DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: 523-4427 • FAX 527-5498

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

Gail M. Kaito
DEPUTY DIRECTOR

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OFC. OF ENVIRONM
QUALITY CONT

August 1, 1990

Director
Office of Environmental Quality
Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

Dear Sir:

Subject: Negative Declaration
Manoa Elderly Housing and Manoa Valley Field Improvements
Project
Tax Map Key: 2-9-36: 3

Please publish a Negative Declaration in the August 8, 1990 OEQC Bulletin for the subject project. The OEQC Form for Publication and four copies of the subject document are enclosed.

The Environmental Assessment prepared for the project indicated that there were no significant effects on the quality of the environment. The assessment is on file with the Department of Housing and Community Development at the Honolulu Municipal Building, 650 South King Street, 5th Floor, Honolulu, and is available for inspection by the public during regular office hours between 7:45 a.m. and 4:30 p.m., Monday through Friday.

Sincerely,

MICHAEL N. SCARFONE
Director

Enclosures

171

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ENVIRONMENTAL ASSESSMENT/NEGATIVE DECLARATION FOR ACTIONS THAT DO NOT REQUIRE AN EIS UNDER THE NEPA OR LOCAL LEGISLATION

FOR THE

MANOA ELDERLY HOUSING PROJECT

City and County of Honolulu
Department of Housing and Community Development
July 1990

ENVIRONMENTAL ASSESSMENT/NEGATIVE DECLARATION
FOR ACTIONS THAT DO NOT REQUIRE AN EIS
UNDER THE NEPA OR LOCAL LEGISLATION

I. HUD/STATE DATA

A. Name of Project: Manoa Elderly Housing Project and Manoa Valley Field Improvements

B. Type of Action:
___ Applicant
_X_ Agency

City and County of Honolulu
Department of Housing and Community Development
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

C. Approving Agency: Department of General Planning
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

D. Environmental Assessment Prepared by the Department of Housing and Community Development, July 1990

II. DESCRIPTION OF PROPOSED ACTIONS

A. Proposed Actions

___ Single activity;
_X_ Aggregation of activities;
___ Multi-Year activities.

B. Project Objectives

Background: The City condemned the proposed project site in 1955 from the Bishop Estate for the purpose of developing an intermediate school. In 1967, the responsibility for administration of the public school system was transferred to the State Department of Education (DOE). While the DOE held jurisdiction over the use of the site for school purposes, the City retained ownership of the land. The school was never built and based on population and enrollment trends at Manoa schools, the DOE determined that an intermediate school was not required and subsequently returned the site to the City.

Description: The City Department of Housing and Community Development (DHCD) is proposing to develop rental housing units for the elderly, community gardens and a new multi-purpose field on roughly six acres of land adjacent to Manoa Elementary School. A new parking lot containing 84 stalls will be located near the tennis courts off

