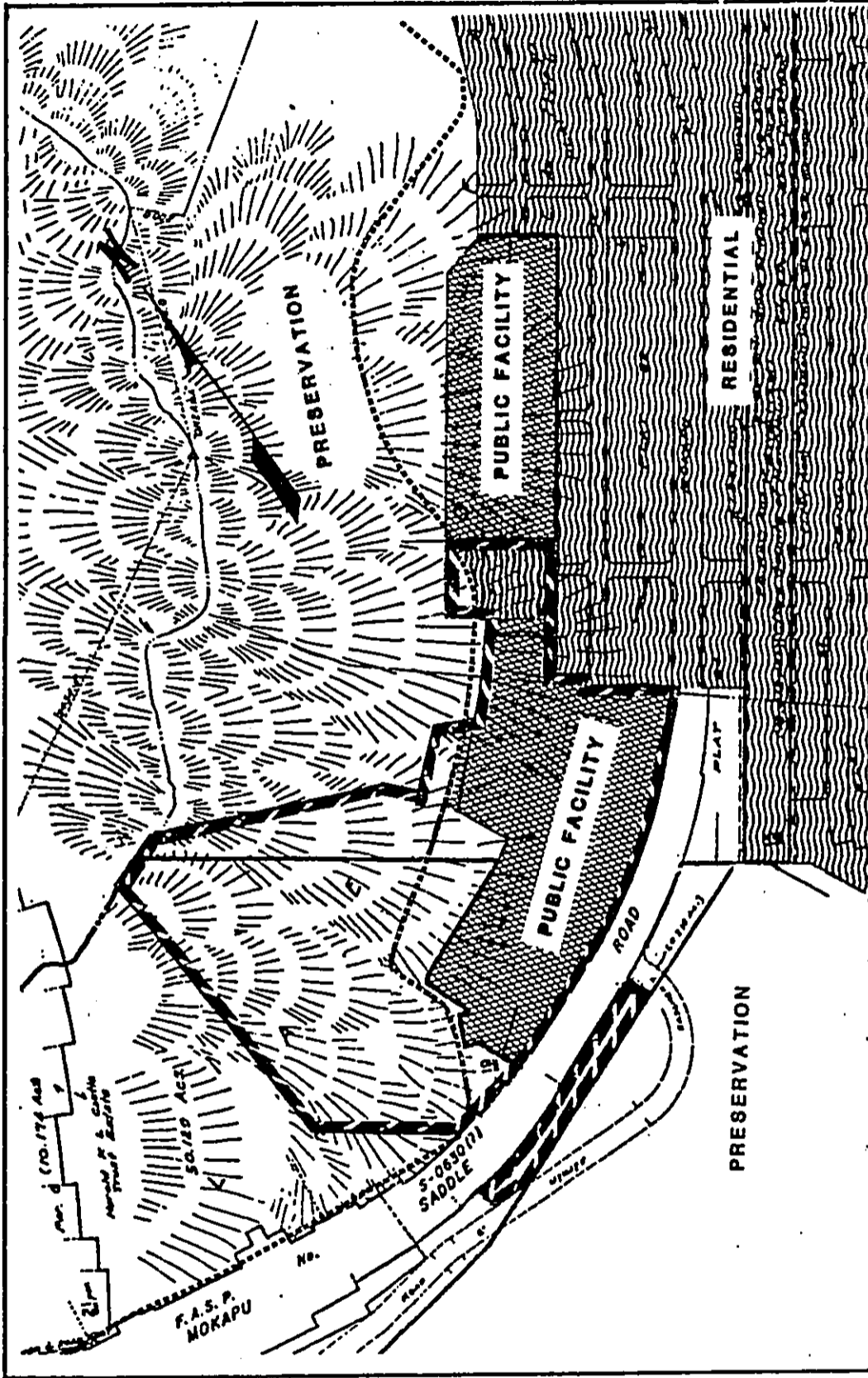
While the proposed action is inconsistent with the Cultural Resource Objective to "Identify, enhance and preserve aesthetic qualities of the primary and secondary areas, including vistas, viewplanes and site specific features and elements", it does support the following objectives of the RMPKM:

Economic

- o Provide for public use and enjoyment of the existing and potential resources of the marsh.

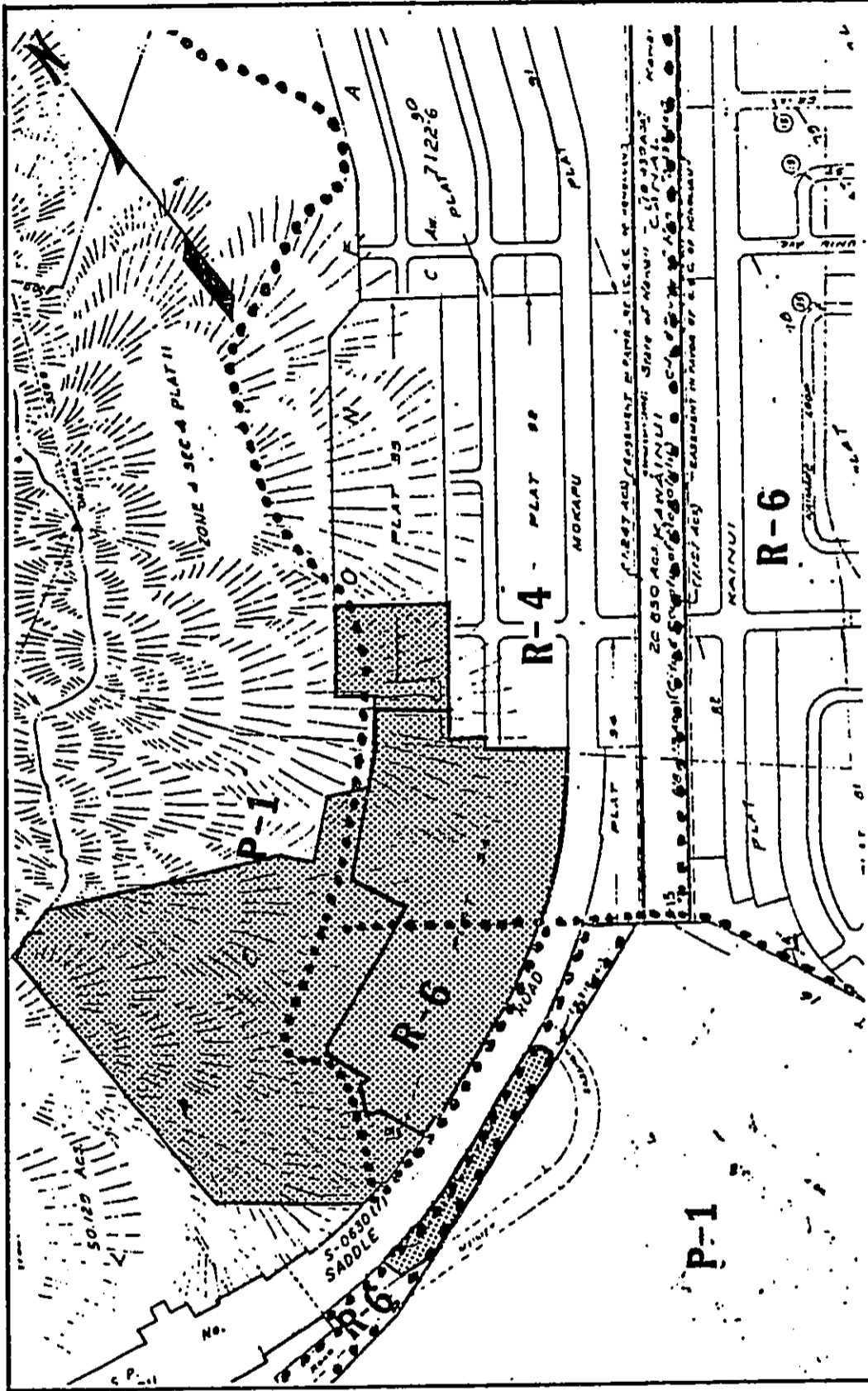
Cultural

- o Provide for the enhancement and use of the primary area as a learning resource for educational institutions.
- o Provide for recreational activities in the marsh area.



**FIGURE 20** DEVELOPMENT PLAN

STATE OF HAWAII DEPT. OF ACCOUNTING & GENERAL SERVICES  
 DIVISION OF PUBLIC WORKS PLANNING BRANCH



**FIGURE 21**

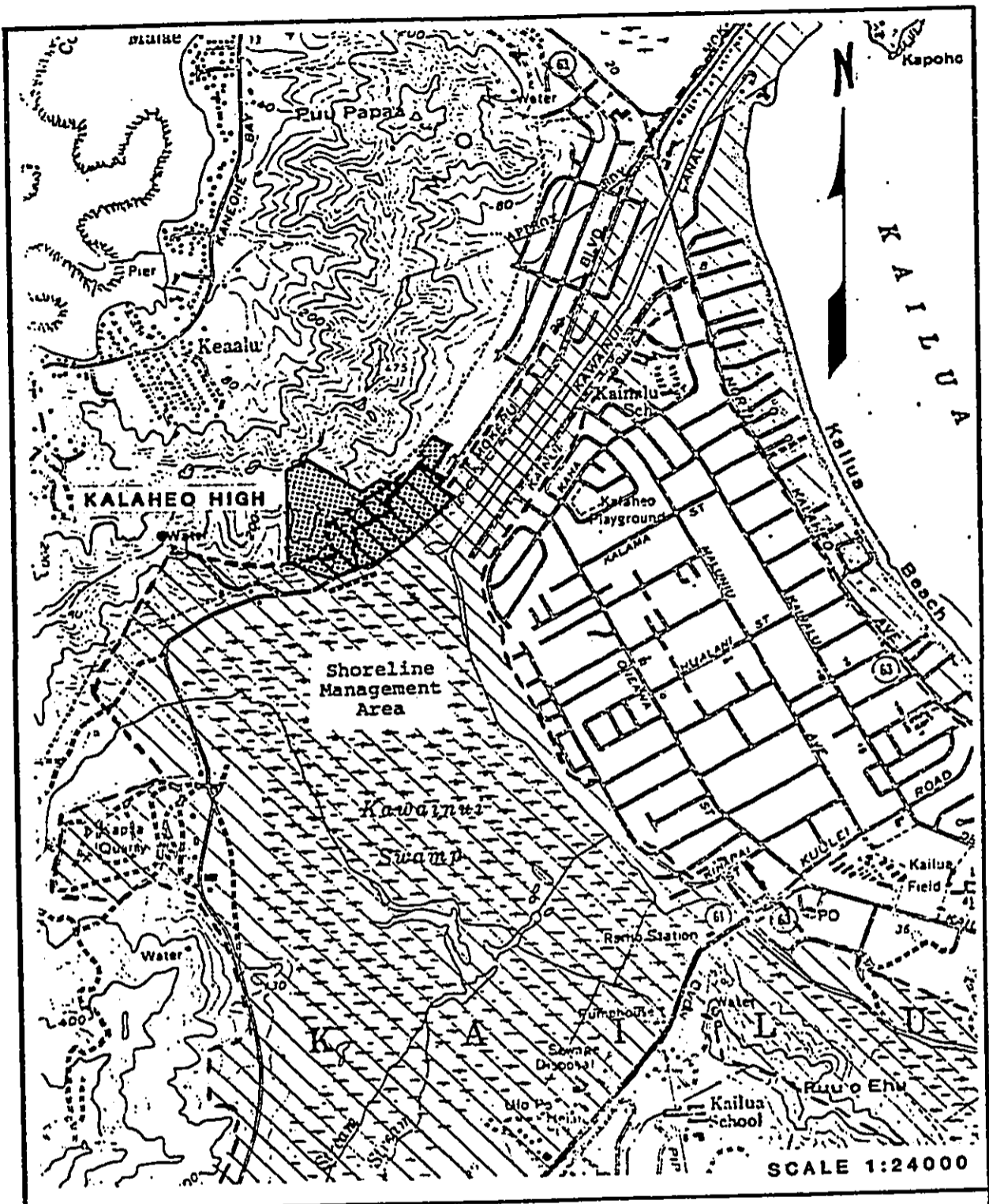
**ZONING MAP**

STATE OF HAWAII

DIVISION OF PUBLIC WORKS

DEPT. OF ACCOUNTING & GENERAL SERVICES

PLANNING BRANCH



**FIGURE 22**

**SHORELINE MANAGEMENT AREA**

STATE OF HAWAII

DEPT. OF ACCOUNTING & GENERAL SERVICES

DIVISION OF PUBLIC WORKS

PLANNING BRANCH

#### IV. PROBABLE IMPACT ON THE ENVIRONMENT

##### A. Social

###### 1. Education

The existing school site will be expanded and additional school facilities will be provided in accordance with the DOE's "Educational Specifications and Standards for Facilities, Volume III: The High School," September 1980, to serve the educational needs of the community.

###### 2. Recreation

The additional physical education and athletic facilities will be available to the community outside of school hours, practice sessions and games to help meet the recreational needs of the community.

###### 3. Neighborhood Character

The existing character of the residential areas abutting the expanded school site will not be altered. The only facility located above homes on Iliaina Street is a parking lot. Fencing and landscaping will be provided to create a buffer zone between the homes and the school parking lot above Iliaina Street.

###### 4. Displacement

There will be no displacement of business establishments, farms or residents.

##### B. Economic

###### 1. Tax Base

The expansion of the school site will remove approximately 35.3 acres of land from the tax base.

###### 2. Land Acquisition Costs

The estimated cost of acquiring the 35.3 acres of privately owned land is estimated at \$870,000 based on January 1984 prices.

###### 3. Design and Construction Costs

The cost to design and construct the improvements reflected in the revised ultimate site plan is estimated at \$16.2 million, based on January 1984 prices.

###### 4. Employment

Employment will be provided when the improvements are constructed and subsequently when they are operated and maintained.



5. Resources

The labor required for construction of the improvements and the construction materials which cannot be economically reused will be irretrievable. The labor and materials expended for maintenance of the facilities will also be irretrievable. The land would remain intact except for grading and could be used for other purposes should the school be abandoned in the future.

C. Environmental

1. Construction

Construction of the proposed improvements will alter existing site conditions through: (1) clearing, grubbing, grading and landscaping; (2) installing the necessary access roads, walkways and utilities such as water, sewer, drainage and electrical systems; and (3) constructing two parking lots and play and athletic facilities.

Air, water and noise pollutions during construction will be controlled by enforcement of the following items:

- a. Department of Health "Public Health Regulations."
- b. Department of Accounting and General Services Specifications for "Pollution Control" and "Lawns and Grass."

The DAGS specifications are contained in Appendix A of this EIS. The specific pollution control measures to be utilized will depend upon the detailed field conditions encountered and will be specified during the design and construction of the school improvements.

Construction of the individual facilities may cause some disruptions to school and neighboring areas. However, these disruptions will be for relatively short periods of time. Appropriate mitigation measures will be determined during the design phase of each project.

Construction access routes and zones will be established for each construction project and all necessary safety precautions will be taken including fencing of the construction site.

2. Flora

No rare or endangered species of flora will be affected. Grassing and landscaping will be provided to partially offset the vegetation that will be lost during clearing and grading operations in constructing the proposed improvements.

3. Fauna

Expansion of the school site and construction of the additional school facilities will temporarily remove about 35 acres of feeding and breeding grounds. This adverse impact may be partially offset when the planted landscaping matures.

Construction of the Marsh parking lot will remove approximately 2.5 acres of marginal wetlands out of the 640 acres of wetlands in the Kawainui Marsh. It is noted that the Marsh parking lot will be distinctly separated from the Kawainui Marsh proper by the Kapaa Quarry Road and located at least 600 feet from any improved waterbird habitat shown on the "Resource Management Plan for Kawainui Marsh." Therefore, the proposed action should have only a minimal impact on the fauna in Kawainui Marsh including the four endangered waterbirds - Hawaiian Coot, Hawaiian Duck, Hawaiian Gallinule and Hawaiian Stilt; which inhabit the Marsh.

4. Aesthetics

The areas to be added to the school and the improvements to be constructed are located on a hillside that is readily visible from surrounding areas. Therefore, because of the large earth cuts and fills that will be required, construction of the proposed improvements will have an adverse visual impact which the Lani-Kailua Outdoor Circle considers to be permanently devastating. Landscaping will be provided to reduce this impact.

The proposed parking lot in the marsh and the pedestrian overpass will also be visible. Landscaping for the parking lot will be provided in accordance with the Comprehensive Zoning Code (CZC) of the City and County of Honolulu, Sec. 21-2.5(a) "Off-Street Parking Requirements".

5. Air Quality

Expansion of the school site and construction of the proposed improvements are not expected to have a significant effect on air quality in the vicinity of the school. There will be some dust pollution during construction of the proposed improvements. However, this nuisance will be temporary and strictly controlled to comply with the requirements of Chapter 43 - Air Pollution Control, Public Health Regulations, State Department of Health.

6. Noise

Expansion of the school site and utilization of the additional facilities that will be constructed is not expected to create excessive noise pollution. Construction noise will be unavoidable. However, it will be controlled by State Department of Health

regulations and will be temporary and intermittent. The State Department of Health has provided the following information:

- a. Construction activities must comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu.
- b. Traffic noise from heavy vehicles traveling to and from the construction site must be minimized in residential areas and must comply with the provisions of Title 11, Administrative Rules Chapter 42, Vehicular Noise Control for Oahu.

Noise will be generated by school activities which may occasionally be heard by neighboring residents. The noise attenuation strategy to reduce the impact of student activities on the adjacent residents is to site all P.E. and athletic facilities away from the residential lots.

#### 7. Water

No potable water supplies will be endangered. Because of the increase in landscaped areas to be maintained, it is anticipated that the school's water consumption will increase. The availability of additional water will be determined during the Building Permit Process. A water system master plan meeting the requirements of the Board of Water Supply will be prepared during the design phase for the additional facilities to be constructed at the school.

#### 8. Drainage

The proposed improvements are outside of potential flood prone areas where drainage improvements cannot be made at reasonable cost. Construction of the proposed improvements will alter the existing drainage pattern. Runoff from the hillside above Iliaina Street will be intercepted above the proposed school parking lot instead of at the drainage easement located above the residential lots. The easement shown in Figure 15 will be retained to intercept the runoff from the abutting mauka area. There will be an increase in the amount of runoff generated from the areas that will be occupied by the playcourts, parking lots and varsity lockers due to the impervious surfaces of these facilities. But there will be a decrease in the amount of runoff generated from the areas that will be occupied by the football/track and baseball fields due to decreases in ground slope and overland velocity and increased ground percolation.

On-site drainage facilities, proper grading and landscaping will be provided to control runoff and minimize erosion. No major improvements to off-site drainage facilities will be required.

Grading and drainage plans will be developed during the design phase

for the additional facilities to be constructed at the school. The drainage plan will be coordinated with the City and County's Division of Engineering to assure that connections to the City's drainage system meet the requirements of Section 16-7.12, R.O. of Honolulu 1969, as amended (Ordinance No. 3986, 1972).

The impact of soil erosion and sedimentation on the Kawainui Marsh and Canal will be minimal, since the plans and specifications for construction of the various facilities will include established methods and measures for controlling and minimizing soil erosion and sedimentation. Additionally, the Kawainui Marsh has a drainage area of about 7,900 acres, while the expanded school site contains only about 55 acres.

The Marsh parking lot is located within the limits of the Kawainui Swamp Flood Control Project, which has a maximum design ponding elevation of 6.6 feet MSL and a maximum storage of 3,000 acre-feet. However, this parking lot should have a minimal impact on the flood plain and flood project, since the parking lot is distinctly separated from the Kawainui Marsh proper by the Kapaa Quarry Road which is at an approximate elevation of 10 feet MSL.

9. Sewer

Adequate sewer service is available to the expanded school site. Since school enrollments are not anticipated to increase, the amount of effluent generated by the school is not anticipated to increase.

10. Other Utilities

No off-site electrical, telephone and gas facilities will have to be expanded. On-site electrical and telephone facilities can be extended to serve the proposed school facilities, existing on-site propane gas service lines can be extended or an additional refillable storage tank installed. It is anticipated that construction of the proposed school facilities will result in a slight increase in the consumption of electricity and gas.

In the construction of the baseball field and paved courts, approximately 800 linear feet of Hawaiian Electric Company (HECO) electrical transmission line will have to be relocated. There are no foreseeable adverse environmental impacts due to the line relocation since the relocation will neither increase nor decrease the line capacities, the area of service will not be affected, there will be no displacement of residences or businesses, and construction will be in conformance with all applicable governmental rules and regulations.

The relocation of the lines will be coordinated with HECO which has

provided (in a letter dated September 18, 1978) the following information:

- a. HECO has a power line and easement across the area to be acquired. This easement, with the Castle Estate and the State, has both a condemnation clause and a relocation clause. The condemnation clause provides that should any section be condemned by a condemning authority, HECO has the right to claim and recover just compensation from the condemner. The relocation clause provides that should the Grantor (Castle Estate and/or the State) request a relocation, HECO will relocate at HECO's cost once at an agreeable substitute easement to be provided by the Grantor.
- b. Depending on how the Department of Education acquires the additional taking of land for the school expansion from the Castle Estate, either by purchase or condemnation, it would appear that HECO's interests are adequately protected by the right-of-way document 63-62C dated January 9, 1970 recorded in Liber 6857, page 401. It would appear, therefore, that HECO could relocate the existing 46 kv circuit to an acceptable new alignment provided there are no unusual engineering, environmental or other constraints.

#### 11. Solid Waste

Solid waste generated during the site preparation and construction of the proposed facilities will be removed and disposed of in compliance with Chapter 46 - Solid Waste Management Control, Public Health Regulations, State Department of Health and City and County rules and regulations. Presently, the solid wastes generated by the school are stored in trash bins and removed regularly for disposal to an approved site by private refuse collectors under contract with the State. The solid wastes that will be generated by the proposed facilities will also be disposed of in this manner.

#### 12. Traffic

Although the school's enrollment will not be increased and the existing parking for 251 cars is adequate for normal school use, additional parking is required to comply with the Comprehensive Zoning Code (CZC) of the City and County of Honolulu (Am. Ord. 3234), Section 21-5.6 (h) "Off-Street Parking Requirements". Based on the CZC requirements, the school is required to have at least 470 stalls. Thus the proposed action provides for 219 additional parking stalls which have been divided between the Hillside (100 stalls) and Marsh (119 stalls) parking lots. While the Hillside parking lots will be available for everyday and special events, the Marsh parking lot will be used only for special events such as athletic games.

The availability of the additional stalls from the Hillside parking lot may encourage more students and staff members to bring cars to

school. This would result in a slight increase in vehicular traffic on the roadways surrounding the school prior to and after school hours.

When special events, such as athletic games are held at the school, there will be an increase in traffic on the roadways surrounding the school. However, the periods of increased traffic will be short in duration and will probably occur during non-peak traffic hours. Additionally, by providing some of the parking in Kawainui Marsh, the traffic impact on Iiaina Street and other adjacent subdivision roads should be reduced.

The Marsh parking lot can be made available for activities within the Kawainui Marsh. However, these usages will probably occur during non-peak traffic hours.

During the design of the Marsh parking lot, studies will be conducted to ensure that safe driving conditions are provided and environmental impacts minimized.

With a pedestrian overpass, the flow of traffic on Mokapu Saddle Road will not be affected by pedestrians crossing Mokapu Saddle Road between the parking lot and the rest of the campus. In lieu of the overpass, consideration was given to the providing a crosswalk and traffic lights. This option was discussed with the State Department of Transportation which indicated that the situation would not meet their warrants for the installation of traffic lights.

The option of providing only a crosswalk was also investigated. However, since Mokapu Saddle Road is a major arterial on which vehicles travel at high speeds, this option was also dropped because of pedestrian safety.