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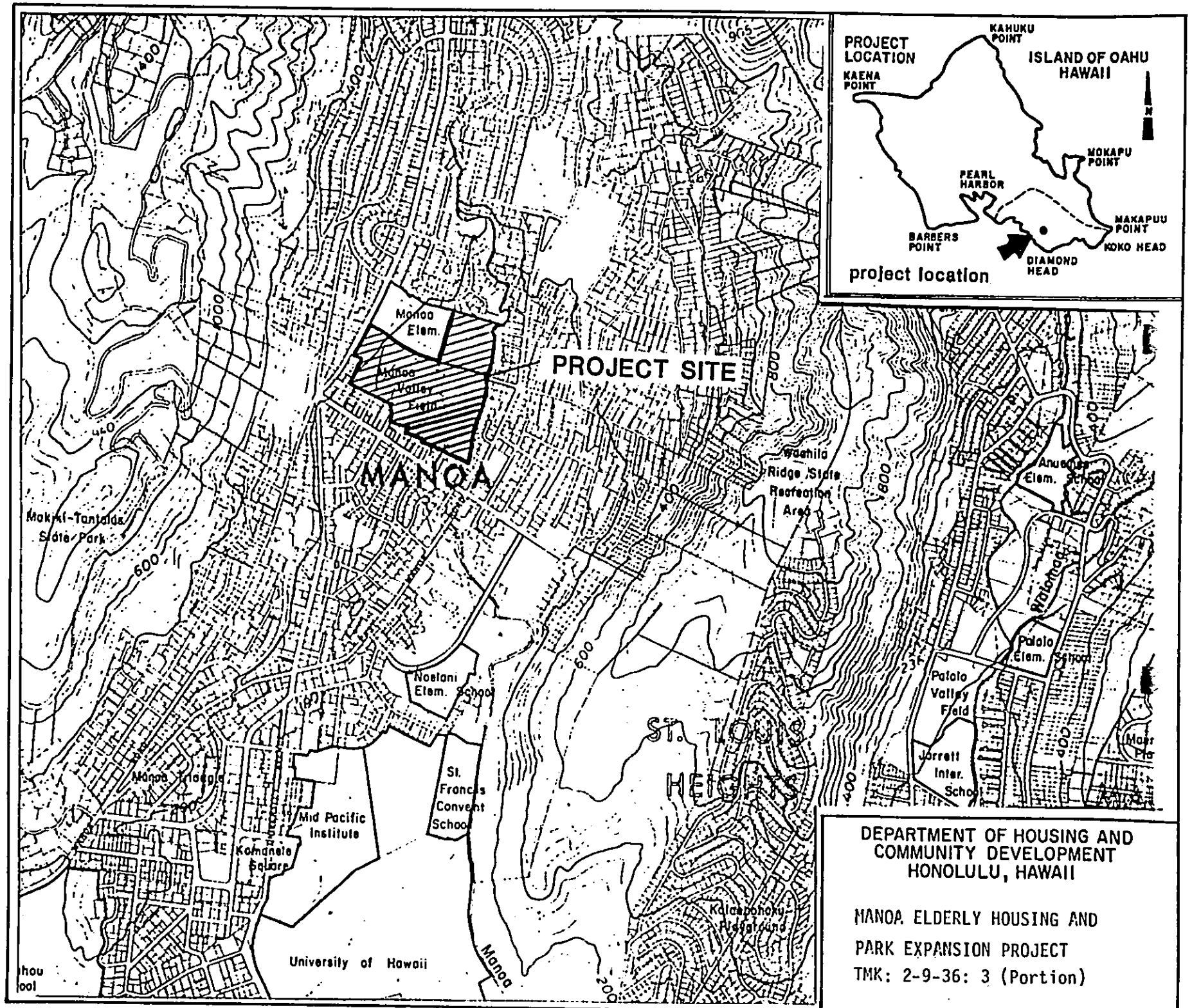

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
HONOLULU, HAWAII

MANOA ELDERLY HOUSING AND PARK EXPANSION PROJECT
TMK: 2-9-36: 3 (Portion)