### 13. Archaeological and Historic Sites

The State Historical Preservation Office has indicated that the areas to be added to the school are not known to contain any archaeological or historical sites.

While Kawainui Marsh has been declared eligible to be listed on the National Register of Historic Places, it has not been placed on either the State or National Register.

## V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Expansion of the school site and construction of the proposed additional facilities will commit approximately 35.3 acres of presently undeveloped land to urban use for educational, recreational, and athletic purposes. In the event the school is closed, the land will probably be used for other public functions. Therefore, it is highly unlikely that the land will be restored to its undeveloped state.

Construction of the football/track and baseball fields will greatly alter the topography and change the visual quality of the hillside.

Some minor short-term adverse impacts such as noise, dust and water pollutions will occur during construction of the additional facilities. However, these effects will be temporary and will be strictly controlled by enforcing applicable pollution control measures. Long-term adverse effects would be increased generation of traffic, noise and solid waste; and increased consumption of water, gas and electricity. These adverse effects are inevitable with the urbanization of lands to provide the educational benefits.

**VI. RELATIONSHIP BETWEEN SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

The possible short-term effects of air, water and noise pollutions from the construction of the proposed school facilities on man's environment is expected to be minimal in comparison to the long-term educational benefits to be gained by the community. The State is committed to the goals of providing adequate educational opportunities and facilities for all school-age children. Accordingly, the proposed school expansion and construction of additional facilities are required to implement these goals.

**VII. MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACT**

Construction of the proposed school facilities on the presently undeveloped areas to be added to the school will have some impact on the environment. The temporary effects created during the construction phases of these proposed facilities will be minimized by enforcing applicable DAGS pollution control measures. These mitigation measures are specified by Section 01567 - Pollution Control and Section 02485 - Lawns and Grass which are contained in Appendix A of this EIS. Construction of the proposed facilities will also comply with all Federal, State and County regulations pertaining to land use, construction and environmental controls to ensure protection of the public health, safety and welfare.

The plans and specification for construction of the new facilities will include established methods and measures for controlling and minimizing soil erosion and sedimentation during and after construction. These erosion control measures are specified in the State Department of Accounting and General Services Specifications, Section 01567-Pollution Control (Subsection 4-Erosion); State Department of health "Public health Regulations" - Chapter 37-A, Water Quality Standards; and City and County of Honolulu's Grading Ordinance and "Soil Erosion Standards and Guidelines".

Land acquisition will be in accordance with State laws which will provide fair compensation.

**VIII. ALTERNATIVES TO THE PROPOSED ACTION**

The possible alternatives to expansion of the existing school site and construction of the additional school facilities as reflected in the Revised Ultimate Site Plan (February 1983) are as follows:

1. No expansion of the school site nor construction of additional school facilities.

2. Expansion of school site and construction of additional school facilities as shown on the February 1974 Ultimate Site Plan, Figure 2.
3. Expansion of school site and construction of additional school facilities as shown on the April 1977 Ultimate Site Plan, Figure 4.
4. Expansion and construction of additional school facilities as shown on Alternative Plans B, C, D, E, and F, Figures B thru F. See Appendix B.

The above alternatives were considered but rejected in favor of the Revised Ultimate Site Plan-February 1983 (Figure 5) for the following reasons:

1. Because of a lack of facilities, the school's physical education program is limited and some of its athletic teams must go off-campus to practice and to play home games. Without the expansion of the school site and construction of additional facilities, the school will not be provided with the basic facilities to meet its program needs. Thus, this alternative was rejected.
2. Because of the delay in the development of the Kawainui Park, the DOE has not been able to proceed with the development of any of the school facilities sited within the marsh. Also, much community sentiment has been expressed to retain the marsh in its present state. Faced with this dilemma of not being able to construct the school facilities located within the marsh and the possibility that construction of the facilities may never be permitted, the DOE decided to revise the school's February 1974 Ultimate Site Plan and to resite the school facilities located within the marsh on or adjacent to the existing school site.
3. In 1977, alternative site plans were developed and one plan was selected as the Ultimate Site Plan (USP) in April 1977. However, when the Draft EIS for the USP was circulated, comments opposing the USP were received. The major objection being the placement of the football/track field above the homes on Iiaina Street. Because of the strong opposition to the USP - April 1977, the DOE decided to have other alternative site plans developed.
4. In revising the ultimate site plan for the school, six alternative plans were developed and one plan was selected by the DOE as the Revised Ultimate Site Plan (RUSP) - February 1983. See Figure 5. The evaluation of the plans contained in Appendix B - Evaluation Report used the following criteria:
  - A. Functional/Program Considerations
  - B. Safety and Security Conditions
  - C. Budgeting, Land Use and Aesthetic Considerations
  - D. Community Considerations
  - E. Cost Considerations



The plan that was selected by the DOE as the RUSP - February 1983 is Alternative Plan "A", as described in the Evaluation Report. The alternative site plans have been listed below from the least to the most expensive and from the best to the worst in ratings.

<u>Cost</u>	<u>Ratings</u>
B (\$12.55 million)	A
C (\$12.99 million)	E
F (\$13.39 million)	C
A (\$17.06 million)	F
D (\$24.19 million)	D
E (\$28.89 million)	B

Plan "B" costs the least, however, it has the worst rating. Plans "A" and "E" meet the established criteria and have the best overall rating. Although plan "A" is estimated to cost \$4.5 million more than the least expensive plan (B), it is \$11.8 million less than plan "E". The DOE believes plan "A" will result in substantially greater long-range cost benefits to the school and its programs. Appendix C contains the DOE letter selecting alternative plan "A" as their preferred site plan for Kalaheo High School's athletic facilities.

#### IX. CONSULTATION WITH OTHER AGENCIES

The following agencies and parties have been consulted in the preparation of this document. Their comments and DAGS responses are included in Appendix D of this EIS.

##### A. Federal

Kaneohe Marine Corps Air Station  
 Commanding Officer  
 Marine Corps Air Station  
 Kaneohe Bay, Hawaii 96863

Chief, Engineering Division  
 Department of the Army  
 U.S. Army Engineering District, Honolulu  
 Building 230  
 Fort Shafter, Hawaii 96858

Facilities Engineer  
 Headquarters, Naval Base  
 Box 110  
 Pearl Harbor, Hawaii 96860

Division of Ecological Services  
 U.S. Department of the Interior  
 Fish and Wildlife Service  
 P. O. Box 50167  
 Honolulu, Hawaii 96850

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

Director of Civil Engineering  
Department of the Air Force  
Headquarters 15th Air Base Wing (PACAF)  
Hickam Air Force Base, Hawaii 96853

Naval Undersea Center  
Marine Environmental Management Office  
P. O. Box 997  
Kailua, Hawaii 96734

**B. State**

Mr. Francis Hatanaka, Acting Superintendent  
Department of Education

Mr. Charles Clark, Director  
Department of Health

Mr. Susumu Ono, Chairman  
Department of Land and Natural Resources

Mr. Kent Keith, Director  
Department of Planning and Economic Development

Mr. Wayne Yamasaki, Director  
Department of Transportation

**C. City and County**

Mr. Melvin M. Nonaka, Chief  
Fire Department

Dr. Willard T. Chow, Chief Planning Officer  
Department of General Planning

Mr. Joseph Conant, Director  
Department of Housing and Community Development

Mr. Michael McElroy, Director  
Department of Land Utilization

Ms. Emiko Kudo, Director  
Department of Parks and Recreation

Mr. Douglas Gibb, Chief  
Police Department

Dr. Michael J. Chun, Director  
Department of Public Works

Mr. William Bonnet, Director  
Department of Transportation Services

Mr. Roy Tanji, Director and Building Superintendent  
Building Department

Mr. Kazuyoshi Hayashida, Manager and Chief Engineer  
Board of Water Supply

D. Public Utilities

The Gas Company  
P. O. Box 3379  
Honolulu, Hawaii 96842

Hawaiian Electric Company  
P. O. Box 2750  
Honolulu, Hawaii 96840

Hawaiian Telephone Company  
P. O. Box 2200  
Honolulu, Hawaii 96841

E. Community Organizations and Others

Aikahi Park Community Association  
9 Aikahi Loop  
Kailua, Hawaii 96734

Kalaheo High School PSTA  
730 Iiaina Street  
Kailua, Hawaii 96734

Kalaheo Hillside Community Association  
P. O. Box 985  
Kailua, Hawaii 96734

Kalaheo Community Association  
530 Kaha Street  
Kailua, Hawaii 96734

Kainalu Park Homeowners' Association  
120 Kiluana Loop  
Kailua, Hawaii 96734

Kailua Chamber of Commerce  
P. O. Box 1496  
Kailua, Hawaii 96734

Kailua Community Council  
c/o Kailua Satellite City Hall  
302 Kuulei Road  
Kailua, Hawaii 96734

Kailua Neighborhood Board No. 31  
c/o Kailua Satellite City Hall  
302 Kuulei Road  
Kailua, Hawaii 96734

Lani-Kailua, Outdoor Circle  
P. O. Box 261  
Kailua, Hawaii 96734

Kawainui Heritage Foundation  
P. O. Box 1101  
Kailua, Hawaii 96734

Kailua Intermediate School PTA  
145 South Kainalu Drive  
Kailua, Hawaii 96734

Aikahi Elementary School PTA  
282 Iihau Street  
Kailua, Hawaii 96734

Kainalu Elementary School PTA  
165 Kaiholu Street  
Kailua, Hawaii 96734

Mokapu Elementary School PTA  
Building 1193  
Kaneohe MCAS  
Kaneohe, Hawaii 96744

Kailua Elementary School PTA  
315 Kuulei Road  
Kailua, Hawaii 96734

Lanikai Elementary School PTA  
140 Alala Road  
Kailua, Hawaii 96734

Estate of Harold K. L. Castle  
Castle Junction  
Kaneohe, Hawaii 96744

Mr. Edward J. Bybee  
Suite 2757  
733 Bishop Street  
Honolulu, Hawaii 96813

Representative John J. Mederios  
State Capitol  
Room 441  
Honolulu, Hawaii 96813

Senator Mary George  
State Capitol  
Room 220  
Honolulu, Hawaii 96813

**X. LIST OF NECESSARY APPROVALS**

The following approvals will be required:

**A. Environmental Impact Statement**

<u>Action</u>	<u>Approving Agency</u>
Approve EIS	Governor of Hawaii

**B. Land**

<u>Action</u>	<u>Approving Agency</u>
Land Acquisition	Governor of Hawaii
Land Acquisition	State Dept. of Land and Natural Resources
Transmission Line Easement	Hawaiian Electric Company
Transmission Line Easement	State Dept. of Land and Natural Resources
General Plan Development Plan	City Council
Subdivision and Consolidation	C&C Dept of Land Utilization
State Land Use Boundary Change	State Land Use Commission

**C. Construction**

<u>Action</u>	<u>Approving Agency</u>
Shoreline Management Permit	C&C Dept. of Land Utilization
Construction Plan Approval	State Dept. of Health
Grading & Building Permits	State Dept. of Labor Industrial Safety Division
Construction Plan Approval	State Fire Marshal
Building Permit	C&C Building Dept.
Construction Plan Approval	C&C Dept. of Transportation Services

**Grading Permit &  
Construction  
Plan Approval**

**C&C Dept. of Public  
Works**

**Construction Plan  
Approval**

**C&C Div. of Wastewater  
Management**

**Construction Plan  
Approval**

**C&C Board of Water  
Supply**

**Water Master Plan**

**C&C Board of Water  
Supply**

**Construction Plan  
Approval**

**Hawaiian Electric  
Company**

**Construction within  
State Highway right-  
of-way permit.**

**State Department of  
Transportation**

**APPENDIX A**  
**DAGS SPECIFICATIONS:**  
**Pollution Control**  
**Lawns and Grass**

SECTION 01567 - POLLUTION CONTROL

The Contractor shall comply with the following requirements for pollution control in performing all construction activities:

1. RUBBISH DISPOSAL

- A. No burning of debris and/or waste materials shall be permitted on the project site.
- B. No burying of debris and/or waste material except for materials which are specifically indicated elsewhere in these specifications as suitable for backfill shall be permitted on the project site.
- C. All unusable debris and waste materials shall be hauled away to an appropriate off-site dump area. During loading operations, debris and waste materials shall be watered down to allay dust.
- D. No dry sweeping shall be permitted in cleaning rubbish and fines which can become airborne from floors or other paved areas. Vacuuming, wet mopping or wet or damp sweeping is permissible.
- E. Enclosed chutes and/or containers shall be used for conveying debris from above to ground floor level.
- F. Cleanup shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of cleanup shall coincide with rubbish producing events.

2. DUST

- A. Dust shall be kept within acceptable levels at all times including non-working hours, weekends and holidays in conformance with Chapter 43 - Air Pollution Control, as amended, of the State Department of Health Public Health Regulations.
- B. The method of dust control and all costs incurred therefor shall be the responsibility of the Contractor.
- C. The Contractor shall be responsible for all damage claims in accordance with Section 7.16 - "Responsibility for Damage Claims", of the General Conditions.

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3. NOISE

- A. Noise shall be kept within acceptable levels at all times in conformance with Chapter 44B - Community Noise Control for Oahu, State Department of Health, Public Health Regulations. The Contractor shall obtain and pay for community noise permit from the State Department of Health when the construction equipment or other devices emit noise at levels exceeding the allowable limits.
- B. All internal combustion engine-powered equipment shall have mufflers to minimize noise and shall be properly maintained to reduce noise to acceptable levels.
- C. Pile driving operations shall be confined to the period between 9:00 a.m. and 5:30 p.m., Monday through Friday. Pile driving will not be permitted on weekends and legal State and Federal holidays.

In the event the Contractor's operations require the State's inspectional and engineering personnel to work overtime, the Contractor shall reimburse the State for the cost of such services in accordance with Section 7.9 of the General Conditions.

- D. Starting up of construction equipment meeting allowable noise limits shall not be done prior to 6:45 a.m. without prior approval of the Engineer. Equipment exceeding allowable noise limits shall not be started up prior to 7:00 a.m.

4. EROSION

During interim grading operations the grade shall be maintained so as to preclude any damages to adjoining property from water and eroding soil. Temporary berms, cut-off ditches, and other provisions which may be required because of the Contractor's method of operation shall be installed at no cost to the State. Drainage outlets and siltino basins shall be constructed and maintained as shown on the plans to minimize erosion and pollution of waterways during construction.

5. OTHERS

- A. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutters and catch basins unless treated to comply with Department of Health water pollution regulations.
- B. Trucks hauling debris shall be covered as required by PUC Regulation. Trucks hauling fine materials shall be covered.

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- C. No dumping of waste concrete will be permitted at the job site unless otherwise permitted in the Special Provisions.
- D. Except for rinsing of the hopper and delivery chute, and for wheel washing where required, concrete trucks shall not be cleaned on the job site.
- E. Except in an emergency, such as a mechanical breakdown, all vehicle fueling and maintenance shall be done in a designated area. A temporary berm shall be constructed around the area when runoff can cause problems.
- F. When spray painting is allowed under Section 9A - Painting, such spray painting shall be done by the 'airless spray' process. Other types of spray painting will not be allowed.

6. SUSPENSION OF WORK

Violation of any of the above requirements or any other pollution control requirements which may be specified in the Technical Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.

If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by the Engineer, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.

The Engineer may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above mentioned requirements. In this instance, the work shall be done by force account as described in Subsection 4.2a "ADDITIONAL WORK" of the General Conditions and paid for in accordance with Subsection 8.4b "FORCE ACCOUNT WORK" therein. The count of elapsed working days to be charged against the contract in this situation shall be computed in accordance with Subsection 7.18 "CONTRACT TIME" of the General Conditions.

END OF SECTION

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NOTES TO ARCHITECT

SECTION 02485 - LAWNS AND GRASS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in Section 00800.

1.02 GENERAL REQUIREMENTS

A. Furnish all labor, materials, equipment and tools for grass planting as specified herein. Grass shall be planted in areas indicated on the plans and as listed below:

1. All existing grassed areas that are damaged by construction operations;
2. Areas that are dug up for utility trenches;
3. Areas from which existing structures are to be removed;
4. Areas within "Contract Zone Limits" that are graded and covered with topsoil except areas designed for other plants; and
5. All other areas within "Contract Zone Limits" that are indicated on the plans to be graded, whether topsoiled or not, such as slopes of banks, etc.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Grass shall be that locally known as fine "Manienie" or common Bermuda grass (Cynodon Dactylon). At the option of the Contractor, grass planting may be by seeds (plain seeding or by hydromulching) or by sprigs.

1. Grass seeds shall be fresh, hulled, and meet the following requirements:

Pure seed	95.0% minimum
Crop seed	1.0% maximum
Weed	0.5% maximum
Inert material	5.0% maximum
Germination	85.0% minimum

Where the planting of trees and shrubs and/or the trans-planting of trees are included in the project, this specification shall be modified to include the work and entitled LANDSCAPING instead of GRASS PLANTING.

For clarity, indicate on site plan all areas to be grassed so that there is no doubt as to the extent of new grassing. If necessary, draw a separate grassing plan. Do not use the term "Lawn Area."

Also, if project is adjacent to a road, indicate any unimproved parkway (area between curb and sidewalk) as a separate contract zone for grassing only.

Unless otherwise instructed by the State, pave all parking lot medial strips.

Make sure that topsoil for general finish grading (as opposed to the screened topsoil for repair work specified herein) is specified in the EARTHWORK SECTION. The location and extent of topsoil shall be clearly defined. In general, topsoil is required over all graded area.

Specify "Manienie" grass, even on banks. Do not specify Widelia-Biflora and Lippia grass. (For other than school projects, check with appropriate Project Coordinators).

For Hawaii District schools, specify only Australian Carpet Grass. Due to heavy rainfall and poor topsoil in most locations, manienie grass does not hold up.

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Revised: 3/80

NOTES TO ARCHITECT

Grass seeds shall be delivered to the site in unopened, sealed containers, labeled with the brand name and percent purity. Labeling shall indicate that the seeds passed a certified germination test no more than 12 months prior to use.

2. Grass sprigs shall be healthy living runners and stolons. After they are dug, they shall be covered and kept moist until planted.

B. Fertilizer shall be pelleted and shall consist of the following percentages by weight of active ingredients:

1. For First Application:

Nitrogen	8%		10%
Phosphate	24%	OR	20%
Potash	24%		20%

2. For Second Application:

Nitrogen	18%		16%
Phosphate	18%	OR	16%
Potash	5%		16%

C. Mulch Materials

1. Mulch shall be specially-processed fiber containing no growth or germination-inhibiting factors. It shall be such that after addition and agitation in the hydraulic equipment with seed, fertilizer, water and other additives not detrimental to plant growth, the fibers will form a homogeneous slurry. When hydraulically sprayed on the soil, the fibers shall form a blotter-like ground cover which readily absorbs water and allows infiltration to the underlying soil.
2. Stabilizing and water retaining agent for hydro-mulching option only shall be "Verdyol Super," "Ecology Control M-Binder" or approved equal. Rate of application of "Verdyol Super" shall be 50 lbs./acre and that for "Ecology Control M-Binder" shall be 60 lbs./acre.

D. Screened topsoil for repair work shall be a fertile, friable soil of loamy character, and shall contain organic matter. It shall be obtained from well-drained arable land; be free from weeds, stone and debris; and shall pass a maximum 1/4" screen. Topsoil shall be capable of sustaining healthy plant life. See Paragraph 3.01.D.5. for application.

For areas which will be in shade most of the time, such as under building overhangs, in building "nooks," or under large spreading trees with dense foliage, use the following:

In low, hot locales  
- Buffalo grass  
(Stenotaphrum secundatum).  
In high, moist locales -  
Centipede grass.

Zoysia, if used, shall be permitted only in parking lot medial strips. It shall not be specified for large areas because it is slow growing and expensive.

Modify entire specs as necessary when above grass types are used.

Since it is difficult and/or very expensive to obtain good topsoil in the Hilo and Kona areas, contact the appropriate Project Coordinator for guidance. This also applies to topsoil for finish grading which is specified in the Earthwork Section.

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E. Water shall be potable.

PART 3 - EXECUTION

3.01 INSTALLATION AND WORKMANSHIP

A. Preparation of Planting Bed:

1. Raking: Before grass planting is started, the entire area shall be raked to an even surface and all rocks and debris removed. Weeds and other obnoxious vegetation shall be removed by manual or chemical methods. Finished grades which have been established shall be maintained and shall conform to that shown on the plans with slopes in the proper directions.
2. Tilling: Where required because the soil is hard-packed, existing and/or raked surfaces at finished grades shall be tilled to a depth of at least 3 inches by plowing, disking, harrowing, or other similar methods. All rocks and all debris such as stumps, roots, wire, grade stakes and other rubbish that are turned up by tilling shall be removed. Tilling shall be omitted on slopes where watering is likely to wash the topsoil away.
3. Leveling: Any undulations or irregularities in the surface resulting from tilling or other operations shall be leveled out before planting operations are begun.

B. Planting: The Contractor shall notify the Engineer one day before planting of grass.

1. Option by Grass Seeding: If grass seeds are used, the following procedure shall be used (NOTE: Contractor should exercise caution in seeding slopes where seeds may be washed away):
  - a. The grass seeds shall be broadcast uniformly by hand or by sowing equipment at the rate of 100 pounds per acre. Half the seeds shall be sown with the sower moving in one direction and the remainder shall be sown at right angles to the first direction.
  - b. The surface shall then be raked to a smooth even plane while the seeds are simultaneously worked into the soil to a depth of about 1/2".
  - c. The ground shall then be watered.

Specify sowing rate of 50 pounds per acre for Buffalo grass or 25 pounds per acre for Centipede grass.

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2. Option by Grass Sprigging

- a. Furrows shall be placed perpendicular to drainage lines and parallel to contours on slopes and shall be spaced no more than 9 inches apart.
- b. Fresh sprigs shall be planted in each furrow a maximum of 6 inches apart and covered with soil to a minimum depth of 2 inches.
- c. The surface shall then be smoothed and compacted by means of a culti-packer, roller or other similar equipment weighing 60 to 90 pounds per lineal foot of roller.
- d. The ground shall be watered immediately after rolling.

3. Option by Hydro-Mulching of Grass Seed: This work shall consist of furnishing and applying hulled bermuda seed, fertilizer, mulch and stabilizing and water retaining agent by hydro-mulching.

- a. The seeds shall be applied at the rate of 100 pounds per acre minimum. Mulch shall be applied at a rate of 1,200 pounds per acre minimum (25 lbs. per 900 sq. ft.). In every application, complete and uniform coverage of the soil shall be attained.
- b. First application of fertilizer shall be included with mulch and seed.
- c. The hydro-mulch equipment shall be capable of mixing all the necessary ingredients to a uniform mixture and to apply the slurry to provide uniform coverage. Seed, fertilizer, mulch mix and stabilizing water retaining agent shall be applied in one operation by hydraulic equipment made specifically for this use. The equipment shall have a built-in agitation system with an operating capacity sufficient to keep the mix in uniform distribution until pumped from the tank. Distribution and discharge lines shall be large enough to prevent stoppage and shall be equipped with hydraulic discharge spray nozzles which provide a uniform distribution of the slurry.

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d. Areas inaccessible to hydro-mulching application shall be seeded or hand sprigged and fertilized by approved hand methods.

e. Water shall be applied immediately following mulching.

C. Application of Fertilizer: The Contractor shall notify the Engineer one day before application of fertilizer.

1. Fertilizer shall be distributed uniformly over the planted area.
2. The first application of fertilizer shall be applied at the rate of 500 pounds per acre about 2 weeks after grassing and shall be followed by watering. (First application of fertilizer if using hydro-mulching option shall be mixed with the seeded mulch.)
3. The second application of fertilizer shall be applied at the rate of 300 pounds per acre about 1 week before the end of the maintenance period and shall be followed by watering.