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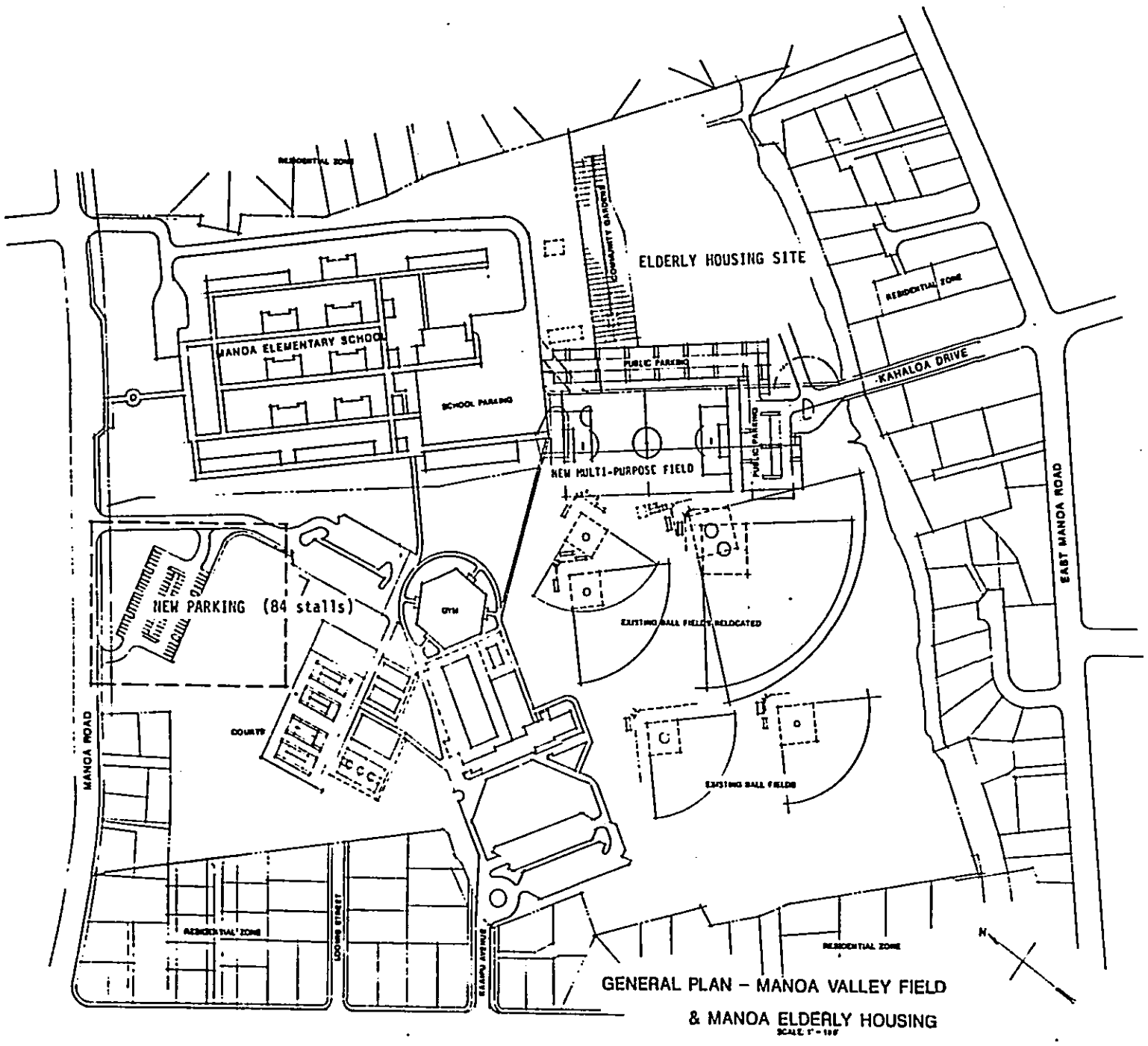


GENERAL PLAN – MANOA VALLEY FIELD
& MANOA ELDERLY HOUSING

EXHIBIT 1

of Manoa Road (Exhibit 1). More specifically, we are proposing the following:

1. New Site (6 acres) (Exhibit 2)

   a. Elderly Housing: ±80 studio and one-bedroom units in eight 2-story, multi-plex wooden structures on approximately 3 acres. An activity room, common areas and parking will be provided for the tenants within the 3-acre elderly housing complex. Exhibit 3 shows the probable floor plans.

   b. Community Gardens: There are currently 96 community garden plots on roughly 34,500 square feet of land in the lower portion of the site. The gardens will be relocated to the ewa side of the new site and contain 96 plots plus space for a tool shed. The new gardens will be elevated to eliminate, or at the least alleviate, the seasonal flooding problems which now render many plots unusable. A fence may be erected around the perimeter of the gardens for security.

   c. Park Expansion: A new multi-purpose field will be provided on about two acres below the elderly housing complex. The existing parking (140 stalls) will be replaced adjacent to the new field. Approximately two acres will be added to the existing 30-acre park.

2. Existing Park

   a. Additional Parking: 84 new parking stalls will be added near the tennis courts on a diagonal axis to Manoa Road.

   b. The existing parking lot below the gardens will be reconfigured and two of the existing ball fields adjusted to accommodate the new multi-purpose field.

C. Estimated Development Cost/Funding

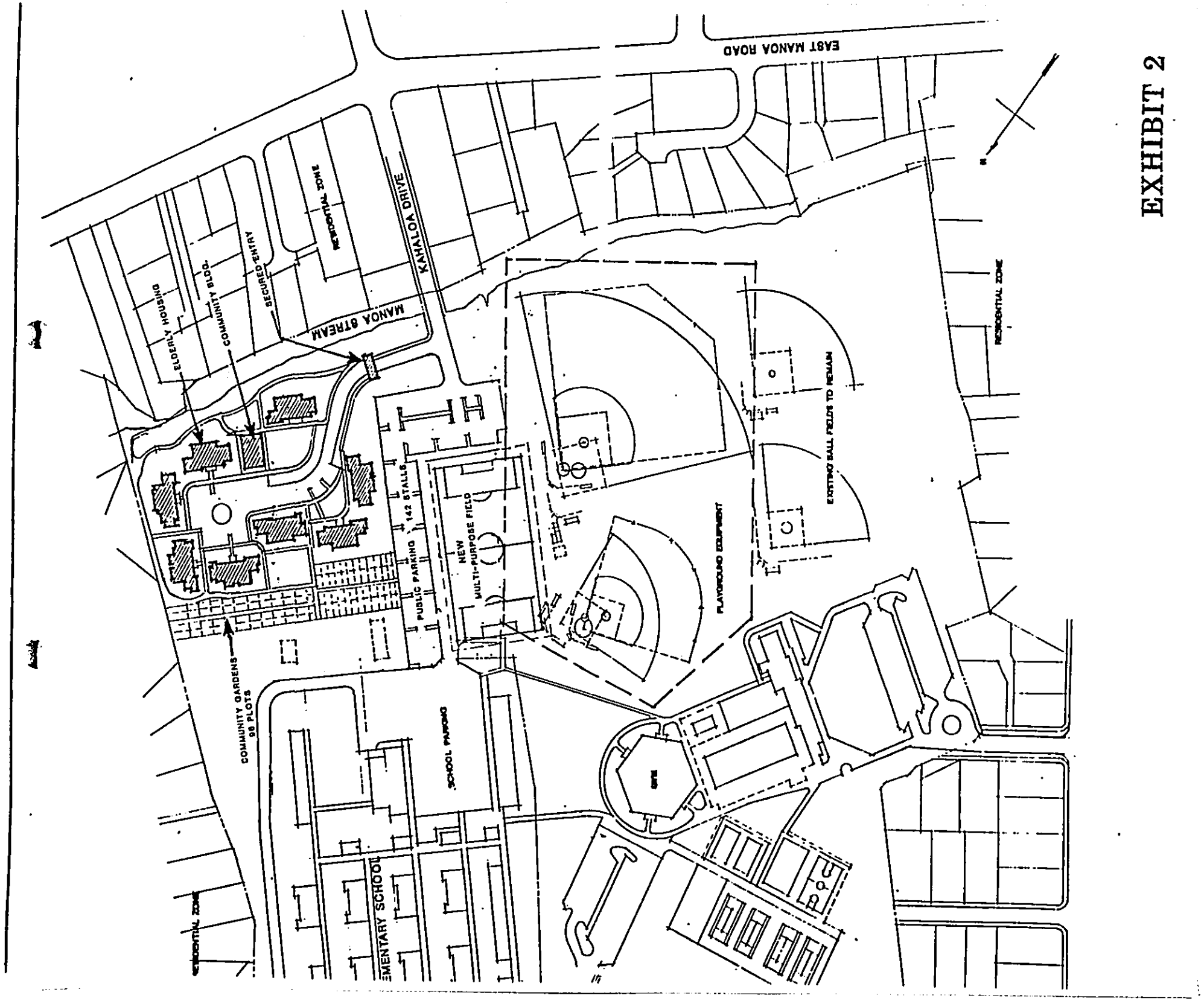
The total development cost is estimated to be $7 million and will be financed from the City Housing Development Special Fund and general obligation bonds. Upon completion of the residential units, federal Community Development Block Grant (CDBG) funds may be loaned to a nonprofit corporation to purchase some of the units for rent to eligible elderly households.