D. Maintenance:

1. General: The Contractor shall be responsible for the proper care of the grassed areas. Maintenance shall include watering, weeding, mowing, repairing, regrassing and protection, and shall be required until the entire project is accepted, but in any event for a period not less than \_\_\_\_\_ days after planting of grass.
2. Watering: After planting of seeds or grass sprigs or mulching the ground shall be watered as deemed necessary by the Contractor to establish a healthy growth. Watering shall be done in a manner that will prevent erosion due to the application of excessive quantities of water, and the watering equipment shall be of a type that will prevent damage to the finished surface.
3. Weeding: Weeds shall be uprooted and removed completely and in no case shall they be allowed to grow and propagate more seeds. Large holes caused by weeding shall be filled with screened topsoil and raked level.
4. Mowing: Grass shall be mowed to a height of 1-1/2" whenever the height of grass becomes 3 inches except as noted for final mowing.

Specify maintenance period: 60 days for 1st increment or large areas; 45 days for 2nd increment or smaller areas.

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5. Repairing and Regrassing: When any portion of the surface becomes gullied or otherwise damaged and grass has failed to grow, such areas shall be repaired with screened topsoil and replanted with grass. Any area of one foot square or more in which grass has failed to grow after 30 days of maintenance shall be regrassed.

6. Protection: The grassed areas shall be protected against traffic so that the grass establishes a healthy growth. Grassed areas damaged by traffic shall be replanted.

### 3.02 ACCEPTANCE OF GRASSING

- A. At the time of acceptance, the grass shall have been well-established and shall be given a final weeding and a final mowing to a height of 1 inch. If the maintenance period has expired before acceptance of the entire project, the Contractor shall continue to maintain the grass until acceptance of the entire project. If the maintenance period should extend beyond acceptance of the entire project, the Contractor shall continue to maintain the grass until the end of the specified period of time required for maintenance.
- B. At the end of the maintenance period, should there appear areas where grass has failed to grow, such areas shall be replanted with grass, refertilized and maintained beyond the maintenance period until a healthy growth is established.

END OF SECTION

Lawns and Grass  
02485 - 6

Job No. (Insert No.)  
Revised: 3/80



**APPENDIX B**  
**EVALUATION REPORT**

EVALUATION REPORT  
FOR  
KALAHEO HIGH SCHOOL  
ALTERNATIVE ULTIMATE SITE PLANS

PREPARED BY  
ENGINEERS SURVEYORS HAWAII, INC.

FOR  
DIVISION OF PUBLIC WORKS  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

SEPTEMBER 1982

B-1

## I. INTRODUCTION

This report has been prepared to evaluate the six (6) alternative site plans that have been developed for the expansion of Kalaheo High School. The report estimates the costs associated with the implementation of each plan and discusses the advantages and disadvantages of each plan.

## II. ALTERNATIVE SITE PLANS

### A. General

Shown on Exhibits A through F are Alternative Site Plans A through F. These plans have been developed to site the following additional facilities for Kalaheo High School:

1. Football/Track Field with Bleachers and Lights
2. Baseball Field
3. Two Playcourt Units
4. Tennis Courts
5. Varsity/J. V. Locker/Shower
6. Swimming Pool
7. Parking for 220+ cars

According to the DOE's "Educational Specifications and Standards for Facilities, Volume III: The High School," September 1980 these facilities should have the following features:

Football/Track Field with Bleachers: 400 meter track on the perimeter of a football field with bleachers for 5,000 spectators, lights, public restrooms, ticket windows and announcer's booth.

Baseball Field: Baseball field with outfield fence located 320-feet down each foul line and 400-feet to dead center field, 20-foot high backstop, player's benches and drinking fountains. (No lights are provided for the baseball field.)

Playcourt Unit: 72-feet x 132-feet multi-purpose paved area with color coded lines for tennis, basketball, volleyball, paddle tennis and handball courts.

Tennis Courts: 120-feet x 144-feet paved area with 3 tennis courts.

Varsity/J. V. Locker/Shower: 6,492 n.s.f. locker/Shower building with 100 boys lockers and 80 girls lockers and training, meeting and storage rooms.

Swimming Pool: 25-yard, 8 lane short course pool with bleacher area, lights, showers and toilets.

In the development of Alternative Site Plans A, B, and C, the following criteria were used by DAGS:

1. Design enrollment: 1,400; grades 9-12 students.
2. "The Educational Specifications and Standards for Facilities, Volume III: The High School," September 1980.

3. Football/track field not sited above homes to accommodate community and neighborhood desires.
4. Facilities sited in areas of flatter topography to minimize construction costs.
5. Football/track field or baseball field and play and tennis courts sited near existing P. E. Building to accommodate school's P. E. program.

Alternative D was a plan suggested by a parent of a student of Kalaheo High School. The school asked for consideration of this alternative in the study.

Alternative E was a plan suggested by the Kalaheo Hillside Association.

Alternative F was a plan developed by DAGS to test the impact of rotating the football/track field.

#### **B. Codes and Standards**

The alternatives were designed in accordance with the applicable requirements of the State of Hawaii and the City and County of Honolulu.

Kalaheo High School is located on the hillside and any type of improvement will require a lot of grading. The City and County of Honolulu Grading Ordinance requires all cut and fill slopes to be at a ratio of 2 horizontal to 1 vertical except when steeper slopes are recommended by a soils engineer. The grading ordinance also requires that a bench or terrace be constructed at vertical intervals of 15 feet. Therefore, for this study all excavation and embankment is at a ratio of 2 horizontal to 1 vertical, with 8 feet wide benches at vertical intervals of 15 feet.

#### **C. Excavation vs. Walls**

Taking into consideration, the cost of land, excavation, and landscaping along the hillside, it was determined that excavation along the hillside was cheaper than constructing more than one tier of retaining walls. Also the hillside will be subject to erosion during heavy rainstorms and erosion could undermine the walls if they are constructed more than one tier high.

#### **D. Alternative Site Plans**

The features that are common to all of the alternative site plans are listed as follows:

1. At least two additional parking lots are proposed. One across Mokapu Saddle Road from the school for approximately 150 cars and the other near the existing lot by the Gym for approximately 100 cars.
2. A pedestrian overpass is proposed to be placed over Mokapu Saddle Road connecting the parking lot and the school.
3. The football/track field and courts have been sited near the existing P. E. Building.

4. The football/track field has been located by Mokapu Saddle road and over the existing play field.
5. The two-multi-purpose playcourt units and the tennis courts have been grouped together and occupy a paved area of approximately 150-feet by 260 feet.
6. Although not specified in the "Educational Specifications and Standards for Facilities," it has been assumed that restrooms will be provided at the baseball field because of the distance to other restrooms.

Pertinent items regarding the alternative site plans are as follows:

1. Alternative Site Plan A (Exhibit A)
  - a. Football/track field, baseball field, courts and locker/shower located in same general area at west end of campus.
  - b. Pool located above Gym.
  - c. The only facility located above the homes on Iiaina Street is a parking lot.
  - d. The baseball field and courts are located on steeply sloped areas resulting in large mountain side cuts and considerable land acquisition.
  - e. The football/track field is located approximately 15 feet above the existing playfield elevation and the baseball field and the courts are located approximately 40-feet above the football/track field.
  - f. The pool is located approximately 20-feet above the Gym.
2. Alternative Site Plan B (Exhibit B)
  - a. Football/track field, play and tennis courts and locker/shower sited near existing P. E. Building.
  - b. Parking lot, pool and baseball field sited above homes on Iiaina Street.
  - c. Baseball field sited on slightly sloped land which minimizes earthwork and mountain side cuts.
  - d. Students must walk along parking lot to get to swimming pool and baseball field.
  - e. The football/track field elevation at about existing play field elevation. Courts located 30-feet above football/track field.
3. Alternative Site Plan C (Exhibit C)
  - a. This plan is the same as Alternative Site Plan B, except that the pool is now sited on the west side of the campus.
  - b. All P. E. and athletic facilities except for baseball field located in same general area.
4. Alternative Site Plan D (Exhibit D)
  - a. Football/track field, courts, locker/shower and pool sited in same location as Plan C.
  - b. New parking lot sited mauka of existing parking lot and baseball field sited closer to rest of campus.

- c. Parking lot and baseball field sited in areas with steep topography resulting in large mountain side cuts and considerable land acquisition.
- 5. Alternative Site Plan E (Exhibit E)
    - a. Football/track field orientated in north-south direction with locker/shower located adjacent to football/track field.
    - b. North-south orientation of the football/track field permits the creation of an approximately 15 stall parking lot next to the football/track field.
    - c. Courts, baseball field and pool sited mauka of school.
    - d. Only facility to be located above the homes on Iliaina Street is a parking lot.
    - e. The baseball field located on steeply sloped land resulting in large mountain side cuts and considerable land acquisition.
    - f. The football/track field and locker/shower will be located approximately 15 feet above existing play field elevation.
    - g. The courts will be located approximately 15 feet above the football/track field.
    - h. The baseball field and pool will be located approximately 20-feet above the Gym.
  - 6. Alternative Site Plan F (exhibit F)
    - a. Football/track field, locker/shower, courts and 15-stall parking lot are sited in the same location as Plan E. But the courts are 5 feet lower in elevation.
    - b. The pool is sited above the Gym at an elevation 20 feet above the Gym.
    - c. A parking lot and the baseball field are sited above the homes on Iliaina Street same as in Plan C.

### III EVALUATION CRITERIA

#### A. General

The following criteria have been developed in order to conduct a consistent and objective evaluation of the alternative site plans.

#### B. Functional/Program Considerations

- 1. Ideally, all P. E. and athletic facilities should be located in the same general area.
- 2. For the P. E. program, a large field (either football/track field or baseball field), play and tennis courts, swimming pool and P. E. locker/shower should be located in the same general area.
- 3. For the athletics program, football/track field, baseball field, gymnasium, tennis courts, swimming pool and varsity/J. V. locker/shower should be located in the same general area.
- 4. Walking distance (horizontal and vertical) between facilities is not excessive.

5. Noise generating P. E. facilities (large field, play and tennis courts and swimming pool) located to minimize disturbances to instructional facilities.

**C. Safety and Security Conditions**

1. In going to and from P. E. facilities (large field, play and tennis courts, swimming pool and P. E. locker/shower) students should not be required to walk through or along large parking lot.
2. P. E. and athletic facilities that may be used by the public during non-school use periods (football/track field, baseball field and play and tennis courts) should be readily observable from surrounding areas.
3. Good surveillance of parking lots from central campus.

**D. Budgeting, Land Use and Aesthetic Considerations**

1. Because of the difficulty in funding projects costing over \$3.0 million, the number of incremental construction phases costing over \$3.0 million is minimized.
2. The amount of Conservation District lands to be added to the school is minimized.
3. There is minimal negative visual impact due to the construction of the proposed facilities.

**E. Community Considerations**

1. Noise generating P. E. and athletic facilities (football/track field, baseball field, play and tennis courts and swimming pool) are located to minimize disturbances to adjacent residential areas.
2. Football/track field, baseball field and play and tennis courts are easily accessible to the public.
3. Expansion of the school site will not cause any displacements.
4. The expansion of the school site will have minimal impact on the property values of the adjacent residential area.

**F. Cost Considerations**

A major consideration in the evaluation of the alternative site plans are the costs associated with the land acquisition and construction of the proposed facilities for Kalaheo High School.

1. Included in the land acquisition costs are the land, appraisal, title search and administrative costs.
2. Included in the construction costs are the construction, design and inspection costs.

#### IV. IMPLEMENTATION PLANS

In order to determine the incremental costs of the alternative site plans, it was necessary to develop implementation plans for the alternative plans.

Considered in the development of the implementation plans were the DOE's preferred facilities implementation sequence, which is listed in Table 1; limiting incremental construction costs under \$3.0 million and construction access requirements.

TABLE 1  
DOE'S PREFERRED FACILITIES  
IMPLEMENTATION SEQUENCE

1. Football/Track Field with Bleachers
2. Courts
3. Varsity/J. V. Locker/Shower
4. Baseball Field
5. Parking Lot
6. Swimming Pool

The implementation plans for the alternative site plans are contained in Table 2.

TABLE 2  
IMPLEMENTATION PLANS

##### ALTERNATIVE PLAN A

- |         |  |
|---------|--|
| Phase 1 | Football/Track Field with Bleachers and Lights |
| Phase 2 | Baseball Field                                 |
| Phase 3 | Varsity/J. V. Locker/Shower                    |
| Phase 4 | Play and Tennis Courts                         |
| Phase 5 | Parking (Hillside)                             |
| Phase 6 | Parking (Marsh) and Overpass                   |
| Phase 7 | Swimming Pool                                  |

##### ALTERNATIVE PLAN B AND C

- |         |  |
|---------|--|
| Phase 1 | Football/Track Field with Bleachers and Lights |
| Phase 2 | Play and Tennis Courts                         |
| Phase 3 | Varsity/J. V. Locker/Shower                    |
| Phase 4 | Baseball Field                                 |
| Phase 5 | Parking (Hillside)                             |
| Phase 6 | Parking (Marsh) and Overpass                   |
| Phase 7 | Swimming Pool                                  |

##### ALTERNATIVE PLAN D

- |         |  |
|---------|--|
| Phase 1 | Football/Track Field with Bleachers and Lights |
| Phase 2 | Play and Tennis Courts                         |
| Phase 3 | Varsity/J. V. Locker/Shower                    |
| Phase 4 | Baseball Field                                 |
| Phase 5 | Parking (Hillside)                             |
| Phase 6 | Parking (Marsh) and Overpass                   |
| Phase 7 | Swimming Pool                                  |



TABLE 2 (continued)

IMPLEMENTATION PLANS

ALTERNATIVE PLAN E

Phase 1	Football/Track Field with Bleachers and Lights
Phase 2	Play and Tennis Courts
Phase 3	Varsity/J. V. Locker/Shower
Phase 4	Baseball Field
Phase 5	Parking (Hillside)
Phase 6	Parking (Marsh) and Overpass
Phase 7	Swimming Pool

ALTERNATIVE PLAN F

Phase 1	Football/Track Field with Bleachers and Lights
Phase 2	Play and Tennis Courts
Phase 3	Varsity/J. V. Locker/Shower
Phase 4	Baseball Field
Phase 5	Parking (Hillside)
Phase 6	Parking (Marsh) and Overpass
Phase 7	Swimming Pool

V. RATINGS

A. Land Acquisition

The land acquisition requirements for the six alternative site plans have been tabulated in Table 3. It is assumed that there is no land acquisition cost for City owned land (Tax Map Key: 4-4-33: 18). The acquisition costs are based on July 1982 prices.

TABLE 3

LAND ACQUISITION  
(cost in million dollars)

ALTERNATIVE PLAN A

8.5 acres Urban Land (x \$0.072)	\$ 0.612
26.8 acres Conservation Land (x \$0.007)	0.188
Appraisal, Title Search, and Staff Costs	0.020
Relocating existing access	<u>0.050</u>
TOTAL LAND ACQUISITION	\$ 0.870

ALTERNATIVE PLAN B

10.0 acres Urban Land (x \$0.072)	\$ 0.720
9.2 acres Conservation Land (x \$0.007)	0.064
6.0 acres City Land (no cost)	0.000
Appraisal, Title Search, and Staff Costs	0.020
Relocating existing access	<u>0.050</u>
TOTAL LAND ACQUISITION	\$ 0.854

TABLE 3 (continued)

LAND ACQUISITION  
(cost in million dollars)

ALTERNATIVE PLAN C

10.1 acres Urban Land (x \$0.072)	\$ 0.720
10.3 acres Conservation Land (x \$0.007)	0.072
6.0 acres City Land (no cost)	0.000
Appraisal, Title Search, and Staff Costs	0.020
Relocating existing access	<u>0.050</u>

TOTAL LAND ACQUISITION \$ 0.869

ALTERNATIVE PLAN D

8.8 acres Urban Land (x \$0.072)	\$ 0.634
26.6 acres Conservation Land (x \$0.007)	0.186
1.2 acres City Land (no cost)	0.000
Appraisal, Title Search, and Staff Costs	0.020
Relocating existing access	<u>0.050</u>

TOTAL LAND ACQUISITION \$ 0.890

ALTERNATIVE PLAN E

8.4 acres Urban Land (x \$0.072)	\$ 0.605
41.1 acres Conservation Land (x \$0.007)	0.288
Appraisal, Title Search, and Staff Costs	0.020
Relocating existing access	<u>0.050</u>

TOTAL LAND ACQUISITION \$ 0.963

ALTERNATIVE PLAN F

10.0 acres Urban Land (x \$0.072)	\$ 0.720
9.1 acres Conservation Land (x \$0.007)	0.064
6.0 acres City Land (no cost)	0.000
Appraisal, Title Search, and Staff Costs	0.020
Relocating existing access	<u>0.050</u>

TOTAL LAND ACQUISITION \$ 0.854

B. Cost Estimates

The land acquisition and construction costs for the six alternative site plans have been summarized in Table 4. The costs are based on July 1982 prices.

TABLE 4  
SUMMARY OF COSTS  
(in million dollars)

ALTERNATIVE PLAN A

Phase 1	Football/Track Field with Bleachers and Lights	\$ 6.20
Phase 2	Baseball Field	5.78
Phase 3	Varsity/J. V. Locker/Shower	0.94
Phase 4	Play and Tennis Courts	0.52
Phase 5	Parking (Hillside)	0.48
Phase 6	Parking (Marsh) and Overpass	0.47
Phase 7	Swimming Pool	1.80
	Land Acquisition	<u>0.87</u>
Total		\$17.06

ALTERNATIVE PLAN B

Phase 1	Football/Track Field with Bleachers and Lights	\$ 5.03
Phase 2	Play and Tennis Courts	1.08
Phase 3	Varsity/J. V. Locker/Shower	0.94
Phase 4	Baseball Field	2.45
Phase 5	Parking (Hillside)	0.48
Phase 6	Parking (Marsh) and Overpass	0.47
Phase 7	Swimming Pool	1.25
	Land Acquisition	<u>0.85</u>
Total		\$12.55

ALTERNATIVE PLAN C

Phase 1	Football/Track Field with Bleachers and Lights	\$ 5.03
Phase 2	Play and Tennis Courts	1.49
Phase 3	Varsity/J. V. Locker/Shower	0.95
Phase 4	Baseball Field	2.45
Phase 5	Parking (Hillside)	0.48
Phase 6	Parking (Marsh) and Overpass	0.47
Phase 7	Swimming Pool	1.25
	Land Acquisition	<u>0.87</u>
Total		\$12.99

ALTERNATIVE PLAN D

Phase 1	Football/Track Field with Bleachers and Lights	\$ 5.03
Phase 2	Play and Tennis Courts	1.49
Phase 3	Varsity/J. V. Locker/Shower	0.95
Phase 4	Baseball Field	13.65
Phase 5	Parking (Hillside)	0.46
Phase 6	Parking (Marsh) and Overpass	0.47
Phase 7	Swimming Pool	1.25
	Land Acquisition	<u>0.89</u>
Total		\$24.19

TABLE 4 (continued)  
SUMMARY OF COSTS  
(in million dollars)

ALTERNATIVE PLAN E

Phase 1	Football/Track Field with Bleachers and Lights	\$5.90
Phase 2	Play and Tennis Courts	0.52
Phase 3	Varsity/J. V. Locker/Shower	0.95
Phase 4	Baseball Field	18.37
Phase 5	Parking (Hillside)	0.48
Phase 6	Parking (Marsh) and Overpass	0.47
Phase 7	Swimming Pool	1.24
	Land Acquisition	<u>0.96</u>
Total		\$28.89

ALTERNATIVE PLAN F

Phase 1	Football/Track Field with Bleachers and Lights	\$ 5.87
Phase 2	Play and Tennis Courts	0.52
Phase 3	Varsity/J. V. Locker/Shower	0.95
Phase 4	Baseball Field	2.45
Phase 5	Parking (Hillside)	0.48
Phase 6	Parking (Marsh) and Overpass	0.47
Phase 7	Swimming Pool	1.80
	Land Acquisition	<u>0.85</u>
Total		\$13.39

C. Ratings

The six alternative site plans were evaluated against the evaluation criteria of Section III. The ratings of the alternative site plans in terms of the evaluation criteria are tabulated in Table 5. A five (5) point evaluation system was used with a rating of one (1) signifying high satisfaction and a rating of five (5) signifying low satisfaction of a particular criterion.

TABLE 5  
RATINGS

CRITERIA	ALTERNATIVE PLAN					
	A	B	C	D	E	F
<b>A. <u>Functional/Program Considerations</u></b>						
1. Ideally, all P.E. and athletic facilities should be located in the same general area.	2	5	4	4	2	5
2. For the P.E. program, a large field (either football/track field or baseball field), play and tennis courts, swimming pool and P.E. locker/shower should be located in the same general area.	2	5	1	1	2	2

TABLE 5 (continued)

## RATINGS

CRITERIA	ALTERNATIVE PLAN					
	A	B	C	D	E	F
3. For the athletics program, football/track field, baseball field, gymnasium, tennis courts, swimming pool and varsity/J.V. locker/shower should be located in the same general area.	2	5	5	3	2	5
4. Walking distance (horizontal and vertical) between facilities is not excessive.	4	5	5	4	4	5
5. Noise generating P.E. facilities (large field, play and tennis courts and swimming pool) located to minimize disturbances to instructional facilities.	1	1	1	1	1	1
<b>SUBTOTAL ITEM A</b>	<b>11</b>	<b>21</b>	<b>16</b>	<b>13</b>	<b>11</b>	<b>18</b>
<b>B. <u>Safety and Security Conditions</u></b>						
1. In going to and from P.E. facilities (large field play and tennis courts, swimming pool and P.E. locker/shower) students should not be required to walk through or along large parking lot.	1	5	1	1	1	1
2. P. E. and athletic facilities that may be used by the public during non-school use periods (football/track field, baseball field and play and tennis courts) should be readily observable from surrounding areas.	4	4	4	4	4	4
3. Good surveillance of parking lots from central campus.	5	5	5	4	5	5
<b>SUBTOTAL ITEM B</b>	<b>10</b>	<b>14</b>	<b>10</b>	<b>9</b>	<b>10</b>	<b>10</b>
<b>C. <u>Budgeting, Land Use and Aesthetic Considerations</u></b>						
1. Because of the difficulty in funding projects costing over \$3.0 million, the number of incremental construction phases costing over \$3.0 million is minimized.	3	1	1	5	5	1
2. The amount of Conservation District land to be added to the school is minimized.	4	2	2	4	5	2
3. There is minimal negative visual impact due to the construction of the proposed facilities.	5	2	2	5	5	2
<b>SUBTOTAL ITEM C</b>	<b>12</b>	<b>5</b>	<b>5</b>	<b>14</b>	<b>15</b>	<b>5</b>

TABLE 5 (continued)

RATINGS

CRITERIA	ALTERNATIVE PLAN					
	A	B	C	D	E	F
<b>D. Community Considerations</b>						
1. Noise generating P.E. and athletic facilities (football/track field, baseball field, play and tennis courts and swimming pool) are located to minimize disturbances to adjacent residential areas.	1	4	4	4	1	4
2. Football/track field, baseball field and play and tennis courts are easily accessible to the public.	3	4	4	3	3	4
3. Expansion of the school site will not cause any displacements.	1	1	1	1	1	1
4. The expansion of the school site will have minimal impact on the property values of the adjacent residential area.	2	4	4	3	2	4
<b>SUBTOTAL ITEM D</b>	<b>7</b>	<b>13</b>	<b>13</b>	<b>11</b>	<b>7</b>	<b>13</b>
<b>GRAND TOTAL</b>	<b>40</b>	<b>53</b>	<b>44</b>	<b>47</b>	<b>43</b>	<b>46</b>

**VI. DISCUSSION**

The alternative site plans have been listed from the least to the most expensive and from the best to the worst in ratings.