D. Site Information Summary

Geographic Area: Manoa

Tax Map Key: 2-9-36: Portion of 3

EXHIBIT 2



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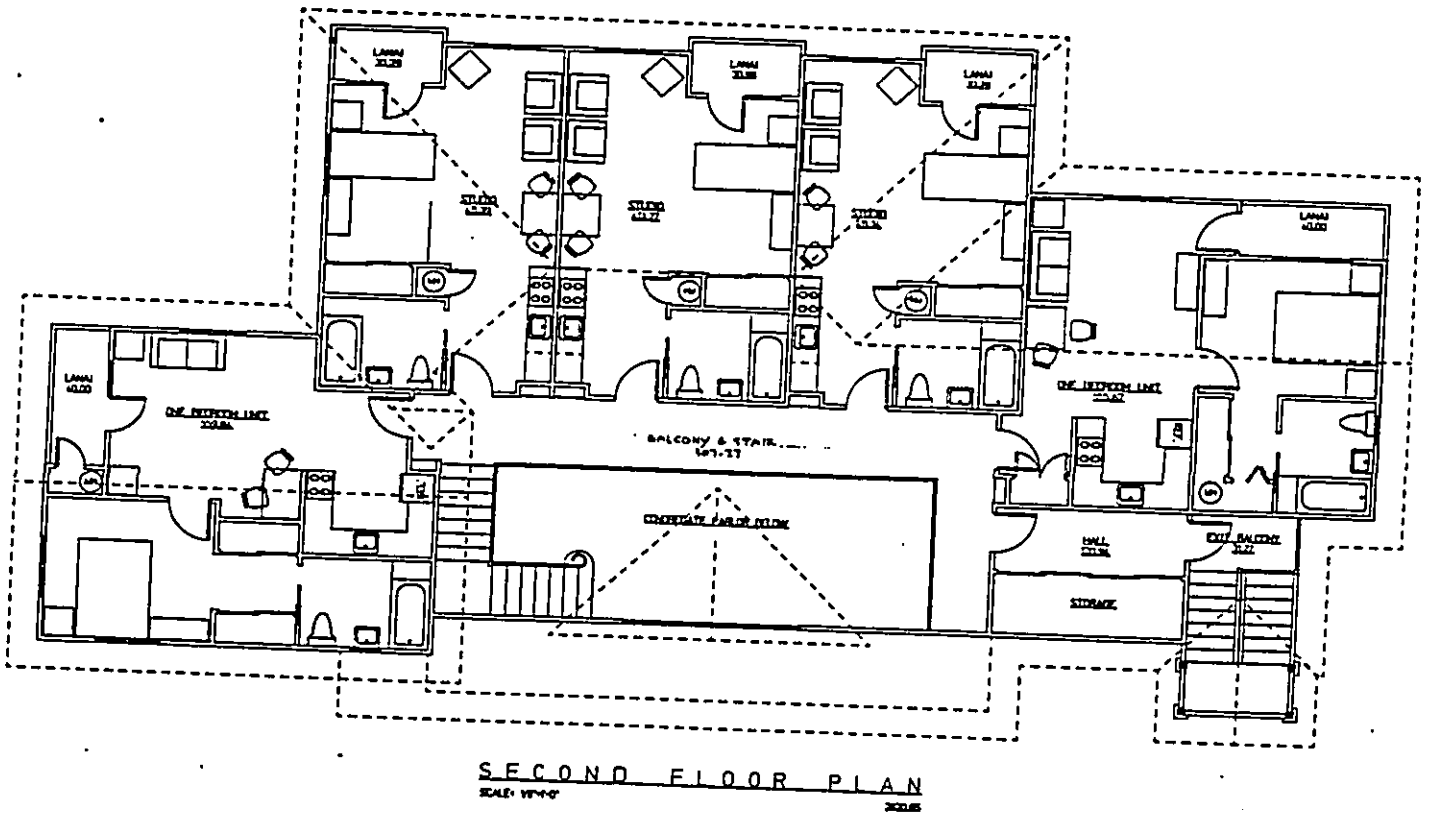
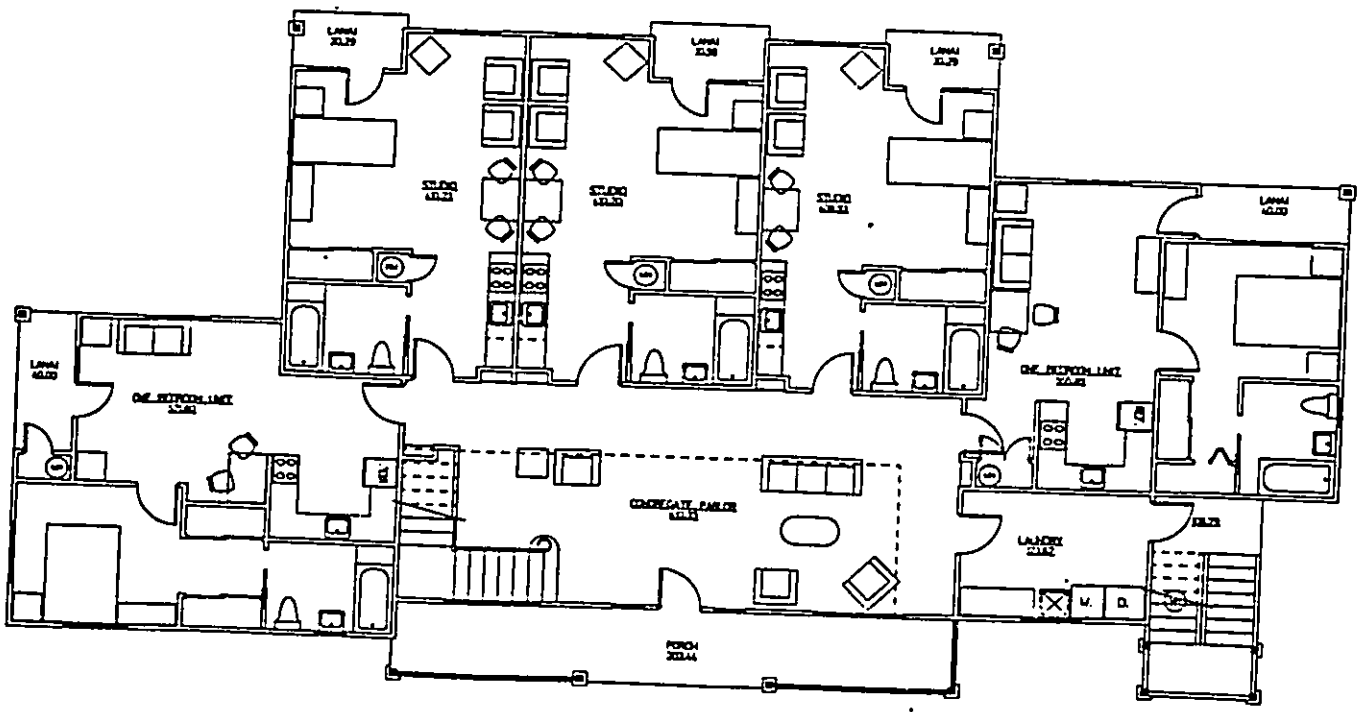


SECOND FLOOR PLAN



FIRST FLOOR PLAN

EXHIBIT 3

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Area:	6 Acres (new site) 30 Acres (existing park)
Ownership:	City and County of Honolulu
Site Description:	Level parcel generally bounded by Manoa Stream, Manoa Elementary School and Lowrey Avenue.
State Land Use Development Plan:	Urban Public (new site) Parks and Recreation (existing park)
Zoning:	R-7.5 Residential District (new site) P-2 General Preservation (existing park)
Floodplain:	Portion of parcel in new site abutting stream in 100-year flood zone (Zone X). Exhibit 4.
Existing Land Use:	New site is vacant with community gardens and parking lot in the makai portion of the site. Public park.
Surrounding Land Uses:	Single-family residential and elementary school.

III. This environmental assessment is prepared in compliance with the U.S. Department of Housing and Urban Development (HUD) and State of Hawaii environmental review requirements (Form HO-EA86).

IV. FINDINGS AND CONCLUSIONS RESULTING FROM THE ENVIRONMENTAL REVIEW

A. Environmental Finding

X Finding of No Significant Impact on the Environment (FONSI)

___ An Environmental Impact Statement is required.

B. Agencies/Interested Parties Consulted

See Appendix I.

C. Alternatives Considered

1. No Action

The majority of the new site (6 acres) is vacant except for community gardens and a parking lot. If the project is not implemented, many of the garden plots will continue to get flooded, the park will not be expanded, the current overcrowded parking situation at the park will not be alleviated and the opportunity to provide much needed housing units for the elderly will not be realized.

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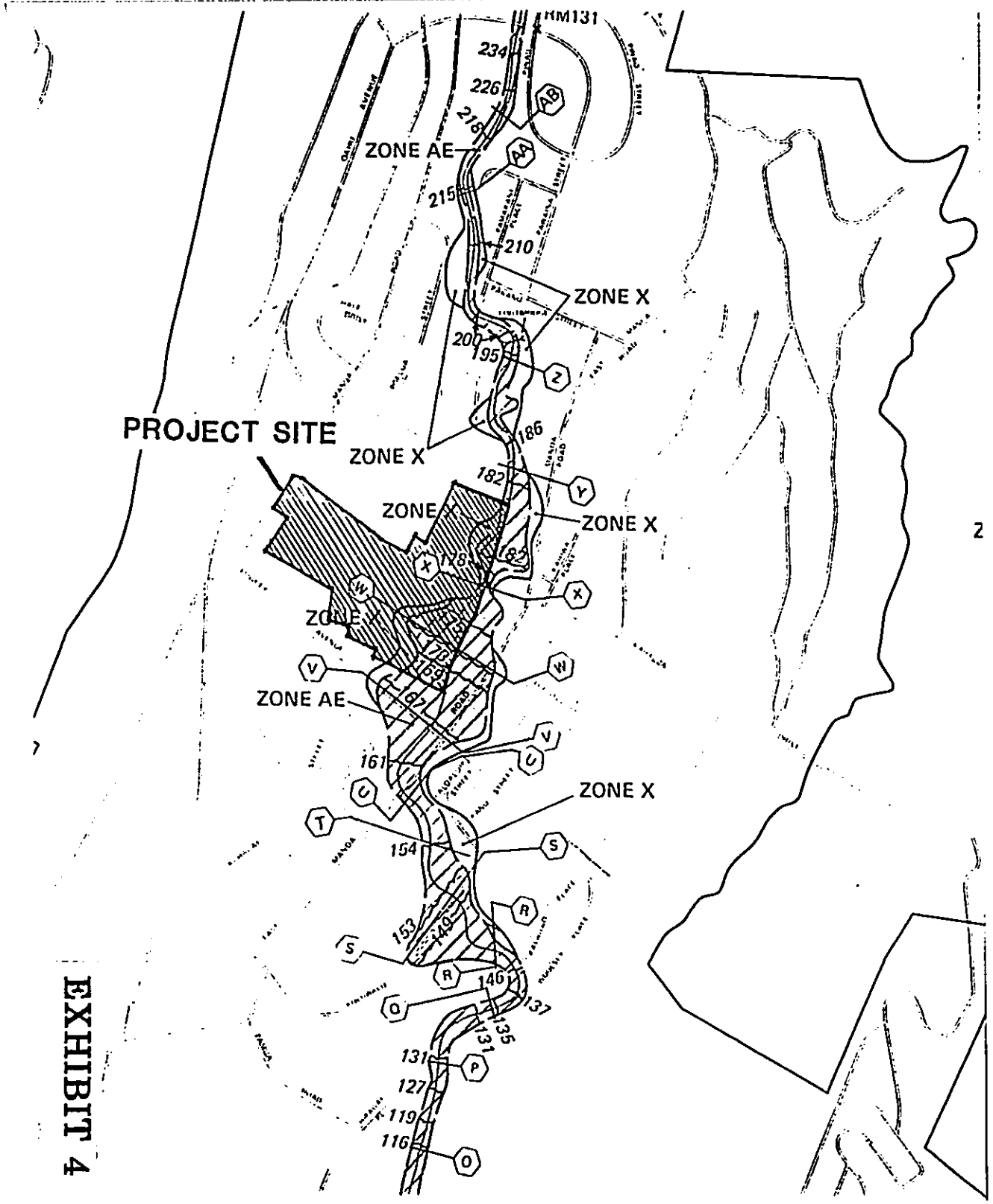