<u>Cost</u>	<u>Ratings</u>
B (\$12.55 million)	A (40)
C (\$12.99 million)	E (43)
F (\$13.39 million)	C (44)
A (\$17.06 million)	F (46)
D (\$24.19 million)	D (47)
E (\$28.89 million)	B (53)

Plan B costs the least, however, it has the worst rating. Plan A has the best rating, but cost \$4.51 million more than Plan B.

**Alternative Plan A**

The advantages of this plan are: (1) all P.E. and athletic facilities located in same general area and (2) no P.E. or athletic facilities located above homes on Iliaina Street. The plan satisfactorily meets the school's P.E. and athletic program requirements, while minimizing impacts on the adjacent residential areas.

The disadvantages of this plan are the high construction costs, large land acquisition requirements and noticeable mountain cuts resulting from the large cuts and fills needed to create the pad for the baseball field.

**Land Acquisition:**

Urban:	8.5 acres
Conservation:	<u>26.8 acres</u>
Total:	35.3 acres

Rank by Ratings: BEST

Estimated Cost: \$17.06 million

Rank by Cost: FOURTH BEST

Cost over least expensive alternative: \$4.51 million

Alternative Plan B

This is the least costly plan. This was achieved through the placement of the baseball field and pool in areas having moderately sloping topography. The plan also has only one construction increment costing over \$3.0 million.

The disadvantages of this plan are: (1) baseball field and pool on opposite ends of campus from other P.E. and athletic facilities, (2) students having to cross through parking lots to get to the baseball field and pool, and (3) baseball field and pool located above homes on Iliaina Street. The plan does not satisfactorily meet the school's P.E. and athletic program needs, causes noise problems for the homes located below the baseball field and pool, and adversely affects the property values of the homes located below the school facilities.

**Land Acquisition:**

Urban:	10.0 acres
Conservation:	9.2 acres
City Land:	<u>6.0 acres</u>
Total:	25.2 acres

Rank by Ratings: SIXTH BEST

Estimated Cost: \$12.55 million

Rank by Cost: BEST

Cost over least expensive alternative: \$0 million

Alternative Plan C

Plan C is similar to Plan B, except that the pool has been resited to the east side of the campus. This places all the P.E. program related facilities in the same area. This plan also has only one construction increment costing over \$3.0 million. The disadvantage of the plan is that the baseball field is still located on the west end of the campus above the homes on Iliaina Street and separated from the school's other athletic facilities.

Plan C costs slightly more than Plan B, but is vastly superior in meeting the school's P.E. program requirements. Its drawback is the location of the baseball field.

**Land Acquisition:**

Urban:	10.1 acres
Conservation:	10.3 acres
City Land:	<u>6.0 acres</u>
Total:	26.4 acres

Rank by Ratings: THIRD BEST

Estimated Cost: \$12.99 million

Rank by Cost: SECOND BEST

Cost over least expensive alternative: \$0.44 million

Alternative Plan D

In Plan D, all the P.E. program related facilities are located in the same general area. Although the baseball field has been moved closer to the other school facilities, it is still separated from the school's other athletic facilities and located above some homes on Iliaina Street.

Other disadvantages of this plan are its extremely high construction costs, large land acquisition requirements and noticeable mountain cuts resulting from the large cuts and fills needed to construct the parking lot (hillside) and to create the pad for the baseball field.

**Land Acquisition:**

Urban:	8.8 acres
Conservation:	26.6 acres
City Land:	<u>1.2 acres</u>
Total:	36.6 acres

Rank by Ratings: FIFTH BEST

Estimated Cost: \$24.19 million

Rank by Cost: FIFTH BEST

Cost over least expensive alternative: \$11.64 million

Alternative Plan E

The advantage of this plan are: (1) all P.E. and athletic facilities located in the same general area and (2) no P.E. or athletic facilities located above homes on Iliaina Street. The plan satisfactorily meets the school's P.E. and athletic program requirements, while minimizing impacts on the adjacent residential areas.

The disadvantages of this plan are its extremely high construction costs, large land acquisition requirements and noticeable mountain cuts resulting from the large cuts and fills needed to create the pad for the baseball field.



**Land Acquisition:**

Urban:	8.4 acres
Conservation:	<u>41.1 acres</u>
Total:	49.5 acres

Rank by Ratings: SECOND BEST

Estimated Cost: \$28.89 million

Rank by Cost: SIXTH BEST

Cost over least expensive alternative: \$16.34 million

**Alternative Plan F**

Plan F is similar to Plan C. The advantages of this plan are: (1) P.E. facilities located in same general area, (2) least noticeable mountain cuts and (3) only one construction increment costing over \$3.0 million. The disadvantage of the plan is that the baseball field is located on the west end of the campus above the homes on Hiaina Street and separated from the school's other athletic facilities.

Plan F costs slightly more than Plan C, and has a slightly worse rating than Plan C.

**Land Acquisition:**

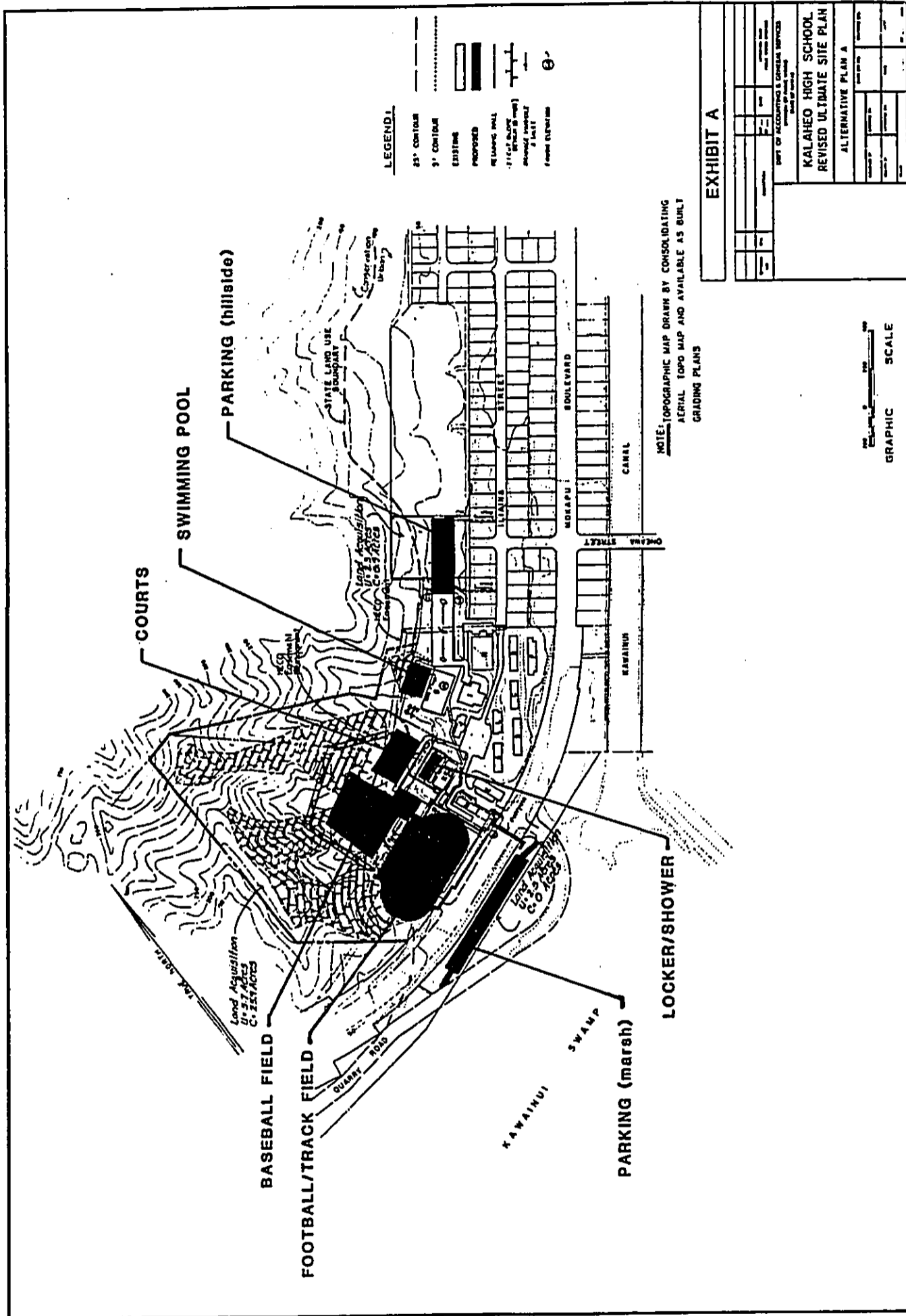
Urban:	10.0 acres
Conservation:	9.1 acres
City Land:	<u>6.0 acres</u>
Total:	25.1 acres

Rank by Ratings: FOURTH BEST

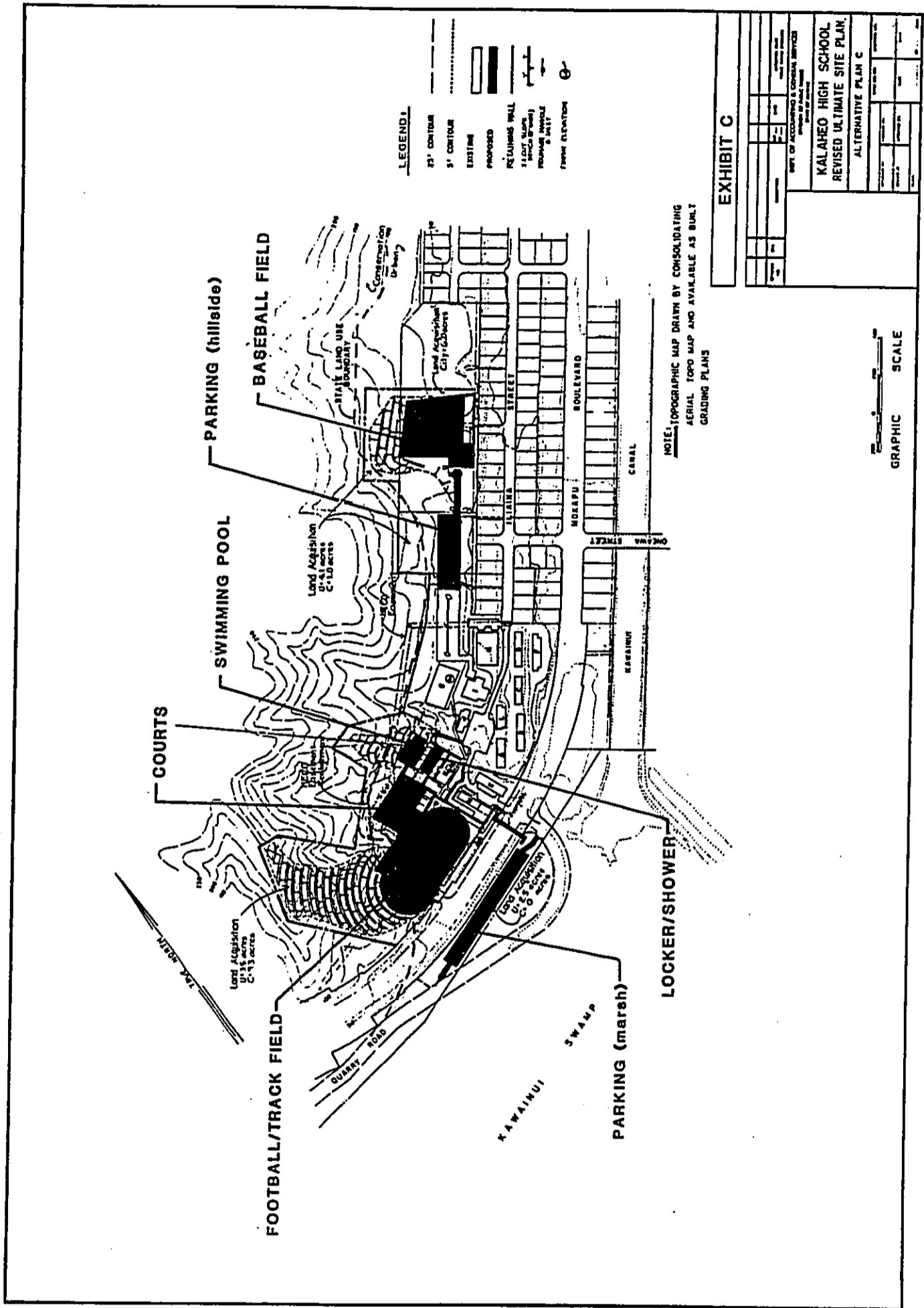
Estimated Cost: \$13.39 million

Rank by Cost: THIRD BEST

Cost over least expensive alternative: \$0.84 million







**LEGEND**

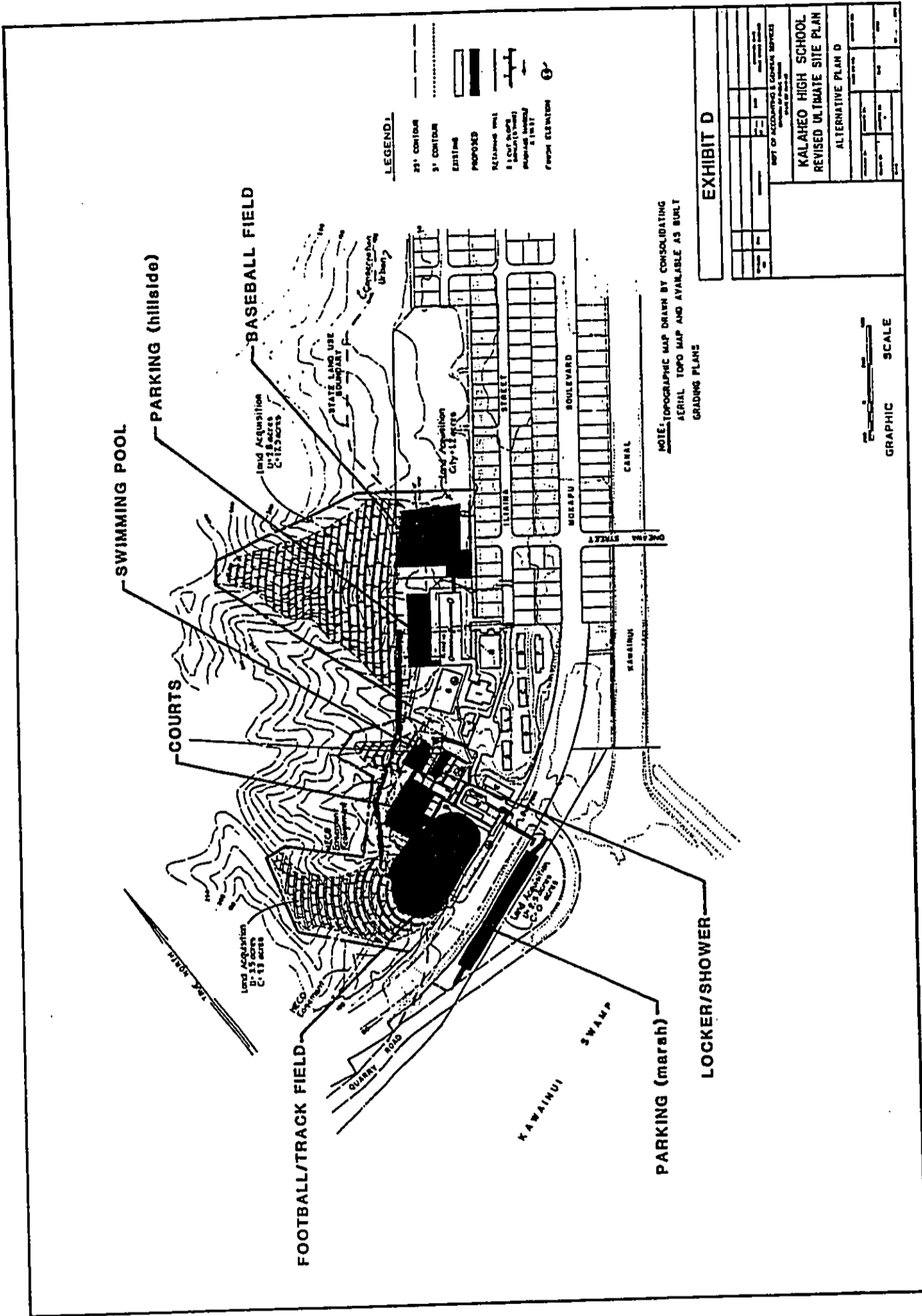
25' CONTOUR	(Symbol: Dashed line)
5' CONTOUR	(Symbol: Solid line)
EXISTING	(Symbol: Thin solid line)
PROPOSED	(Symbol: Thick solid line)
RESURFACING WALL	(Symbol: Dashed line with cross-hatching)
1" (2' MAX) (PROPOSED) (PROPOSED) (PROPOSED)	(Symbol: Dotted line)
PROPOSED ELEVATION	(Symbol: Circle with a dot)

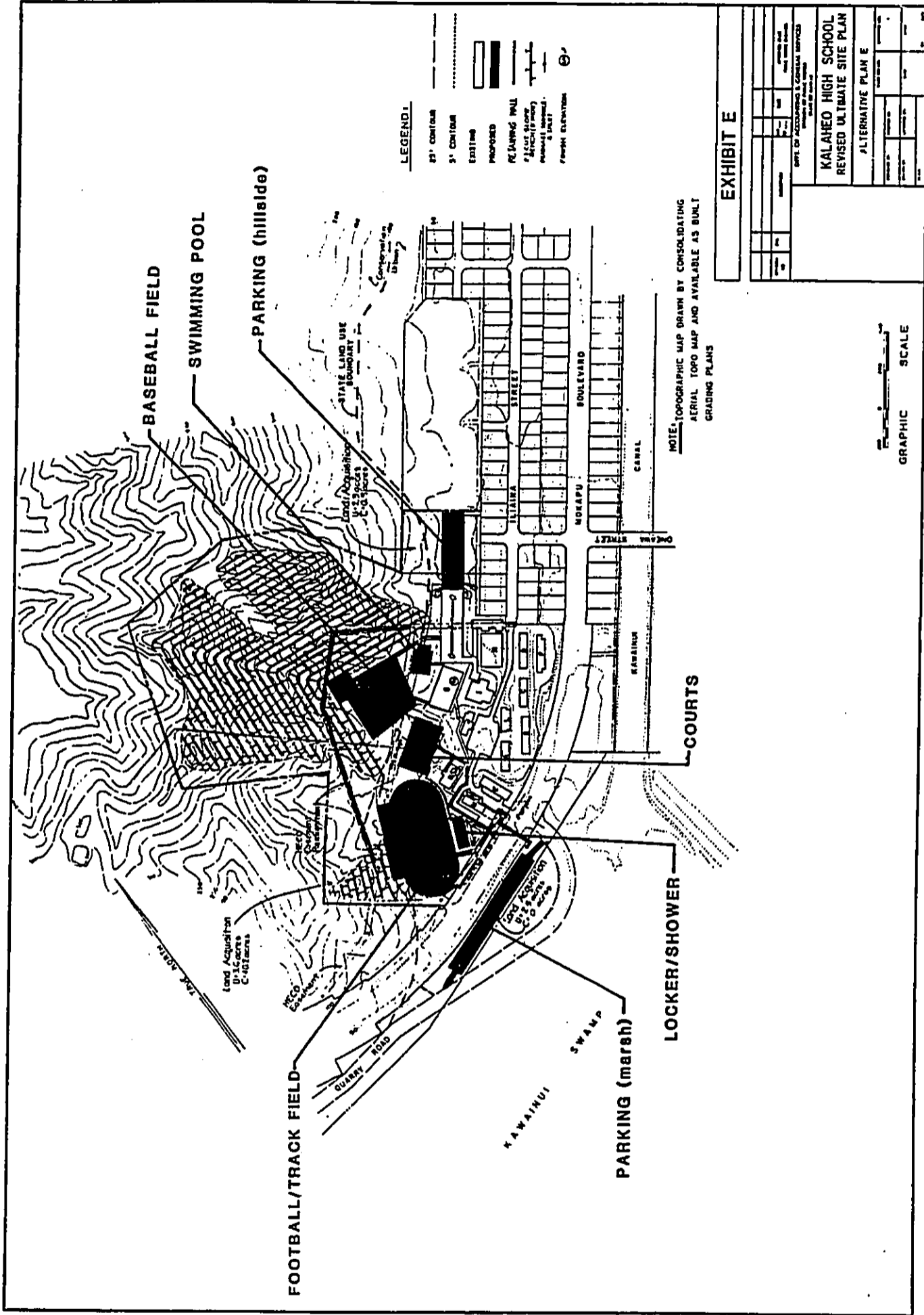
NOTE: TOPOGRAPHIC MAP DRAWN BY CONSOLIDATING AERIAL TOPO MAP AND AVAILABLE AS BUILT GRADING PLANS



**EXHIBIT C**

DEPT. OF ACCOUNTING & GENERAL SERVICES	
KALAREO HIGH SCHOOL	
REVISED ULTIMATE SITE PLAN	
ALTERNATIVE PLAN C	





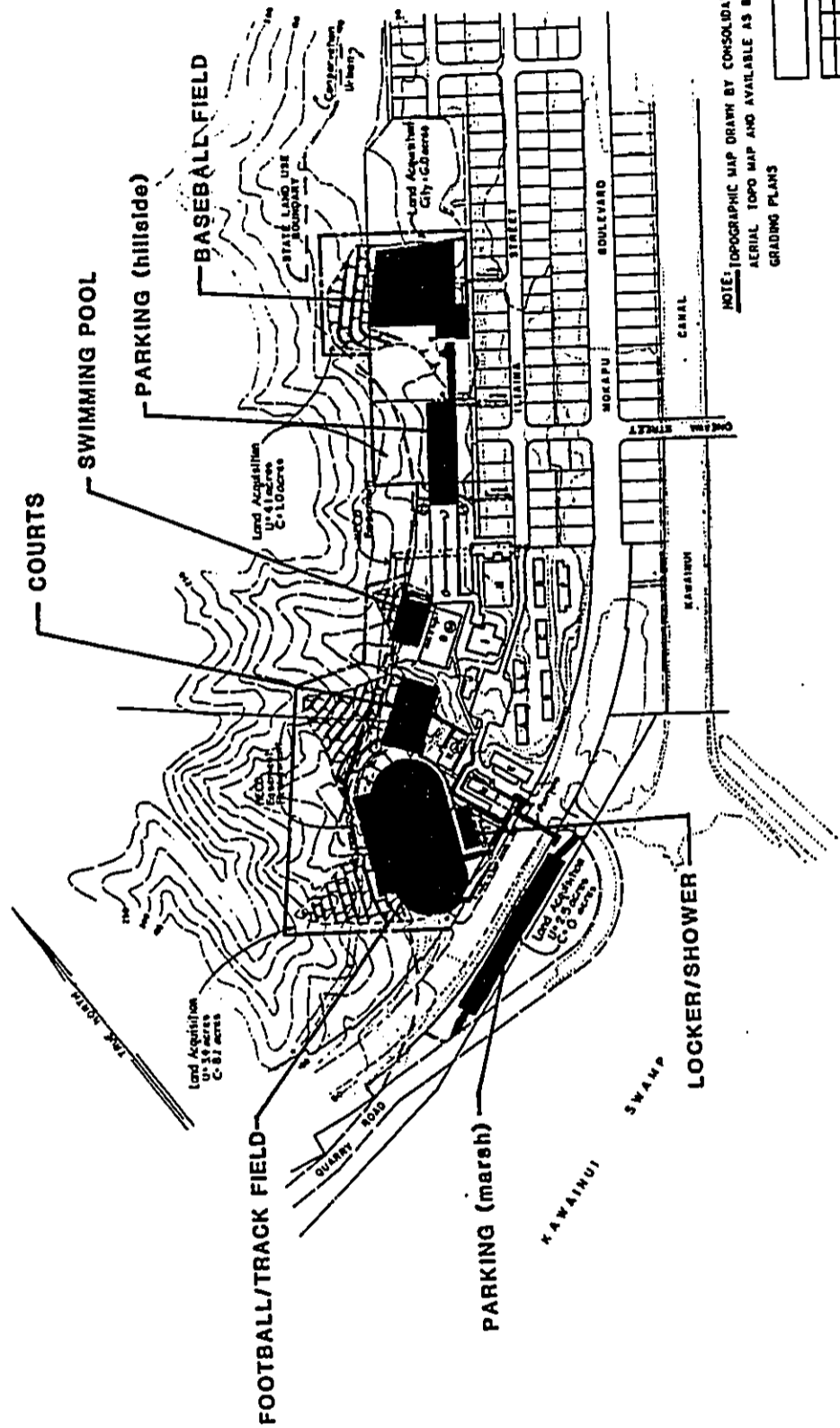
**LEGEND:**  
 25' CONTOUR  
 5' CONTOUR  
 EXISTING  
 PROPOSED  
 RELAYING WALL  
 \*1' CUTS BELOW 2' HIGH (2' HIGH) (2' HIGH) (2' HIGH)  
 FRESH ELEVATION

NOTE: TOPOGRAPHIC MAP DRAWN BY CONSOLIDATING AERIAL TOPO MAP AND AVAILABLE AS BUILT GRADING PLANS

**EXHIBIT E**

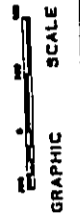
OFFICE OF ACQUISITION & GENERAL SERVICES	
Project Name	KALAHEO HIGH SCHOOL REVISED ULTIMATE SITE PLAN
Alternative	ALTERNATIVE PLAN E
Drawn By	
Checked By	
Scale	

GRAPHIC SCALE



- LEGEND:**
- 2' CONTOUR
  - 3' CONTOUR
  - ▭ EXISTING
  - ▭ PROPOSED
  - ▬ RETAINING WALL
  - ▬ FENCE (10' HIGH)
  - ▬ FENCE (6' HIGH)
  - ⊙ FENCE (4' HIGH)
  - ⊙ FENCE (2' HIGH)

**NOTE:** TOPOGRAPHIC MAP DRAWN BY CONSOLIDATING AERIAL TOPO MAP AND AVAILABLE AS BUILT GRADING PLANS



**EXHIBIT F**

DEPT. OF ACCOUNTING & GENERAL SERVICES	
KALANCHOE HIGH SCHOOL	
REVISED ULTIMATE SITE PLAN	
ALTERNATIVE PLAN F	
DATE	10/1/80
BY	...
CHECKED	...
APPROVED	...

**APPENDIX C**  
**DOE SELECTION LETTER**





FEB 16 1983  
DR. DOMINIC M. THOMPSON  
SUPERINTENDENT  
RECEIVED

FEB 23 8 31 AM '83

STATE OF HAWAII  
DEPARTMENT OF EDUCATION—WINDWARD OAHU DISTRICT  
OFFICE OF DISTRICT SUPERINTENDENT  
45-855 KAMEHAMEHA HWY.  
KANEONE, HAWAII 96744

DIV. OF PUBLIC WORKS  
DAGS

1	Approval	_____
	Sign.	_____
	Info.	_____
2	File	_____
	See me	_____
	Comments	_____
	Invest. &	_____
	Prop.	_____
	Rept.	_____

February 14, 1983

To: Mr. Rikio Nishioka, State Public Works Engineer  
Department of Accounting and General Services

Thru: *Jan* Mr. James E. Edington, Assistant Superintendent  
Office of Business Services

From: *KD* Kengo Takata, District Superintendent

Subject: Kalaheo High School  
Athletic Facilities Ultimate Site Plan  
DAGS Job No. 02-16-6843

This is to confirm our selection of alternative plan "A" as our preferred site plan for Kalaheo High School's athletic facilities.

This selection is being made based on the following considerations:

1. Plans "A" and "E" meet the established criteria and are the highest rated in terms of functional program, safety and security and community considerations. (See attached.)
2. Although plan "A" is estimated to cost \$4.5 million more than the least expensive plan (B), it is \$11.8 million less than plan "E". We believe plan "A" will result in substantially greater long-range cost benefits to the school and its programs.

We request your assistance in proceeding with the subject project's EIS phase.

Please contact Mr. Randy Honda at 247-5727 if there are any questions.

KT:do

Attachment

AN EQUAL OPPORTUNITY EMPLOYER

**APPENDIX D**  
**REVIEW COMMENTS AND RESPONSES**

D

**REPRODUCTION OF COMMENTS AND RESPONSES  
MADE DURING THE CONSULTATION PHASE**

Pages D-2 through D-34 are copies of the comments received from sixteen (16) agencies or organizations during the consultation phase. After each comment, the written response sent back to the agency or organization is provided.

1. U.S. Army Corps of Engineers
2. U.S. Fish and Wildlife Service
3. U.S. Soil Conservation Service
4. State Department of Land and Natural Resources
5. State Department of Planning and Economic Development
6. State Department of Transportation
7. The Honolulu Fire Department
8. City Department of General Planning
9. City Department of land Utilization
10. The Honolulu Police Department
11. City Department of Public works
12. Board of Water Supply
13. Hawaiian Electric Company
14. Kailua Neighborhood Board No. 31
15. Lani-Kailua Outdoor Circle
16. Kawai Nui Heritage Foundation



DEPARTMENT OF THE ARMY  
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS  
FT. SHAFTER, HAWAII 96858

July 26, 1983

Jul 27 8 15 AM '83  
SRS:ACNS

Mr. Rikio Nishioaka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

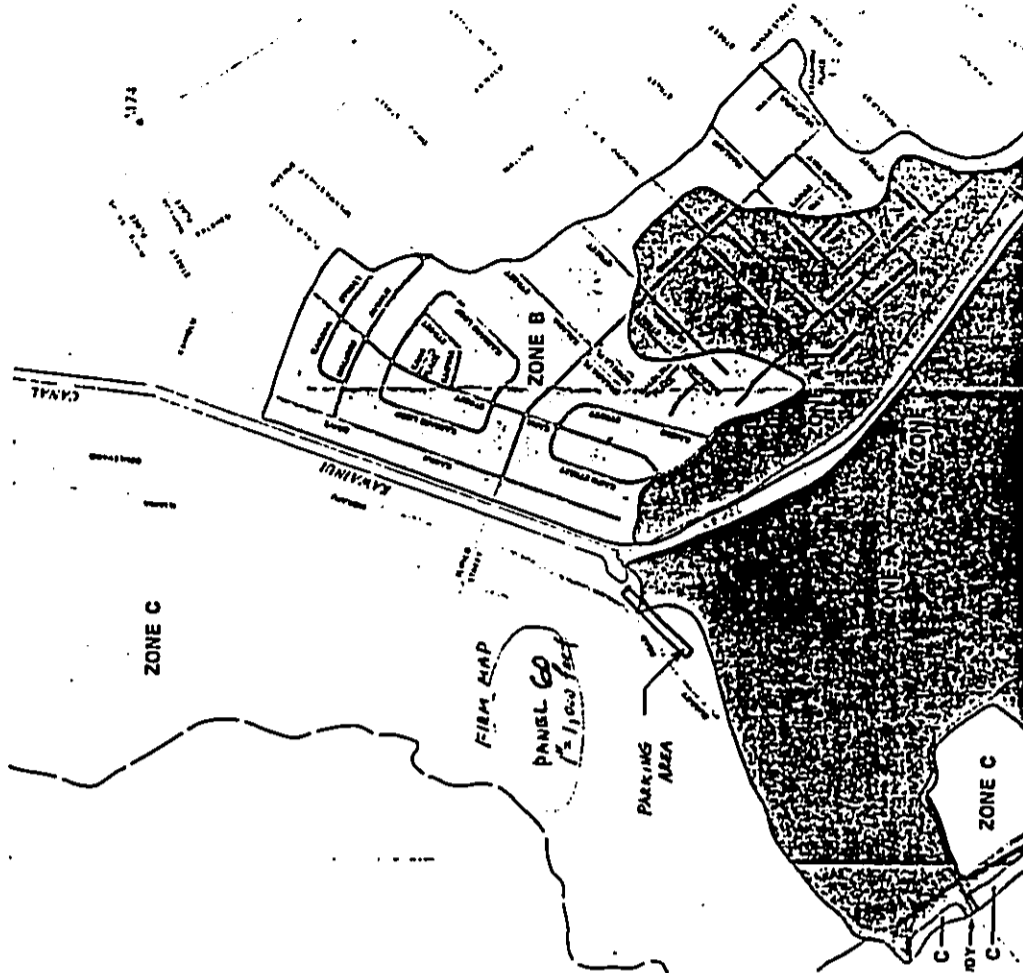
Dear Mr. Nishioaka:

Thank you for the opportunity to comment on the draft environmental impact statement for the Kalaheo High School Revised Ultimate Site Plan. The following comments are offered:

- a. The final plan calls for a parking lot to be built on the south side of Mokapu Boulevard within Kawaiinui Marsh. Since construction of the parking lot will require the discharge of fill material into a wetland area, the State must apply for a Department of the Army permit under the authority of Section 404 of the Clean Water Act. Please contact the Corps' Operations Branch at 438-9528 for application materials and information regarding permit requirements.
- b. The Corps of Engineers was directly involved in the Kawaiinui Swamp Flood Control Project in this area. The maximum design ponding elevation is 6.6 feet mean sea level and the maximum storage is 3,000 acre-feet. We do not recommend any fill in the swamp area as it will encroach on the flood plain.

Sincerely,  
  
Kinuk Cheung  
Chief, Engineering Division

Enclosure



GEORGE ARIYOSHI  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 111, HONOLULU, HAWAII 96839

HIDEO MURAHARA  
COMPTROLLER  
MIKE M. TORUMAGA  
DEPUTY COMPTROLLER

LETTER NO. (P)1881.3

NOV 3 1983

Mr. Kisuik Cheung  
Page 2  
Ltr. No. (P)1881.3

Mr. Kisuik Cheung  
Chief, Engineering Division  
Department of the Army  
Pacific Ocean Division  
Corps of Engineers  
Fort Shafter, Hawaii 96858

Dear Mr. Cheung:

Subject: Draft EIS for Kalaeo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Thank you for your July 26, 1983 comments on the sub-  
ject document. Our responses to your comments are listed  
below.

Comment: a. The final plan calls for a parking lot to  
be built on the south side of Mokapu Boulevard within  
Kawainui Marsh. Since construction of the parking lot  
will require the discharge of fill material into a  
wetland area, the State must apply for a Department of  
the Army permit under the authority of Section 404 of  
the Clean Water Act. Please contact the Corps' Opera-  
tion Branch at 438-9528 for application materials and  
information regarding permit requirements.

Response: During the design stage, your office will be  
contacted and an application for a Department of the  
Army permit will be made.

Comment: b. The Corps of Engineers was directly  
involved in the Kawainui Swamp Flood Control Project in  
this area. The maximum design ponding elevation is 6.6  
feet mean sea level and the maximum storage is 3,000  
acre-feet. We do not recommend any fill in the swamp  
area as it will encroach on the flood plain.

Response: Thank you for the information, it will be  
considered during the design stage.

The proposed parking area located between Mokapu Saddle  
Road and the Quarry Road should be shown more towards  
the west of the position shown on your map mailed to  
us. This difference is probably due to the small scale  
(1 inch = 1000 feet) of the FIRM map.

The parking lot will be designed to be above the 6.6  
ft. MSL ponding elevation. Since the approximate area  
of the parking lot is 2.5 acres, this area is quite  
small in comparison to the 640-acre surface area of  
inundation. Thus, this parking lot should have a  
minimal impact on the flood plain and flood control  
project. It should be noted that the parking area is  
distinctly separated from Kawainui Marsh proper by the  
Quarry Road which is at an approximate elevation of 10  
ft. MSL.

We appreciate your review and input.

Very truly yours,

RIKIO NISHIOKA  
State Public Works Engineer

NS:jnt 5-7



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
100 ALA MOANA BOULEVARD  
P. O. BOX 50127  
HONOLULU, HAWAII 96850

Jul 8 9 1983  
ES Room 6307

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

ES Room 6307

JUL 7 1983

Dear Mr. Nishioka:

The Service has reviewed the draft Environmental Impact Statement (EIS) for the Kalaheo High School Revised Ultimate Site Plan which was forwarded to us with the the Department of Accounting and General Services' letter dated June 21, 1983. Improvements to Kalaheo High School will include addition of parking lots, an industrial arts building, playground and gymnasium. The additional school facilities will improve educational opportunities for Hawaii school children. We believe the proposed structures, except for the lower parking lot, will not have a significant impact on important biological resource areas.

As a Federal agency evaluating this article, we believe the EIS plans for a lower campus parking structure do not comply with Federal regulations 40 CFR 230.10. These EPA regulations do not permit the discharge of dredged or fill material if there is a practicable alternative which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. The EIS states that existing campus parking is adequate for staff and students (page 41). According to figure 5, the parking lot, built in Kawaiinui Marsh, will displace approximately 105,000 square feet of wetlands. Four endangered waterbirds are present in Kawaiinui Marsh which include the Hawaiian Coot (*Fulica americana alai*), Hawaiian Duck (*Anas wyvilliana*), Hawaiian Stilt (*Himantopus mexicanus knudseni*). The proposed action will remove marginal waterbird habitat, and will thus have greater environmental effects than locating the parking outside the Marsh.

If the action agency feels this is the only practical alternative, then the final EIS should discuss the following comments:

The parking area (as well as other additional improvements) will drain into Kawaiinui Marsh (page 39). Runoff from the parking structure can transfer substances, such as lead, into the Marsh and waterways, where it may accumulate in fish and wildlife.

CONSERVE  
AMERICA'S  
ENERGY



Erosion caused by construction of the new facilities may enter

Erosion caused by construction of the new facilities may enter Kawaiinui Marsh unless adequate controls are used. The effects of these impacts should be discussed in the final EIS. We appreciate this opportunity to comment.

Sincerely,

William R. Kramer  
Acting Project Leader  
Office of Environmental Services

cc: NMFS - WPPO  
HDAR  
HDF&H  
EPA, San Francisco

Mr. William R. Kramer  
Page 2

GEORGE B. ARITOSH  
COMPTROLLER



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 111, HONOLULU, HAWAII 96850

MIKO MURAMATSU  
COMPTROLLER

MIKE N. TORIYAMA  
SENIOR COMPTROLLER

letter no. (P)1037.4

JUN 25 1991

Mr. William R. Kramer  
Acting Project Leader  
Office of Environmental Services  
United States Department  
of the Interior  
Fish and Wildlife Service  
P.O. Box 50167  
Honolulu, Hawaii 96850

Dear Mr. Kramer:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

In response to your July 7, 1993 comments on the subject document, we provide the following responses:

1. Federal Regulation:

We intend to comply with all Federal, State, and County regulations and ordinances. At the time of implementation of this parking facility, application for a Department of the Army permit will be made.

2. Parking Capacity:

Although the existing parking for 251 cars is adequate for normal school use, the additional parking is required to comply with the Comprehensive Zoning Code of the City and County of Honolulu (Am. Ord. 2234), Sec. 21-5.6 (h) "Off-Street Parking Regulations". Based on the Comprehensive Zoning Code requirements for this size high school, the school is required to have at least 470 stalls. Thus the Revised Ultimate Site Plan (RUSP) provides parking for 219 additional stalls.

3. Waterbird Habitat:

The lower parking lot will displace approximately 2.5 acres of land included as part of the wetland

Ltr. No. (P)1037.4

area. It is a very minute portion of the 1,000 + acre Kawaiinui Marsh, is at least 600 feet from the nearest improved waterbirds habitat, and is distinctly separated from this area by the Quarry Road. Thus the impact of the parking lot on the waterbird habitat should be minimal.

4. Parking Drainage:

Kawaiinui Marsh serves as a Corps of Engineers' flood control storage basin for a drainage area of about 7,900 acres. Thus the transfer of substances such as lead from the 2.5-acre parking lot runoff to Kawaiinui Marsh is very small.

We therefore conclude that construction of the lower parking lot as well as construction of the other additional improvements will have minimal impact on the fish and wildlife.

5. Erosion:

The plans and specification for construction of the new facilities will include established methods and measures for controlling and minimizing soil erosion and sedimentation during and after construction. These erosion control measures are specified in the State Department of Accounting and General Services Specifications, Section 01567-Pollution Control (Subsection 4-Erosion); State Department of Health "Public Health Regulations" - Chapter 37-A, Water Quality Standards; and City and County of Honolulu's Grading Ordinance and "Soil Erosion Standards and Guidelines".

If these measures are not implemented, we can anticipate increased siltation of the Kawaiinui Canal which will require more frequent dredging to maintain.

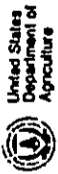
Thank you for your comments.

Very truly yours,

HIROYO NISHIOKA

State Public Works Engineer

NS:lm



United States  
Department of  
Agriculture

P.O. Box 50004  
Honolulu, Hawaii  
96850



GEORGE R. ARYDASH  
GOVERNOR

Mr. Rikio Nishioka  
State Public Works Engineer  
P.O. Box 119  
Honolulu, Hawaii 96810-0119

July 28, 1983

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P.O. BOX 118, HONOLULU, HAWAII 96818

HIDEO UJIMAKI  
COMPTROLLER  
MIKE W. TORIKAGA  
DEPUTY COMPTROLLER

LETTER NO. (P) 1850.3

OCT 26 1983

Dear Mr. Nishioka:

Subject: Draft EIS for Kalaheo High School - Revised Ultimate Site Plan (Consultation Phase) at Kailua, Oahu, HI

We have reviewed the above-mentioned draft as you requested.

There are many soils-related problems as is brought out in the discussion on pages 19 to 21. The final development plan or environmental impact statement should address the resulting impacts to these problems.

One potential hazard that is not discussed is the high likelihood of erosion and sedimentation during and after grading. There will be a definite need for carefully planned and installed erosion control and sediment-retention practices on the project area, especially since the area drains into the environmentally sensitive Kawaiinui Swamp.

Each of the upper portion of the slope to be graded is mapped as steep stony land. This area will be very difficult to landscape, because of the small amount of available soil to plant in.

Thank you for the opportunity to review this document.

Sincerely,

FRANCIS C. H. LUM  
State Conservationist

Mr. Francis C. H. Lum  
State Conservationist  
Soil Conservation Service  
U. S. Department of Agriculture  
P. O. Box 50004  
Honolulu, Hawaii 96850

Dear Mr. Lum:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Thank you for your July 28, 1983 comments on the subject document. The following response to your comments is provided:

Pages 19 to 21 contain general descriptions of the five soil types within the expanded school site. It is noted that two of the soil types, KtC and PYF, have characteristics that may cause problems. For KtC soils, the shrink-swell potential is high. The KtC soils are shown primarily within the existing school site. However, we have not encountered any soil shrink-swell problems in this area.

For PYF soils, the erosion hazard is described as severe. This is probably due to the fact that the description covers conditions ranging in slope from 35 to 70 per cent. The slopes of the PYF soils within the expanded school site range from 35 to 40 per cent and do not appear to be severely eroded. Soil borings will be taken and a soils engineer qualified in soil mechanics and foundation engineering will be consulted during the design.

The plans and specifications for construction of the new facilities will include established methods and measures for controlling and minimizing soil erosion and sedimentation during and after construction. These erosion-control



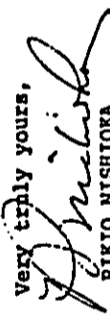
Mr. Francis C. H. Lum  
Page 2  
Ltr. No. (P)1850.3

measures are specified in the State Department of Accounting and General Services Specifications, Section 01567-POLLUTION CONTROL (Subsection 4-EROSION); State Department of Health "Public Health Regulations" - Chapter 37-A, Water Quality Standards; City and County of Honolulu's Grading Ordinances; and the "Soil Erosion Standards and Guidelines", City and County of Honolulu, November 1975.

With the above erosion and sedimentation controls, we believe that this project will have minimal impact on the Kawaiunui Marsh due to sedimentation from erosion.

We appreciate your review and input.

Very truly yours,

  
RIKIO NISHIOKA  
State Public Works Engineer

NS:jnt 1-7

GEORGE R. ANTONIO  
Director of Services



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P. O. BOX 821  
HONOLULU, HAWAII 96808

June 28, 1983

MEMORANDUM

TO: Honorable Hideo Murakami, State Comptroller  
Dept. of Accounting and General Services

FROM: Susumu Ono

SUBJECT: Draft Environmental Impact Statement for the Revised Site Plan for  
Kalaheo High School.

Thank you for the opportunity to comment on the revised site plan.

We note that extensive grading will be necessary to accommodate a new baseball diamond and an expanded football field. We also note that much of the grading will occur on Conservation lands. As indicated on page 31, application for land use permit must be made to this Board for the use desired. At that time the proposal will be carefully weighed and considered.

*Susumu Ono*  
SUSUMU ONO

*Stewart*

SUSUMU ONO, CHAIRMAN  
BOARD OF LAND & NATURAL RESOURCES  
EDGAR A. MUMFORD  
REPORT TO THE COMMISSION  
DIVISIONS:  
AGRICULTURE  
PLANNING  
ADULTIC RESOURCES  
CONSERVATION AND  
RECREATION  
CONSTRUCTION  
PORTFOLIO AND WILDLIFE  
LAND MANAGEMENT  
STATE PLANS  
ENTER AND LAND DEVELOPMENT

GEORGE R. ANTONIO  
Director



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 118, HONOLULU, HAWAII 96810

LETTER NO (P) 1853.3

OCT 27 1983

Honorable Susumu Ono  
Chairman  
Department of Land and  
Natural Resources  
State of Hawaii  
Honolulu, Hawaii

Dear Mr. Ono:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

We appreciate your reviewing the subject document. Because of the size of the Conservation lands involved, the Department of Planning and Economic Development has stated that a State Land Use District Boundary Amendment would be the more appropriate route to follow. Therefore, instead of applying for a Conservation District Use Application, we will be applying for a State Land Use District Boundary Amendment.

Thank you for your comments.

Very truly yours,

*Hideo Murakami*  
HIDEO MURAKAMI  
State Comptroller



DEPARTMENT OF PLANNING  
AND ECONOMIC DEVELOPMENT

GEORGE B. ARYDOOR  
CHIEF OF BUREAU  
KENT M. KEITH  
DIRECTOR  
FRANK SERRAVALLE  
DEPUTY DIRECTOR

Mr. Rikio Nishioka  
Page 2  
August 10, 1983

August 10, 1983

Ref. No. 7751

Mr. Rikio Nishioka  
State Public Works Engineer  
Department of Accounting and  
General Services  
P.O. Box 119  
Honolulu, Hawaii 96810-0119

Dear Mr. Nishioka:

Subject: Draft Environmental Impact Statement (DEIS),  
Revised Ultimate Site Plan for Kalaheo High  
School, Kailua, Oahu

We have reviewed the subject DEIS and offer the following comments with respect to the policies and recommended actions of the recently approved Resource Management Plan for Kawaiinui Marsh undertaken as part of the Hawaii Coastal Zone Management (CZM) Program.

The proposed project will require extensive grading on the slopes to the north of the marsh, within the marsh watershed, and the secondary area addressed in the plan. The following policies of the plan relate to this proposed activity:

**Economic Policy B-6** - Development on the slopes overlooking the marsh and Kapaa Valley should be examined for potential adverse impacts on a case-by-case and cumulative basis in conjunction with the resource values identified in the policies of the plan.

**Ecological Policy E-1** - Existing grading and erosion control ordinances should be enforced and special conditions applied to minimize sedimentation impacts from development.

With respect to the proposed parking area on the marsh side of Hokapu Boulevard, we call your attention to the following policy and recommended action:

**Economic Policy B-1** - No structures in the primary area above or below grade should be allowed unless such structure is specifically identified as an implementing action of the plan.

Recommended Action B-9 - Investigate the feasibility of realigning the northeast portion of the Quarry Road in order to maintain access to existing landfill and quarry operations and improve public access and use of other recommended features of the plan.

While it is conceivable that use of this area for a parking lot may be compatible with future use of the marsh as a natural heritage area, it may be premature to commit to such use until more detailed implementing plans have been prepared. In this respect, please be informed that the Department of Land and Natural Resources has been designated as lead agency for the marsh plan's implementation.

The environmental section (page 38) should include a discussion of potential impacts on endangered waterbirds in the marsh during construction and the future potential use of the proposed Hokapu parking area.

The potential impact on viewplanes from within the primary and secondary area of the plan resulting from extensive grading of the slope, and the referenced landscaping, should also be discussed more fully.

Finally, you may wish to include a discussion of the possible relationship of the proposed overpass and the Hokapu parking lot to future educational use of the marsh by the school inasmuch as educational use is specifically supported in the cultural resource policies of the plan (I-2).

The subject property includes areas presently in the State Conservation District which are designated preservation in the City and County Development Plan. Therefore, a District Boundary Amendment and Development Plan change will be required.

The DEIS mentions the possibility of getting a Conservation District Use Application (CDUA) approval for the school use. However, because of the size of the area involved, it appears that a District Boundary Amendment and a City and County Development change would be the more appropriate route to follow.

We appreciate the opportunity to comment.

Very truly yours,

*Kent M. Keith*  
for Kent M. Keith

cc: Office of Environmental Quality Control  
Department of Land and Natural Resources



STATE OF HAWAII  
 DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
 P O BOX 115 HONOLULU HAWAII 96801

FEB 13 1984

MADE IN HAWAII  
 PRINTED IN HAWAII

LETTER NO. (P) 1077.4

Honorable Kent M. Keith Ltr. No. (P) 1077.4  
 Page 2

habitat. The birds may be frightened by equipment noise during grading of the site but this should be for a very short period of time.

**2b. Parking Lot:**

This proposed parking area on the marsh side of Mokapu Boulevard implements the Resource Management Plan for Kawaiui Marsh (RMPKM). Specifically, the sections implemented are: Economic policies (A-4 and 5); Ecological recommended action (D-3); Cultural resource (E-2).

Ancillary to construction of this parking lot is acquisition of the privately owned land. This implements the R.M.P.K.M. inasmuch as acquisition of all privately owned land (bordering the marsh) for public use is recommended.

This parking lot could be an asset to this historical area. For example, on the south side of the marsh (opposite side from the marsh parking lot) is Ulu Po Heiau. As stated on the National Register of Historic Places Inventory Nomination Form:

"Its (Ulu Po Heiau) central location in a major suburban area on Oahu has enabled thousands of people to visit the heiau and gain some insight into the place of the heiau in Hawaiian Religion. Entrance roads and a small parking lot area are provided, as well as an interpretive marker."

The Kawaiui Marsh Historical area could be enhanced, similar to Ulu Po Heiau, by constructing this parking lot.

**3. Visual Impact:**

The slopes north of the marsh will require extensive grading which will have negative impact on visual aesthetics. However, nearly all of it will be landscaped. The remainder of the graded area will have athletic facilities, such as open fields for educational and recreational activities.

**4. Education:**

The parking lot, in the proposed location, would be of benefit to the people of the community and State as well as the Kalaheo High School students. The

Honorable Kent M. Keith  
 Director  
 Department of Planning and  
 Economic Development  
 State of Hawaii  
 Honolulu, Hawaii

Dear Mr. Keith:

Subject: Draft EIS for Kalaheo High School  
 Revised Ultimate Site Plan  
 (Consultation Phase)

This is in response to your August 10, 1983 comments on the subject document. We appreciate your review and provide the following response to your comments:

**1. Timing:**

Although it may appear premature to process the EIS showing a parking lot in the marsh, it was desirable in order to proceed with development of the school's other facilities. Additionally, since this would probably be the last facility to be constructed for the school, there should be ample time for the Department of Land and Natural Resources to develop a detailed implementation plan for Kawaiui Marsh before the school is ready to proceed with the parking lot.

**2a. Endangered Waterbirds:**

The lower parking lot will displace approximately 2.5 acres of wetlands, which is a very minute portion of the 1000+ acre Kawaiui Marsh. This parking lot is located between the Mokapu Saddle Road and the Quarry Road. It is distinctively separated from the Kawaiui Marsh proper by the Quarry Road. The location of improved waterbird habitats shown on the "Kawaiui Marsh Resource Management Plan" indicates the parking area is at least 600 feet from any improved waterbird

Honorable Kent M. Keith  
Page 3

Ltr. No. (P)1077.4

proposed pedestrian overpass would allow students to easily and safely cross over Mokapu Boulevard to utilize the marshes educational, scientific and other resources such as a nature walk by students in conjunction with their science classes.

5. Conservation District:

The DEIS indicates the improvements could be implemented with approval of a CDUA. However, a District Boundary Amendment and a City and County Development Plan change will probably be pursued.

Thank you for your comments.

Very truly yours,

  
HIDEO MURAKAMI  
State Comptroller

7-13-83

GEORGE B. LANTOS  
Governor

Cheryl D. Soon

STP  
8.9150

July 14, 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Nishioka:

Draft Environmental Impact Statement  
Kalaheo High School  
(Revised Ultimate Site Plan)

Thank you for the opportunity to comment on the subject document.

The proposal is not anticipated to have an adverse effect on our highway systems or programs. We do, however, advise that any construction within the state highway rights-of-way will require a permit from our Highways Division.

Very truly yours,

*Ryokichi Higashionna*  
Ryokichi Higashionna  
Director of Transportation



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P O BOX 119, HONOLULU, HAWAII 96810

HONOLULU, HAWAII  
AUGUST 11, 1983

LETTER NO. (P) 1855

OCT 27 1983

Honorable Ryokichi Higashionna  
Director  
Department of Transportation  
State of Hawaii  
Honolulu, Hawaii

Dear Dr. Higashionna:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Thank you for your July 14, 1983 comments on the subject document. It will be noted in the "List of Necessary Approval" that a permit from your department's Highways Division will be required for any construction within the State highway right-of-way.

Very truly yours,

*Hideo Murakami*  
HIDEO MURAKAMI  
State Comptroller

FIRE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

1455 S. BERETANIA STREET, ROOM 303  
HONOLULU, HAWAII 96814



EILEEN R. ANDERSON  
JULY 22, 1983

GEORGE R. ARITOSH  
CITY ENGINEER

MELVIN M. NONAKA  
FIRE CHIEF  
THOMAS C. BLONDIN  
FIRE STATION CHIEF



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 118 HONOLULU, HAWAII 96818

HIDEO MURAKAMI  
COMPTROLLER  
MIKE N. TORUMAGA  
DEPUTY COMPTROLLER

LETTER NO. (P) 1857-3

July 22, 1983

OCT 26 1983

Mr. Hideo Murakami,  
State Comptroller  
State of Hawaii  
Department of Accounting  
and General Services  
P. O. Box 119  
Honolulu, Hawaii 96810

Mr. Melvin Nonaka  
Fire Chief  
1455 South Beretania Street  
Honolulu, Hawaii 96814

Dear Chief Nonaka:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

SUBJECT: Draft Environmental Impact Statement  
for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

D-13

Dear Mr. Murakami:

We have reviewed the copy of the above subject and inasmuch as it was not indicated on the draft, we require the following:

1. Provide fire flow of 2,000 gallons per minute for duration of two hours.
2. Provide fire hydrant spacing of 250 feet with farthest proposed structure within 150 feet of last hydrant in service.
3. Provide twenty-foot wide paved access within 150 feet of proposed subdivision.

Should you have any questions regarding this matter, please feel free to contact Captain John Souza at 523-4186.

Very truly yours,

*Melvin M. Nonaka*  
MELVIN M. NONAKA,  
Fire Chief

RMN:ct/AEA:JPS:smh

This is in response to your July 22, 1983 comments on the subject document. We appreciate your review and provide the following response to your comments.

As discussed at the August 11, 1983 meeting between you and your staff and members of my staff, the requirements listed in your letter would be applicable to new schools. For existing buildings at existing schools, such as Kalaheo High, the 1976 Fire Protection Requirements for Schools worked out between the Board of Water Supply and the Department of Accounting and General Services would be applied. However, for new buildings at existing schools, the Fire Department will determine whether the listed requirements or the 1976 requirements should be applied on a case-by-case basis.

Thank you for your comments.

Very truly yours,

*Ryukio Nishioka*  
RYUKIO NISHIOKA  
State Public Works Engineer

NS:jnt 2-8

DEPARTMENT OF GENERAL PLANNING  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



EILEEN R. ANDERSON  
MAYOR

WILLARD T. CHOW  
CHIEF PLANNING OFFICER  
RALPH PORTNORE  
DEPUTY CHIEF PLANNING OFFICER  
DCP6/83-7180

July 18, 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
Department of Accounting  
and General Services  
P. O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Nishioka:

Draft Environmental Impact Statement  
Kalaheo High School Revised Ultimate Site Plan  
(Consultation Phase)

Our comments are as follows:

The report provides soil data without describing the possible interaction between the soil types and the proposed project. For example, given the slope, shrink-swell potential, erosion hazard and other soil characteristics of the general area and in view of the existing topography, would the expanded school site be subject to landslide, rolling rocks and other hazards under adverse weather conditions during and after construction?

Discussion on vehicular and pedestrian traffic impact may need to be expanded, particularly along the street sections within the residential neighborhood, principally, Iliaina Street and its connectors to Mokapu Boulevard identified as Ilikupona Street, Iiliani Street and Iiwahi Loop. The disturbance to the area's air quality, noise, dust, etc., during and after construction may need to be discussed.

Although the construction schedule is not provided, it can be assumed that construction will extend beyond the summer months. If the Mokapu Boulevard access will be the principal roadway leading to construction sites within the existing campus, the

Mr. Rikio Nishioka  
Page

potential disruption to school activities, pedestrian safety, etc., should be identified and mitigation measures proposed.

Sincerely,

*Ralph Kawanoto*

RALPH KAWANOTO  
Planner

APPROVED:

*Willard T. Chow*

WILLARD T. CHOW



Dr. Willard T. Chow

-2-

Ltr. No. (P)1040.4

GEORGE A. LARSON  
DIRECTOR



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

MOYO MURAMATSU  
COMPTROLLER

MAE H. (DEWALUA)  
SENIOR ACCOUNTANT

LETTER NO. (P)1040.4

JUN 30 1983

Dr. Willard T. Chow  
Chief Planning Officer  
Department of General Planning  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Dr. Chow:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

In response to your July 18, 1983 comments on the subject document, we provide the following comments:

1. Soil Type Interaction:

Under adverse weather conditions, the existing hillside before, during and after construction will be subject to landslide, rolling rocks and other hazards.

Various references for soil classifications and properties were utilized in developing the preliminary plans for the additional facilities. However, design of the actual grading work will be according to County standards and will be done after soil borings are taken.

2. Vehicular and Pedestrian Traffic:

The existing parking is adequate for normal day school use, although some of the students may be parking in the adjacent residential area. The additional parking proposed is to meet County standards for special events such as football games. Thus the present normal vehicular and pedestrian traffic should not be affected with the additional parking stalls.

However, there will be an increase in traffic if special events such as football games are held at the school. The periods of increased traffic will be short in duration and will probably occur during non-peak hour traffic. Other probable impacts are contained in Chapter IV of the DEIS.

3. School Construction:

Construction of individual facilities will probably extend beyond the summer months and thus may pose some disruption to school activities. However, these disruptions will be for relatively short periods of time. Appropriate mitigation measures will be determined during the design phase of each project.

Construction access routes and zones will be established for each construction project and all necessary safety precautions will be taken including fencing of the construction site.

Thank you for your comments.

Very truly yours,

RYKIO NISHIOKA  
State Public Works Engineer

NS:lm

DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813-1001 813-4432



SILEEN R. ANDERSON  
MAILER

MICHAEL H. McELROY  
DIRECTOR

ROBERT B. JONES  
DEPUTY DIRECTOR

LUG/83-2893(LH)

July 27, 1983

Mr. Rikio Nishioaka  
State Public Works Engineer  
Department of Accounting  
and General Services  
State of Hawaii  
P.O. Box 119  
Honolulu, Hawaii 96810-0119

Dear Mr. Nishioaka:

Draft Environmental Impact Statement (EIS)  
Kalaheo High School; Tax Map Key 4-1-34: 24, 20, 29

We have reviewed the above EIS and offer the following comments for your consideration:

1. Reference: Page 19, Table 3 Tax Map Key  
Comment: According to the Real Property Division of the Department of Finance, the property identified as Tax Map Key 4-2-17: Portion 20 is owned by Iolani School, and not the Estate of Harold K. L. Castle, as stated in the EIS.
2. Reference: Page 33C, County General Plan, and Page 40 X.B. Land  
Comment: The Department of General Planning should be contacted regarding the appropriate Development Plan land use, and Public Facilities Map designation changes for the proposed school expansion.
3. Reference: Page 34 Figure 21, Development Plan (DP)  
Comment: In Figure 21, the entire area identified as Tax Map Key 4-4-33: 17 is shown to be Preservation. The Koolauoko DP designates this area as Residential and Preservation. The map should be corrected to conform with the approved DP.

Mr. Rikio Nishioaka  
Page 2

4. Reference: Page 43-44, Alternatives to the Proposed Action

Comment: All the alternative site plans in the EIS locate a portion of the parking across the Mokapu Saddle Road from the main school complex. Since this area may be within the Kawainui Marsh, a better location for the parking might be within the school campus. An alternative site plan locating the parking lot within the school site should be evaluated according to the site selection criteria, and included in the EIS.

5. Kawainui Marsh

The EIS should include a description of the proposed parking site characteristics (Tax Map Key 4-2-17: Portion 20), and also discuss the possible environmental impacts which may result from construction in that area.

If there are any questions, please contact Lorene Haki of our staff at 527-5349.

Very truly yours,

MICHAEL H. McELROY  
Director of Land Utilization

MHH:s1



GEORGE R. JARVIS  
Director

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 111, HONOLULU, HAWAII 96813

MEMO SUBMITTED  
COMPLETION

DATE: 1/25/83  
BY: RIKIO NISHIOKA

LETTER NO. (P) 1038.4

JAN 25 1983

Mr. Michael M. McElroy  
Page 2

Ltr. No. (P) 1038.4

for Kalaheo has been modified quite extensively several times since the adoption of the first USP in 1974. The alternatives in the EIS all show some parking in the Kawaiinui Marsh because of the visual impact and cost of placing all parking on the school site.

5. Kawaiinui Marsh:

The following information will be included in the EIS:

The parking area for Tax Map Key 4-2-17: Portion 2D covers about 2.5 acres and is located between the Mokapu Saddle Road and the Quarry Road. This area is lower than either of these roads and is presently over-grown with grasses. The "Resource Management Plan for Kawaiinui Marsh", prepared by the Department of Planning and Economic Development indicates the area between the Hokapu Saddle Road and the Quarry Road is located at least 600 feet from any improved waterbird habitat and is isolated from the Marsh by the Quarry Road.

Through our research of the environmental impacts, it is concluded that construction of the parking lot will have minimal impact to the Kawaiinui Marsh and eco-system.

Thank you for your comments.

Very truly yours,

*Rikio Nishioka*  
RIKIO NISHIOKA  
State Public Works Engineer

NS:lm

Mr. Michael M. McElroy  
Director  
Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. McElroy:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

In response to your July 27, 1983 comments on the subject document, we provide the following responses:

1. Tax Map Key:  
Table 3 will be updated to show that the property identified as TMK: 4-2-17: Portion 20 is currently owned by Iolani School.
2. County General Plan:  
The Department of General Planning (DGP) has been consulted regarding amending the General Plan Development Plan and Public Facilities Map for the project. Formal application will be made to DGP after the EIS is completed.
3. Development Plan:  
Figure 21 will be revised to show the usages for Tax Map Key 4-4-33:17 as Residential and Preservation.
4. Alternative Parking Sites:  
Alternative siting of the parking lot, as well as other additional facilities, have been explored. It should be noted that the Ultimate Site Plan (USP)

POLICE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

1115 SOUTH BERETANIA STREET  
HONOLULU, HAWAII 96813 - AREA CODE (808) 938-4111

EILEEN R. ANDERSON  
MAYOR



GEORGE R. ARITOSHI  
GOVERNOR

DOUGLAS G. GIBB  
CHIEF  
HONOLULU POLICE DEPARTMENT



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 118, HONOLULU, HAWAII 96819

HIDEO MURAKAMI  
COMPTROLLER  
MIKEN TONUNAGA  
DEPUTY COMPTROLLER

OUR REFERENCE CS-ES

LETTER NO (P) 1856.3

June 28, 1983

OCT 20 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

Mr. Douglas Gibb  
Chief of Police  
1455 South Beretania Street  
Honolulu, Hawaii 96814

Dear Mr. Nishioka:

Dear Chief Gibb:

Subject: Draft Environmental Impact Statement  
for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

We have reviewed the Draft Environmental Impact Statement for Kalaheo High School Revised Ultimate Site Plan. Aside from our concern for the safety of vehicles entering and exiting the parking lot, we have no comments to offer at this time.

This is in response to your June 28, 1983 comments on the subject document. Your concern for the safety of vehicles entering and exiting the parking lot will be a primary consideration during the design of this facility. Safe site distance will be provided at both entrances to the parking lot off Quarry Road.

Thank you for your comments.

Sincerely,

DOUGLAS G. GIBB  
Chief of Police

By *Joy Kana*  
JOY KANA  
Acting Assistant Chief  
Administrative Bureau

Very truly yours,  
*Rikio Nishioka*  
RIKIO NISHIOKA  
State Public Works Engineer

NS:jnt 2-7

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**  
630 SOUTH KING STREET  
HONOLULU, HAWAII 96813



EILEEN W. ANDERSON  
MAIL ROOM

GEORGE R. ARITOSH  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 118 HONOLULU, HAWAII 96810

HIDEO MURAKAMI  
COMPTROLLER

MIKE M. TOKURAGI  
DEPUTY COMPTROLLER

LETTER NO (P) 1851

OCT 20 1983

ENV 83-159

June 30, 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
Division of Public Works  
Department of Accounting and  
General Services  
State of Hawaii  
P. O. Box 119  
Honolulu, Hawaii 96819-0119

Dear Mr. Nishioka:

Re: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan

In response to your request dated June 21, 1983, we have the following comments on the subject site plan.

1. Water from the swimming pool cannot be discharged into the municipal sewer system. Unpolluted waters can be directed into the drainage system.
2. Kapaa Quarry Road is privately owned but is maintained by the City and County. Egress and ingress into the proposed off-campus parking area should be obtained from the owners.
3. Kapaa Quarry Road is heavily used by refuse collection vehicles especially during the morning hours between 7-11 a.m. Monday to Saturday. Care must be exercised by individuals using the off-campus parking lot off Quarry Road. Safe visual clearances should be provided at both entrances to the parking area off Quarry Road.

Me ke aloha pumehana,

MICHAEL J. CHUN  
Director and Chief Engineer

CC: WMM

Dr. Michael Chun  
Director & Chief Engineer  
Department of Public Works  
City and County of Honolulu  
Honolulu, Hawaii

Dear Dr. Chun:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Thank you for your June 30, 1983 comments on the subject document. Our responses to your comments are as follows:

Comment: Water from the swimming pool cannot be discharged into municipal sewer system. Unpolluted waters can be directed into the drainage system.

Response: Connections to the City's sewer and drainage systems will be coordinated with the City and County Division of Engineering to assure that City and County requirements are met.

Comment: Kapaa Quarry Road is privately owned but is maintained by the City and County. Egress and ingress into the proposed off-campus parking area should be obtained from the owners.

Response: Rights for egress and ingress into the proposed off-campus parking area will be worked out with the owners of Kapaa Quarry Road at the time of land acquisition.

Comment: Kapaa Quarry Road is heavily used by refuse collection vehicles especially during the morning hours between 7-11 a.m. Monday to Saturday. Care must be exercised by individuals using the off-campus parking lot off Quarry Road. Safe visual clearances should be

Ltr. No. (P)1851.3

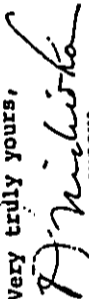
Dr. Michael Chun  
Page 2

provided at both entrances to the parking area off  
Quarry Road.

Response: Safe site distance will be provided.

We appreciate your review.

Very truly yours,

  
RIKIO NISHIOKA  
State Public Works Engineer

NS:jnt 1-8

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU  
HONOLULU HAWAII 96813

EILEEN R. ANDERSON, Mayor  
JOHN W. HOWARD, V-Chair  
MICHAEL J. FENDER  
WALTER A. DOOS  
RYOICHI HIGASHIYAMA  
ROBERT A. SOUZA  
KAZU HAYASHIDA  
Manager and Chief Engineer

July 8, 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

Dear Mr. Nishioka:

Subject: Your Letter of June 27, 1983,  
on the Draft Environmental Impact  
Statement for Kalaheo High School,  
Revised Ultimate Site Plan  
(Consultation Phase)

We have no objections to the proposed ultimate site plan  
or its alternatives.

However, the availability of additional water will be  
determined during the Building Permit process.

If you have any questions, please contact Lawrence Whang  
at 527-6138.

Very truly yours,

*Kazu Hayashida*  
KAZU HAYASHIDA  
Manager and Chief Engineer



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 119 HONOLULU, HAWAII 96819

GEORGE R. ARITOSH  
GOVERNOR

DAKEHI TOMIMAGA  
DEPUTY COMPTROLLER

LETTER NO (P) 1854.3

OCT 26 1983

Mr. Kazu Hayashida  
Manager & Chief Engineer  
Board of Water Supply  
630 South Beretania Street  
Honolulu, Hawaii 96843

Dear Mr. Hayashida:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Thank you for your July 8, 1983 comments on the subject  
project. It will be noted in the EIS that the availability  
of additional water will be determined during the Building  
Permit process.

Very truly yours,

*Rikio Nishioka*  
RIKIO NISHIOKA  
State Public Works Engineer

NS:jnt 2-3

HAWAIIAN ELECTRIC COMPANY, INC.  
Box 2750 Honolulu, Hawaii 96840

ENV 2-1  
HV/6

July 28, 1983

RICHARD L. O'CONNELL, P.E.  
MANAGER ENVIRONMENTAL DEPARTMENT  
USP: 94-448

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Nishioka:

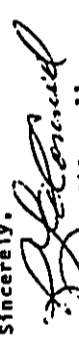
Subject: Draft Environmental Impact Statement for Kalaheo High School Revised Ultimate Site Plan (Consultation Phase)

We have received the above Draft Environmental Impact Statement and offer the following comments:

1. The environmental impact of the relocation of electrical transmission lines is not addressed in the Environmental Impact Statement. Any such line relocation made necessary by the project should be considered part of the project and associated environmental impacts evaluated in the project EIS.
2. When the Department of Education applies for a Shoreline Management Permit, any necessary electrical transmission line relocation should be included as part of that application.

Thank you for the opportunity to comment on this Draft Environmental Impact Statement.

Sincerely,

  
Richard L. O'Connell  
Manager, Environmental Department

JMP,JR.:cal



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 1111 HONOLULU, HAWAII 96840

GEORGE R. ARIOUSH  
GOVERNOR

HIDEO MURAKAMI  
COMPTROLLER  
MIKE N. TORIYAGA  
DEPUTY COMPTROLLER

LETTER NO. (P) 1852.3

OCT 20 1983

Mr. Richard O'Connell  
Manager, Environmental Department  
Hawaiian Electric Company, Inc.  
P. O. Box 2750  
Honolulu, Hawaii 96840

Dear Mr. O'Connell:

Subject: Draft EIS for Kalaheo High School Revised Ultimate Site Plan (Consultation Phase)

Thank you for your July 28, 1983 comments on the subject document. Our responses to your comments are listed below:

**Comment:** The environmental impact of the relocation of electrical transmission lines is not addressed in the Environmental Impact Statement. Any such line relocation made necessary by the project should be considered part of the project and associated environmental impacts evaluated in the project EIS.

**Response:** The EIS will include the relocation of electrical lines as part of the project. There are no foreseeable adverse environmental impacts due to the line relocation since the relocation will neither increase nor decrease the line capacities, the area of service will not be affected, there will be no displacements of residences or businesses, and construction will be in conformance with all applicable government rules and regulations.

The State Historic Preservation Office has indicated that the areas to be added to the school and where the relocation of lines will probably occur are not known to contain any archaeological sites.



Mr. Richard O'Connell  
Page 2

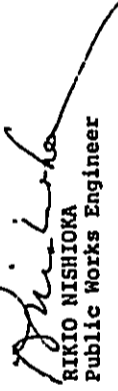
Ltr. No. (P)1852.3

*Comment:* When the Department of Education applies for a Shoreline Management Permit, any necessary electrical transmission line relocation should be included as part of that application.

*Response:* The relocation of the electrical transmission lines will be coordinated with Hawaiian Electric Company and included in the Shoreline Management Permit application.

We appreciate your review.

Very truly yours,

  
RIKIO NISHIOKA  
State Public Works Engineer

NS:jnt 2-2

KAILUA NEIGHBORHOOD BOARD NO. 31  
676 KAILUA SATELLITE CITY HALL  
202 MARKET STREET  
KAILUA, HI 96726



July 26, 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
Department of Accounting and General Services  
P.O. Box 119  
Honolulu Hawaii 96810

SUBJECT: Draft Environmental Impact Statement for Kalaheo High School  
Revised Ultimate Site Plan (Consultation Phase)

Thank you for sending this E.I.S. for our response. We appreciate your concern for the residents of Kailua and respect for our opinions. The Kailua Neighborhood Board recognizes the need for increased Physical Education facilities at Kalaheo High School. Because of several factors, however, we feel that the planned facilities are too extensive and should be modified.

First, because of the slope and base rock composition, it will be necessary to blast, thus adversely affecting the surrounding homes in the area. Any construction at all is going to affect these homes, many of which already have damaged foundations and walls because of natural soil movement in the area. Therefore, we feel that this site is unsuitable for the proposed facilities; the proposed swimming pool would be particularly affected by existing soil conditions.

We are also concerned about possible pollution of Kawai Nui Marsh, Kawai Nui Canal, and Kailua Bay from runoff during and after completion of construction because of inadequate drainage and landscaping plans. We are totally opposed to any development at all in Kawai Nui Marsh. We suggest that the land directly across Hokapu Boulevard near the present homes and on the canal be considered for an additional parking lot if one is needed.

Third, we feel that the E.I.S. is incomplete because there were no archeological studies done on the site. A heiau and a burial cave are purported to be on the hillside.

The cost for the proposed facilities is excessive, especially in light of present problems with Department of Education funding and poor maintenance of the existing facilities and grounds. The present landscaping and maintenance are woefully inadequate; Dr. John Aoki of our board, medical officer for Kalaheo High School, reports that students sustain many injuries due to potholes in the field. We think the money could be better spent in more productive ways to increase the quality of present and future education. Also, since the school population is expected to decrease, we wonder about the need for such extensive expansion. We suggest the combined use of already existing facilities in Kailua town and Kaneohe Marine Corps Air Station for some of the Physical Education activities.

Kailua Neighborhood Board -2-

Last, we have some environmental concerns. The residents of Kalaheo Hillside are concerned about increased noise levels generated by the construction and additional school activities. They are quite worried about the increased traffic on Illana Street and Oneawa Street. In addition, the Kailua Neighborhood Board is opposed to taking any land out of Conservation/Preservation for construction of any type. We want to preserve a green belt around Kailua to protect Kawai Nui Marsh from further adverse effects.

Our board recognizes that these concerns must be balanced against the recreational needs of our community. Therefore, the following planned facilities appear to us to be feasible: the extension of the hillside parking lot; the Locker/Shower building, and the Football/Track field with modifications, so it may be used for more kinds of activities.

Thank you for your attention to our concerns.

Sincerely,

*Edward J. Bybee*

Edward J. Bybee, Chair  
Kailua Neighborhood Board #31

*Annetta Kinnicutt*

Annetta Kinnicutt, Planning Committee  
Kailua Neighborhood Board #31

Mr. Edward J. Bybee

HERO MURAKAMI  
COMPTROLLER  
STATE OF HAWAII  
LETTER NO. (P)1059.4



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 115, HONOLULU, HAWAII 96811  
FEB 03 1984

GEORGE R. JARVIS  
SUPPORTER

Mr. Edward J. Bybee  
Chairperson  
Kailua Neighborhood Board No. 31  
c/o Kailua Satellite City Hall  
302 Kuulei Road  
Kailua, Hawaii 96734

Dear Mr. Bybee:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

This is in response to your July 28, 1983 comments on the subject document. We provide the following response to your comments:

1. Foundation:

Your statement on "base rock composition" and the necessity to "blast" indicates the foundation for the proposed improvements on the hillside is adequate. Other statements also indicate the "unsuitable" designation of the site by the Board is because it is assumed that blasting will affect surrounding homes in the area. Until soil borings are taken and design of these facilities are completed, the need to blast will not be determined. We are not aware of any mass soil movement in the area. However, we would expect the type of surface soils in the area to damage walls and foundations not properly designed or constructed. This is because the continual wetting and drying of the soil will exert lateral pressure on structures. This will continue to occur with or without blasting on the school site.

Design of the swimming pool will consider the existing soil conditions which will be determined by soil borings and analysis.

2a. Drainage and Landscaping Plans:

At the time of implementation, detailed construction, landscaping and drainage plans will be developed. Additionally, appropriate erosion and pollution control measures will be established according to State Department of Accounting and General Services Specifications, Section 01567 - Pollution Control; State Department of Health "Public Health Regulations" - Chapter 37-A Water Quality Standards; City and County of Honolulu's Grading Ordinance and "Soil Erosion Standards and Guidelines."

2b. Alternative Parking Sites:

Figure 5 of the DEIS indicates the suggested alternative parking area across Mokapu Boulevard near the present homes is inadequate and the area along the canal is still within the Kawaiunui Marsh Primary area.

3. Archaeological Studies:

Discussion with the State Historic Preservation Office (SHPO) indicates that the areas to be added to the school are not known to contain any archaeological sites. The SHPO has indicated that it would be quite uncharacteristic of the ancient Hawaiians to make a heiau on such a steeply sloping hillside such as that in the vicinity of Kalaheo High School.

Should a heiau or burial cave or site be found during the design and construction phases of the project, archaeological reconnaissance surveys and other appropriate measures determined by SHPO will be implemented.

4a. Facilities:

Although the projected enrollments for the school are declining, the additional facilities proposed are not directly related to enrollment. They are being proposed as needed facilities in accordance with the Department of Education's "Educational Specifications and Standards for Facilities, Volume III: The High School," dated September 1980.

Until the additional facilities are constructed, the school will be deficient in that respect and Kalaheo High School students will have to continue to go off campus for certain athletic activities. Each additional

Mr. Edward J. Bybee

Mr. Edward J. Bybee

6. School Facilities:

We appreciate your Board recognizing that the desire to preserve a green belt around Kailua to protect Kawaiui Marsh from further adverse effects must be balanced against the recreational and educational needs of the students.

Thank you for your comments.

Very truly yours,

*R. Nishio*  
RIKIO NISHIOKA  
State Public Works Engineer

SS:lm  
cc: Ms. Annette Kinnicutt

facility will be constructed only after its financial impact has been reviewed by the State Departments of Education (DOE), Budget and Finance (DBF), and Planning and Economic Development (PED) and funds are appropriated by the Legislature and allotted by the Governor.

4b. Funding:

Although the estimated cost for the proposed facilities is high because of the topography of the available lands, and funding for DOE projects is limited, we do not feel this is adequate reason to delete these school facilities from the plans.

4c. Maintenance:

We would like to recommend that your Board work with the school administration in resolving maintenance problems such as potholes in the field, especially if they are causing many injuries to students.  
For your information, CIP funds for constructing new facilities is paid for with bond funds while maintenance is paid for from operating budget funds. Therefore, a decrease in CIP funds does not necessarily mean an increase in operating budget funds.

5a. Noise:

Noise from construction will be short term and temporary and should occur during normal workdays when most of the residents will be away at work. Noise from school activities such as football games will probably occur in the early evening about once a week during the September to December period. Noise generation will be controlled by the Department of Health rules and regulations. The closest home will be about 1,000 feet from the football field.

5b. Vehicular Traffic:

The existing school parking is adequate for their normal daily operations. Therefore the increased parking will not affect daily traffic. However, there will be an increase in traffic if football games are held at the school. By providing some of the parking in Kawaiui Marsh, the traffic impact on Iliana and other adjacent subdivision roads should be reduced.

THE LANI-KAILUA OUTDOOR CIRCLE  
P. O. BOX 261  
KAILUA, HAWAII 96734

THE LANI-KAILUA OUTDOOR CIRCLE  
P. O. BOX 261  
KAILUA, HAWAII 96734

Page Two

Mr. Rikio Nishioaka

July 21, 1983

Mr. Rikio Nishioaka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

Re: Draft Environmental Impact  
Statement  
for Kalahao High School  
Revised Ultimate Site Plan

Dear Mr. Nishioaka:

In reviewing the Draft Environmental Impact Statement for Kalahao High School Revised Ultimate Site Plan, we find this EIS inconsistent and unacceptable with the standards and philosophy of the Lani-Kailua Outdoor Circle. Our recommendation to the approving agency is that the proposal be rejected.

The EIS is inadequate and incomplete in dealing with the environmental impact of this project. The Statement says that on the hillside area, "large earth cuts and fills...will be required, the construction of the proposed improvements may have an adverse visual impact." (Page 36) "Construction of the football/track and baseball fields will greatly alter the topography and change the visual quality of the hillside." (Page 42) We feel that building these facilities on such a steep slope will be drastic and expensive. The visual impact will be permanently devastating. There is no amount of landscaping that can recover a natural hillside. The aesthetic results will be very damaging.

The landscaping would be highly technical because of adverse soil conditions caused by terracing. Highly specialized and expensive techniques would be required. We find no proper landscaping plan mentioned nor is any costing included. There is no reference to trees and shrubs whose value in dampening noise, purifying air, reducing heat load, and satisfying the aesthetic needs is essential.

Grasses and vining suitable for a terraced area (e.g., wedelia, buffalo grass) are not allowed by the DOE because they harbor rodents. What are the alternatives?

The possibility of the joint use of a football/track and baseball field as a single facility is never suggested. This scaled down plan would certainly have positive results by lessening the required acreage and decreasing the amount of altered topography.

Regarding the Marsh parking lot across Mokuapu Saddle Road, and the pedestrian overpass, we dispute the EIS's contention that no archeological or historic sites exist on this site. It is our understanding that this parcel of land is within the area eligible for the Kawaiunui District to the State and National Registers, as a historic district.

In addition, since this area is within the U.S. Army Corps of Engineers wetland boundary, it would require fill in the wetland, thus necessitating ACOE permits. We found no reference made to an ACOE permit requirement.

Furthermore, we question the proposed overpass to connect the parking lot and the school. Has consideration been given to controlled lights for ground access? In observing traffic from Quarry Road to Mokuapu Saddle Road, it is obvious that this is a hazardous and busy traffic intersection, to be further employed by the pedestrian use to and from the parking lot. Would not stop lights provide safety for both pedestrians and vehicles?

Finally, the increased non-absorbing surfaces (parking lots and buildings) will cause an increase in the runoff and decrease the watershed aquifers water holding capacity. The result could be erosion and pollution.

We hope that you will give our comments serious consideration in evaluating the EIS for the Revised Ultimate Site Plan for Kalahao High School.

Very truly yours,

*Alice Fink*

Alice Fink (Mrs. Arthur)  
First Vice President  
Lani-Kailua Outdoor Circle

GEORGE R. ARTHUR  
DIRECTOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
DIVISION OF PUBLIC WORKS  
P. O. BOX 176, HONOLULU, HAWAII 96818

JAN 23 1983

MOOD SWANSON  
COMPTROLLER  
MIRE N. TOKUNAGA  
DEPUTY COMPTROLLER

LETTER NO. (P) 1036.4

Ms. Alice Fink  
Page 2

Ltr. No. (P) 1036.4

2b. Cost

Many alternative site plans were developed and evaluated prior to selection of the revised ultimate site plan shown in Figure 5 of the DEIS. The cost of some of these alternative plans would be much less than the proposed plan. However, they would have a much greater impact on Kawaiinui Marsh or the residential area and were eliminated because of public objections. While it is true that it is not the least expensive alternative, it is also not the most expensive.

3. Landscaping

Landscaping plans and specifications will be developed when detailed construction plans are prepared for the school's athletic facilities. The types and location of trees and shrubs as well as the ground preparation will be a part of the landscaping plans. Terracing and landscaping will be in conformance with County standards. We believe the change in landscaping will have an insignificant or no impact on dampening noise, purifying air and reducing head load.

4. Grasses and Vining

As indicated in Item 3 above, the type of grasses and vining suitable for a terraced area will be determined when the design plans are prepared. We don't feel at this point that the landscaping should be limited to grasses and vines.

5. Joint Use

One large field for either baseball or football would meet the physical education program requirements as pointed out in Appendix B, "Evaluation Reports". However, this would not be in accordance with the DOE's "Educational Specifications and Standards for Facilities, Volume III: The High School", dated September 1980.

While a scaled down plan would certainly have positive results in lessening the cost of land acquisition and construction of the facility and lessening the visual impact, it would have negative results in terms of education.

Ms. Alice Fink  
First Vice President  
Lani-Kailua Outdoor Circle  
P.O. Box 261  
Kailua, Hawaii 96734

Dear Ms. Fink:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

This is in response to your July 21, 1983 letter on the subject matter. We provide the following responses to your comments:

1. Proposal Rejection

The draft EIS was distributed for comments as part of the "consultation phase" of the EIS process. The purpose of this phase is not the acceptance or rejection of the proposal of the EIS, but the exposure of the concerns of individuals, organizations such as yours, and various agencies. It is through this consultation phase that a more comprehensive EIS can be developed. Inconsistencies in the draft EIS will be corrected in subsequent phases of the EIS process.

2a. Aesthetics

The sentence on page 38 will be revised to read as follows: "construction of the proposed improvements will have an adverse visual impact which the Lani-Kailua Outdoor Circle considers to be permanently devastating".

July 26, 1983

Division of Public Works  
Department of Accounting and General Services  
Hawai'i State Offices  
Honolulu, Hawai'i

Re: Draft Environmental Impact Statement for Kalaheo High School  
Revised Ultimate Site Plan at Kailua, Oahu, Hawai'i

Dear Sirs:

We appreciate the opportunity to comment on the Draft Environmental Impact Statement (DEIS), since our organization is deeply committed to education. We are particularly interested in the two high schools flanking Kawai Nui Marsh, the unique natural and cultural district linking their two areas. Our programs complement those of the Department of Education (DOE) through the sensitive utilization of Kawai Nui's multi-faceted cultural, socio-political, and scientific educational resources.

Regrettably, we have found several errors in the DEIS, and a paucity of information on aspects of the proposal which we believe should be thoroughly discussed.

We have been advised by the State Department of Engineers (DOE) that statements made on p. 24, and the map on p. 14, p. 25, are untrue. First, a Department of Public Works permit is required for the project's dredge and fill in the marsh. Second, the project's construction of the parking lot and/or footings for the overpass.

Secondly, the same portions of the project lie within the flood plain and special flood hazard areas. The project's National Flood Insurance Program. They further point out the proposed project's inconsistency with the Department of Planning and Economic Development's (DPED) recently completed Resource Management Plan for Kawai Nui Marsh, now to be administered by the Department of Planning and Economic Resources (DLNER). Additionally, they have concerns regarding the project's drainage and soil runoff to be expected from such marshland.

We would encourage the client to provide more data. Please include a discussion of the channel's flow characteristics for the project on Kawai Nui, not addressed in the DEIS, as required by the Federal laws. Resulting in silting could be expected in continuous years thereafter, and the marsh is already impacted by heading, road and highway construction, landfills, and quarry operations, among others. All of these affect the flood basin and activities of the marsh. We would also like to see a discussion of the additional municipal costs which could be expected for an increased need to remove sediments from the Kawai Nui Channel at more frequent intervals.

Thirdly, there are endangered species in the project area (pp. 24 and 38 SIC). We are advised by the U.S. Fish and Wildlife Service that they are concerned that there has been no mention of the four endangered waterbird species of Kawai Nui, their habitat needs, nor a clear description of the Kawai Nui Marsh resource. Hawai'i's most significant freshwater marsh. We would add that the 'Alae 'Ula and 'Alae Ke'oke'o are birds of religious significance.

ʻĀlā ʻŪla ʻĀlā Keʻokeʻo ʻĀlā Keʻokeʻo Kawai Nui

KAWAI NUI HERITAGE FOUNDATION  
P.O. BOX 1101 KAILUA, HAWAII 96734

Ms. Alice Fink  
Page 3  
Ltr. No. (P) 1036.4

6. Historic District  
While Kawai Nui Marsh may be eligible for placement on the State and National Registers of Historic Sites, this action and the determination of the boundary have not been done yet. We are not aware of any known archeological site within the proposed project area.

7. ACOE Permit  
The need for any Army Corps of Engineers Permit for construction in a wetland area will be included in the EIS.

8. Pedestrian Overpass  
The overpass will be safer for pedestrians but much more expensive to construct than the alternative of providing traffic lights and crosswalk for Mokapu Boulevard. Since only parking will be provided across Mokapu Boulevard, the traffic delays from pedestrians should be less than the original site plan. Based on this, use of a crosswalk will be discussed with State Department of Transportation and the Department of Education.

9. Erosion and Pollution  
The area of non-absorbing surfaces (parking lots and buildings) is quite insignificant considering the amount of open space and the area of the athletic fields. Construction of additional facilities should not change the watershed aquifer water holding capacity. Appropriate erosion and pollution control measures based on the State Department of Accounting and General Services Specifications, Section 01567 - Pollution Control; State Department of Health "Public Health Regulations" - Chapter 37-A Water Quality Standards; City and County of Honolulu's Grading Ordinance; and the "Soil Erosion Standards and Guidelines", City and County of Honolulu, November 1975 should minimize the impact of these items.

Thank you for your comments.

Very truly yours,  
*Rikio Nishioka*  
RIKIO NISHIOKA  
State Public Works Engineer

NS:lm

July 26, 1983

Division of Public Works  
Department of Accounting and General Services  
Hawaii's State Offices  
Honolulu, Hawaii

Re: Draft Environmental Impact Statement for Kalaheo High School  
Revised Ultimate Site Plan at Kailua, Oahu, Hawaii

Dear Sirs:

We appreciate the opportunity to comment on the Draft Environmental Impact Statement (DEIS), since our organization is deeply committed to education. We are particularly interested in the two high schools flanking Kawai Nui Marsh, the unique natural and cultural District linking their two areas. Our programs complement those of the Department of Education (DOE) through the sensitive utilization of Kawai Nui's multi-faceted cultural, socio-political, and scientific educational resources.

Regrettably, we have found several errors in the DEIS, and a paucity of information on aspects of the marsh which we believe should be thoroughly discussed.

We have been advised by the State Engineers (COE) that statements made on p. 24, and p. 25, are untrue. First, a Department of Public Works permit is required for the project's dredge and fill in the marsh. Second, the project is to construct the parking lot and/or footings for the overpass.

Secondly, the same portions of the project lie within the flood plain and special flood hazard area of the National Flood Insurance Program. They further point out the project's inconsistency with the Department of Planning and Economic Development's (DPED) recently completed Resource Management Plan for Kawai Nui Marsh, now to be administered by the Department of Natural Resources (DNAR). Additionally, they have concerns regarding the project's drainage and soil runoff to be expected from such marsh areas.

We would encourage developers to take the time to discuss with the project a discussion of the cumulative effects of the project on Kawai Nui, not addressed in the DEIS, as well as the project's consistency with Federal laws. Resulting in-siltation could be expected to continue for years thereafter, and the marsh is already impacted by heading, road and highway construction, landfills, and quarry operations, among others. All of these affect the flood basin proclivities of the marsh. We would also like to see a discussion of the additional municipal cost which could be expected for an increased need to remove sediments from the Kawai Nui Channel at more frequent intervals.

Thirdly, there are endangered species in the project area (pp. 24 and 38 SIC). We are advised by the U.S. Fish and Wildlife Service that they are concerned that there has been no mention of the four endangered waterbird species of Kawai Nui, their habitat needs, nor a clear description of the Kawai Nui Marsh resource. Hawaii's most significant freshwater marsh. We would add that the 'Aiea 'Ula and 'Aiea 'Oke'o are birds of religious significance i

Ma Iki'a'i Pono 'o Kawai Nui

KAWAI NUI HERITAGE FOUNDATION  
P.O. BOX 1101 KAILUA, HAWAII 96734

Ms. Alice Fink  
Page 3  
Ltr. No. (P) 1036.4

6. Historic District

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7. ACOE Permit

The need for any Army Corps of Engineers Permit for construction in a wetland area will be included in the EIS.

8. Pedestrian Overpass

The overpass will be safer for pedestrians but much more expensive to construct than the alternative of providing traffic lights and crosswalk for Mokapu Boulevard. Since only parking will be provided across Mokapu Boulevard, the traffic delays from pedestrians should be less than the original site plan. Based on this, use of a crosswalk will be discussed with State Department of Transportation and the Department of Education.

9. Erosion and Pollution

The area of non-absorbing surfaces (parking lots and buildings) is quite insignificant considering the amount of open space and the area of the athletic fields. Construction of additional facilities should not change the watershed aquifer water holding capacity.

Appropriate erosion and pollution control measures based on the State Department of Accounting and General Services Specifications, Section 01567 - Pollution Control; State Department of Health "Public Health Regulations" - Chapter 37-A Water Quality Standards; City and County of Honolulu's Grading Ordinance; and the "Soil Erosion Standards and Guidelines", City and County of Honolulu, November 1975 should minimize the impact of these items.

Thank you for your comments.

Very truly yours,

RIKIO NISHIOKA  
State Public Works Engineer

NS:lm



the Hawaiian traditions, thus their presence at Kawai Nui takes on added meaning. The monies and energies expended by state and federal wildlife experts on behalf of the biological soil at Kawai Nui should not be ignored, nor the fact that it is at this estuarine end of the marsh that one is most apt to the the le'a (see p. 18, Resource Management Plan for Kawai Nui Marsh). In addition, we urge a full description of projects on the aquapuna, not mentioned in the DEIS at all, within this portion of the marsh and extending seaward in the Channel. Growing numbers of people utilize this area, always peculiar, to put food on the table in these increasingly difficult times. Independent sea fishermen also utilize these waters for gathering the now scarce nehu as bait. What will the effects of this project have on accessibility to these aquatic resources, their biological food chains, and the people who need them?

Fourthly, the DEIS is incorrect in saying that there are no known archaeological or historic sites in the lands proposed to be developed. All of the Kawai Nui area has been declared eligible to be listed on the national Register of Historic Places as the "Kawai Nui Marsh Historic, Prehistoric and Cultural District" (see page 1 of the August 1981 Final EIS for the Department of the Army permit application for the Olomana-Kawai Nui Sewer Projects) and the Declaration of Eligibility map, dated July 13, 1979.

The boundary for the District extends to Kōkapu Boulevard, including the area proposed for the marshland parking lot and overpass support structure.

Kawai Nui Marsh and its environs constitute the "historic site."

It has been our experience that many state and county agencies, and their private consultants, do not appear to understand state and federal historic preservation categories and criteria. No particularly dramatic individual features are required in such a district, although in Kawai Nui's case, there are several. It is the symbiosis of Kawai Nui's man/land relationships, spanning centuries from the settlement period two millennia ago until the present, which has given the District its pan-Polynesian distinction and unique place in Pacific and American History. Ancient beaches known to the original settlers lie beneath the grasses, silently awaiting discovery of the secrets they hold of a time when Hawaiians sailed into what was then a bay or lagoon. Walls now submerged as the waters have risen may have framed altars, fishponds, or taro gardens over the centuries. On the hillside, no archaeological survey has been effected, to our knowledge. However, this writer is aware of a map distributed in 1951 by the Kailua Business Group which delineates a heiau on the hillside behind Kalaheo High School. There are also a number of traditions for the area, one of which won first place for another Kailua school, the Hāhala 'Iliama, in its chanted and choreographed form at the Merrie Lonarch competition in Hilo this year. We are dismayed that Hawaiian cultural considerations are not addressed in the DEIS.

With, there is only one residential development for which a conditional Special Management Area (SMA) permit is being sought, and that is on the Kōkapu slopes on the opposite side of the marsh. Figure 18 on p. 30 illustrates a subdivision proposal which was already denied a permit by the City's Department of Land Utilization. The City has had to defend its Kōkapu SMA permit procedures in the courts.

**Ma Kāia'i Pono 'O Kawai Nui**

KAWAI NUI HERITAGE FOUNDATION  
P.O. BOX 1101 KAILUA, HAWAII 96734

No SMA permit may be granted prior to receipt of a statement of federal concurrence from the CEQ office of DPEd. Since this is the office which with federal CEQ money, initiated and guided the development of the Resource Management Plan for Kawai Nui Marsh, we would not expect such assurances to be forthcoming. The Plan calls for relocation, renovation, restoration and protection in this area of the estuarine habitat. Since a special target for removal is the illegal auto wreckers (you have not mentioned the state's suit), with its battery acids, heavy metals and petrochemicals draining into the waters, a parking lot for yet more cars would not appear to be suitable within the environs.

The massive alteration to the hillside would do great damage to valuable vistas, which the Management Plan also seeks to protect. Applying both Hawaiian cultural perspectives for traditional view corridors, and with regard to modern concerns for open space visual refreshment, many have spoken across the marsh along the Kalaheo Highway, and the CEQ has done little to soften its impact with appropriate paint or landscaping. We hesitate to accept assurances that hillside cuts will be masked. We also remember the quarry cuts on Kāhānuī, which were supposed to be restored to veritable "hanging gardens of Babylon." We are committed to protecting vistas in, from, and around the Marsh, and to mitigating past damages.

The DEIS is remiss in not utilizing information that was generated in the development of the Management Plan. We trust that the six studies, and consolidated library of previously available, but scattered, information being held in the CEQ office of DPEd will be utilized in preparing a more accurate and better developed final EIS.

We would also hope that the County's General Plan and the Development Plans would be related to the proposed expansion of the Kalaheo facilities, as they relate to growth and age factors to be expected by the year 2020.

We strongly believe that a school's athletic programs are vitally important to the well-being of Hawai'i's youth. We are also aware of the tremendous financial constraints the administration has recently placed on the DOE, with great reductions in programs, services and facilities, with little likelihood of federal assistance in the near future. Perhaps the plan should be examined from the standpoint of what is absolutely necessary. Are so many expanded sports facilities logical for a diminishing school population, in an era in which the schools are also trying to acquire costly computers for training our youth in a rapidly changing world? Can Aloha Stadium fill the school's needs for audience-attended games requiring bleachers? Would it be possible to utilize one expanded field for track, football, and baseball. Since seasons differ for each? Do we really need two more parking lots?

The access for the proposed marshland parking lot is inadequately illustrated and discussed. Its proximity to the dangerous curve of the Quarry Road from Kōkapu Boulevard, and to the dangerous stacks of auto wrecks, to be utilized at the same hours as quarry and landfill operations, would merit some research before justification can be assumed.

An average of \$24,646 per acre for raw, undeveloped land which is presently unusable because of its steep slopes or waterlogged terrain, and which would require massive alteration on both the hillside and in the Marsh, may be

**Ma Kāia'i Pono 'O Kawai Nui**

KAWAI NUI HERITAGE FOUNDATION  
P.O. BOX 1101 KAILUA, HAWAII 96734

4/

excessive and unrealistic. We should like to see the construction costs broken down for each facility, since it is likely that a new alternative will have to come out of this process. Perhaps costing factors could be included to allow for probable extra costs, delays, inflation, etc., so that hard-pressed taxpayers can evaluate the cost/benefits more accurately.

Finally, we find some of the maps illustrating the text and tables to be difficult to read, especially Figures 12 and 13. In some cases maps are so out-dated as to provide inadequate understanding, as in Figures 8, 12, 13, 16, 17, 18, 19, and 22. Sources for information should be provided, and when assumptions are made. We should like to have access to a bibliography in the EIS.

The Department of Education responded gracefully to the stresses imposed by the "baby boom" era which, for a time ballooned our educational system and its resources, and re-cycled Kalaheo from intermediate school status to its present function as a high school. Now that the numbers of students are rapidly diminishing, we are satisfied that DOE will respond to the present and projected, national and local, economic and demographic realities, with no diminution of essential educational opportunities. It is our hope that agency and community responses generated by this EIS process may assist the LOE to develop a non-controversial, less environmentally damaging, and a fiscally sound alternative out of those discussed in the Draft EIS.

Again, thank you for the opportunity to comment.

D-31

Sincerely,

*Muriel B. Seto*  
Muriel B. Seto, Advisor



GEORGE A. JAYWORTH  
Secretary

HONOLULU  
STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

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

LETTER NO. (P) 1089.4

FEB 21 1984

Ms. Muriel B. Seto, Advisor  
Kawai Nui Heritage Foundation  
P.O. Box 1101  
Kailua, Hawaii 96734

Dear Ms. Seto:

Subject: Draft EIS for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

Thank you for reviewing the subject document and providing comments. Our response to your comments are contained in the attachment.

Thank you for your comments.

Very truly yours,

*Rikio Nishioaka*  
RIKIO NISHIOKA  
State Public Works Engineer

NS:lm  
Attachment

Ma Ika'i Iono 'o Kawai Nui

KAWAI NUI HERITAGE FOUNDATION  
P.O. BOX 1101 KAILUA, HAWAII, 96734

DRAFT EIS FOR KALAHEO HIGH SCHOOL  
REVISED ULTIMATE SITE PLAN CONSULTATION PHASE  
Response to Comments by Muriel B. Seto

1. Army Permit:

A Department of the Army (DA) permit is not required for flood hazard as indicated in the DEIS. However, a DA permit is required for the parking lot and overpass south of the Mokapu Saddle Road because they are in a "wetlands" area. This will be clarified in the EIS.

2a. Flood Hazard:

Figure 14 of the DEIS shows that the proposed project is located in Zone C, an area of minimal flood, of the Flood Insurance Rate Map.

2b. Resource Management Plan:

While the proposed action is inconsistent with the Cultural Resources Objective to "Identify, enhance, and preserve aesthetic qualities of the primary and secondary areas, including vistas, viewplanes and site specific features and elements", it does support the following other objectives:  
Economic

- o Provide for public use and enjoyment of the existing and potential resources of the marsh.

Cultural Resources

- o Provide for the enhancement and use of the primary area as a learning resource for educational institutions.
- o Provide for recreational activities in the marsh area.

2c. Soil Runoff:

The plans and specifications for construction of the new facilities will include established methods and measures for controlling and minimizing soil erosion and sedimentation during and after construction. These erosion control measures are specified in the State Department of Accounting and General Services Specifications, Section 01567 - Pollution Control (subsection 4 - Erosion); State Department of Health "Public Health Regulations" - Chapter 37-A, Water Quality Standards; City and County of Honolulu's Grading Ordinance and "Soil Erosion Standards and Guidelines."

With proper implementation of erosion control measures and immediate landscaping of the cut slopes and exposed areas, we believe this project will have minimal impact on the Marsh due to sedimentation from erosion.

The actual amount of sedimentation from this and other proposed projects in the drainage basin will depend on many factors such as the amount of rainfall during the grading operations.

3a. Endangered Species:

The "project area" refers to the existing and proposed additions to the school site rather than to Kawaiinui Marsh. Please note that the lower parking lot which is in Kawaiinui Marsh will displace only approximately 2.5 acres out of more than 640 acres of wetlands. This parking lot located between the Mokapu Saddle Road and the Quarry Road is distinctively separated from the Kawaiinui Marsh proper by the Quarry Road. It is at least 600 feet from any improved waterbird habitat shown on the "Kawaiinui Marsh Resource Management Plan." Therefore, the "project area" should not affect endangered species of waterbirds.

3b. Water Fauna:

The Kawaiinui Marsh serves as a Corps of Engineers' flood control storage basin for a drainage area of about 7,900 acres and the Kawaiinui Canal serves as the drainway for the Marsh. The expanded school site contains only approximately 55 acres, and as noted in Section 2c, Soil Runoff, the plans and specifications for construction of the facilities will include established methods and measures for controlling and minimizing soil erosion and sedimentation during and after construction. Therefore, the impact on water fauna within the Marsh and Canal should be minimal.

4. Archaeological/Historical Sites:

In consultation with the State Historical Preservation Office (SHPO), the area to be added to the school are not known to contain any archaeological sites. The SHPO has indicated that it would be quite uncharacteristic of the ancient Hawaiians to make a heiau on such a steeply sloping hillside such as that in the vicinity of Kalaheo High School.

While Kawaiinui Marsh has been declared eligible to be listed on the National Register of Historic Places, it has not been placed on either the State or National Register. We do not feel that Hawaiian cultural considerations which are already addressed in the Resource Management Plan for Kawaiinui Marsh" should be readdressed in this DEIS.

5a. Residential Development:

Figure 18 shows the proposed Kawaiinui Residential Subdivision. The project is divided into two phases. The first phase is located on the Pohakupu slopes and the second phase is located below Mokapu Saddle Road. The Department of Land Utilization (DLU) has indicated that a SMA permit has been issued for the first phase and that a SMA permit application has been received for the second phase. DLU has issued an EIS preparation notice for the second phase, but the developer has not prepared the EIS for the second phase yet. DLU also noted that they have not had to defend their Pohakupu SMA permit procedures in court.

A Statement of Federal Consistency from the CZM office of DPED is only required for government projects. The Kawaiinui Residential Subdivision is a private project.

5b. Parking Lot Site:

Alternative sites for the parking lot were considered. However, the alternatives in the DEIS all show some parking in Kawaiinui Marsh because of the visual impact and cost of placing all of the parking on the hillside.

As noted in Section 3b, Water Fauna, the Marsh has a drainage area of about 7,900 acres. Thus, the transfer of substances from the 2.5-acre parking lot runoff to the Marsh is very small.

5c. Vistas:

We share your concerns regarding vistas and will, during the development of detailed construction plans, develop landscaping plans to reduce the visual impact due to the construction of the additional facilities.

5d. Management Plan:

The EIS will utilize and make reference to policies and information in the DPED "Kawaiinui Marsh Resource Management Plan."

5e. General and Development Plans:

The City and County's General Plan describes a future for the Island of Oahu which it considers desirable and attainable while the Development Plans provide relatively detailed guidelines for the physical development of the Island. However, they do not provide information related to the growth and age factors to be expected by the year 2020.

5f. Facilities:

Although the projected enrollments for the school are declining, the additional facilities proposed are not directly related to enrollment. They are being proposed as needed facilities in accordance with the Department of Education's "Educational Specifications and Standards for Facilities, Volume III: The High School," dated September 1980.

Until the additional facilities are constructed, the school will be deficient in that respect and Kalaheo High School students will have to continue to go off campus for certain athletic activities. Each additional facility will be constructed only after its financial impact has been reviewed by the State Departments of Education (DOE), Budget and Finance (B&F), and Planning and Economic Development (DPED) and funds are appropriated by the Legislature and allotted by the Governor.

During the football season, Aloha Stadium is used extensively by the University of Hawaii (UH), the Oahu Intercollegiate League (OIA) and the Interscholastic League of Honolulu (ILH). The OIA and the ILH alternate use of Aloha Stadium on Thursday - Friday or Friday - Saturday depending on whether or not the UH has a game on Saturday. The OIA games with the largest number of spectators are scheduled for Aloha Stadium because of better facilities and the limited capacity of school stadiums. Thus, Aloha Stadium cannot fulfill the needs for Kalaheo High.

One large field for either baseball or football would meet the basic physical education program requirements as pointed out in Appendix B, "Evaluation Report." However, this would not be in accordance with the "Educational Specifications and Standards for Facilities, Volume III: The High School." While a scaled down plan would certainly have positive results in lessening the cost of land acquisition and construction, it would have negative results in terms of the educational and athletic programs.

Although the existing parking for 251 cars is adequate for normal school use, the additional parking is required to comply with the Comprehensive Zoning Code (CZC) of the City and County of Honolulu (Am. Ord. 3234), Section 21-5.6 (h) "Off-street Parking Regulations." Based on the CZC requirements for this size high school, the school is required to have at least 470 stalls. Thus the R.U.S.P. provides parking for 219 additional stalls which have been divided between the two additional parking lots. Two lots are proposed because of the visual impact and cost of placing all parking on the hillside.

5g. Parking Lot Access:

We feel that Figure 5 adequately shows the relationship of the proposed parking to the Quarry Road and Mokapu Saddle Road. This proposed layout will be studied in greater detail during development of the detailed construction plan for the parking lot to ensure that safe driving conditions are provided and that environment impacts are minimized.

As noted in Item 5f, the additional parking is being provided to meet County standards. Since existing parking is adequate for normal school day use, the proposed additional parking will be used to meet the parking requirements for special events such as football games. Therefore, the use of the parking lot should occur during non-peak traffic hours.

5h. Costs:

The estimated land acquisition costs used are based on similar land sales in the area. However, the actual cost will be determined by one or more appraisals and probably by the courts in condemnation proceedings. A construction cost breakdown by facility is provided in Appendix B, "Evaluation Report."

5i. Maps:

- a. Figure 8 shows the location of Kalaheo High School in relation to its service area. Since the boundary runs almost exclusively through undeveloped area, we believe the map is adequate for its purpose.
- b. Figure 12 is directly from the soil survey map published by the USDA except that Kalaheo High School has been added. Its purpose is to show the general soil characteristics in and around the school site.
- c. Figure 13 was taken directly from a UH Land Study Bureau map except that Kalaheo High School has been added. Its purpose is to show the general land classification in and around the school site for urban development.
- d. Figure 16 showing the major roadways around the school, was taken directly from a State Department of Transportation map. We believe all of the major roadways are shown.
- e. Figure 17 showing the Kalaheo Sanitary Landfill was taken directly from its EIS dated 1993 except that Kalaheo High School has been added. It is the latest information available.

f. Figure 18 showing the proposed development in Kawaiinui Marsh was taken directly from the Kawaiinui Residential Development EIS except that Kalaheo High School has been added. Although this EIS is dated April 1977, it is the latest information available.

g. Figure 19 showing the State Land Use District boundaries was taken directly from the current SLU Commission maps.

h. Figure 22 showing the Shoreline Management Area (SMA) was prepared by overlaying the SMA from the County map onto our base map to facilitate reproduction. The base maps are almost identical.

The following agencies and organizations provided written comments for which responses were deemed not necessary. Pages D-36 through D-40 are copies of their comments.

1. U.S. Department of the Air Force (PACAF)
2. U.S. Navy
3. City Department of Housing and Community Development
4. State Department of Health
5. Aikahi Elementary School PTA
6. City Department of Transportation Services
7. Hawaiian Telephone Company
8. Department of Education
9. U.S. Marine Corps



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 15TH AIR BASE WING (PACAF)  
HICKAM AIR FORCE BASE, HAWAII 96813



HEADQUARTERS  
NAVAL BASE PEARL HARBOR  
PEARL HARBOR, HAWAII 96860

JUL 8 8 13 AM '83  
Div. 6 3333 MDTES

REPLY REFER TO:  
002:09P2:jem  
Ser 1538  
7 JUL 1983

REPLY TO DEEV (Mr Yamada, 449-1831)  
ATTN: DEEV

29 JUN 1983

SUBJECT: Draft Environmental Impact Statement for Kalaheo High School -  
Revised Ultimate Site Plan

Ms Jacqueline Parnell, Director  
Office of Environmental Quality Control  
550 Halekaunila Street, Room 301  
Honolulu, HI 96813

1. This office has reviewed the subject EIS and has no comment relative to the proposed project.
2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your project and thank you for the opportunity to review the document. The draft EIS is returned for your files.

*Robert M. Okazaki*  
ROBERT M. OKAZAKI  
Chief, Engrg & Envtl Png Div  
Directorate of Civil Engineering

D-36

1 Atch  
Draft EIS

Cy to: Mr Rikio Nishioka, Atch  
State Public Works Engineer  
P. O. Box 119  
Honolulu HI 96810-0119

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

Dear Mr. Nishioka:

Draft Environmental Impact Statement  
for Kalaheo High School Revised Ultimate Site Plan  
(Consultation Phase)

The subject EIS Draft forwarded by the State Comptroller on June 21, 1983 has been reviewed. It has been determined that there is no direct relationship with U. S. Navy programs and activities. Therefore, no comment is submitted during this consultation phase.

Thank you for the opportunity to review this EIS submittal.

Sincerely,

M. M. DALLAM  
CAPTAIN, U. S. NAVY  
FACILITIES ENGINEER  
BY DIRECTION OF THE COMMANDER

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
**CITY AND COUNTY OF HONOLULU**

150 SOUTH KING STREET  
HONOLULU, HAWAII 96813  
PHONE 531-1111



EILEEN R. ANDERSON  
Mayor

GEORGE A. ANTONIO  
Director of Housing

JOSEPH K. CONANT  
Director

CHARLES H. TORIBOE  
Deputy Director



STATE OF HAWAII  
DEPARTMENT OF HEALTH

P. O. BOX 3378  
HONOLULU, HAWAII 96811

CHARLES G. CLARK  
Director of Health

in reply, please refer to  
file: EPHIS-SS

July 16, 1983

July 15, 1983

Mr. Rikio Nishitoka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

Dear Mr. Nishitoka:

Subject: Draft Environmental Impact Statement  
Kalaheo High School

We appreciate the opportunity to review and comment on the draft Environmental Impact Statement for Kalaheo High School.

We have no objections to the proposed improvements. However, as a general comment, we would encourage the developer of the proposed Kawaiunui Residential project to set aside at least ten percent (10%) of all residential units for the low- and moderate-income and gap group families.

We note that the proposed residential development is designated preservation on the City's Development Plan (Koolauoko). The Development Plan must be amended to reflect the residential use. This ten percent requirement applies to all zone change, cluster and planned development-housing applications. Establishing such a requirement is a reasonable means of recapturing the economic benefit conferred by favorable land use allocations and distributing that benefit for the general public welfare.

We will retain the EIS report in our files.

Sincerely,  
  
JOSEPH K. CONANT

MEMORANDUM

To: Mr. Rikio Nishitoka, State Public Works Engineer  
Department of Accounting & General Services

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Kalaheo High School

Thank you for allowing us to review and comment on the subject EIS. On the basis that the project will comply with all applicable Public Health Regulations, please be informed that we do not have any objections to this project.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

cc: OEQC

MELVIN K. KOZUMAI



DEPARTMENT OF TRANSPORTATION SERVICES  
**CITY AND COUNTY OF HONOLULU**  
HONOLULU MUNICIPAL BUILDING  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

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SILEEN R. ANDERSON  
MASS  
ANDREW L.T. CHANG  
HAWAIIAN DIRECTOR

WILLIAM A. BONNETT  
DIRECTOR  
DAIL RICE  
DEPUTY DIRECTOR

AIKAHI ELEMENTARY SCHOOL PTA  
241 Iulani Street  
Kalihi, Hawaii 96814

July 22, 1983

Mr. Hideo Murakami  
State Comptroller  
Dept. of Accounting & General Services  
P. O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Murakami:

Re: Draft Environmental Impact Statement  
for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

We would like to acknowledge receipt of your letter and the  
above-mentioned Revised Ultimate Site Plan for Kalaheo High  
School.

At this time we have no comments regarding the Plan. However,  
we would appreciate being informed on any further developments  
or changes in the Plan. Thank you for keeping us up to date.

Very truly yours,

Susan Hopkins  
Aikahi PTA Secretary

July 22, 1983

TE 6/83-2534

Mr. Rikio Nishioke  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii 96810-0119

Dear Mr. Nishioke:

Subject: Draft EIS for Kalaheo High School Revised  
Ultimate Site Plan (Consultation Phase)

We have no comments to offer relative to this project.

If you have any questions, please contact Kenneth Hirata of my staff at 527-5031.

Sincerely,

WILLIAM A. BONNETT  
Director



STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P. O. BOX 1308  
HONOLULU, HAWAII 96810

July 28, 1983

EDWARD S. THOMPSON  
SUPERINTENDENT

OFFICE OF BUSINESS SERVICES

HAWAIIAN TELEPHONE  
ETS

July 27, 1983

Hr. Rikio Nishioka  
State Public Works Engineer  
State of Hawaii  
Department of Accounting and General Services  
P.O. Box 119  
Honolulu, Hawaii 96810

Dear Sir:

Draft Environmental Impact Statement  
for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

We have reviewed the subject EIS and find that our facilities will not be affected by this project.

Thank you very much for the opportunity to review this draft.

Sincerely,

*George Kaneko*  
George Kaneko  
Oahu Engineering &  
Construction Manager

MEMO TO: Hr. Rikio Nishioka, State Public Works Engr.,  
Public Works Division, DAGS

F R O M: James E. Edington, Assistant Superintendent  
Office of Business Services

SUBJECT: Draft Environmental Impact Statement  
for Kalaheo High School  
Revised Ultimate Site Plan  
(Consultation Phase)

We have reviewed your draft Environmental Impact Statement for Kalaheo High School and find it acceptable.

Your prudent application of this document to the eventual planning and construction of Kalaheo High School will be appreciated by the Department of Education.

Thank you for asking us to participate in the finalization of this document.

JEE:MRI:sy

cc Windward District

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UNITED STATES MARINE CORPS  
MARINE CORPS AIR STATION  
KANEDOG BAY, HAWAII 96822

IN REPLY REFER TO:  
FDPP/DD/SJ  
11015  
28 JUL 1983

Mr. Rikio Nishioka  
State Public Works Engineer  
P. O. Box 119  
Honolulu, Hawaii

Dear Mr. Nishioka:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for Kalaheo High School Revised Ultimate Site Plan at Kailua, Oahu, Hawaii (Consultation Phase). We have reviewed the Draft Environmental Impact Statement and have no comments.

The Station's point of contact is Dr. Diane Drigot, Station Environmental Protection Specialist, telephone 257-2171.

Sincerely,

*Alfred L. Hize*

ALFRED L. HIZE  
Lieutenant Colonel, U.S. Marine Corps  
Director, Facilities Department  
By direction of the Commanding Officer