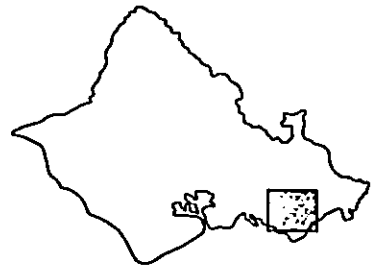
NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY AND COUNTY OF
HONOLULU,
HAWAII

PANEL 120 OF 135
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER
150001 0120 C

MAP REVISED:
SEPTEMBER 4, 1987

Federal Emergency Management Agency

EXHIBIT 4

2. Alternative Sites

The DHCD investigates sites around the island for potential housing projects. Where feasible, the Department attempts to develop those sites to house lower-income families or people with special living needs.

In Manoa, 15 sites were identified for potential housing projects. Of the five City-owned sites (Exhibit 5), all were either in park use or designated watershed and forest reserves areas. Eight of the parcels are owned by the University of Hawaii, whose representatives indicated a master plan has already been approved for the sites and they are not willing to relinquish their land. Development of the privately owned sites was economically infeasible due to high land or site preparation costs.

The proposed site was considered the most desirable due to its size, topography, proximity to bus lines and shopping areas and immediate availability.

3. Alternative Uses

There is a tremendous need for housing of all types on Oahu, particularly for people with special living needs, such as the physically and mentally handicapped, troubled youth, AIDS victims and single-parent families. There is also a demand for additional public recreation facilities as evidenced by the heavy usage of most public parks on the island. Considering the general character of the area and community sentiment, elderly housing and park uses were deemed the most appropriate uses of the site.

Based on an analysis of the alternatives considered, it is determined that there are no practical alternatives to the proposed development.

D. Special Conditions imposed or actions taken to achieve compliance with HUD, other federal authorities or local policies and standards:

Public notice published January 11, 1990 in accordance with Executive 11988 on floodplain management. Flood insurance will be required if CDBG funds are used and the units are constructed within the floodplain boundaries.

V. IMPACT CATEGORIES

The following criteria is used to rate the level of impact the project will have on the various categories:

1 - Potentially beneficial impact.
2 - No impact anticipated.
3 - Minor adverse impacts anticipated.

CITY-OWNED PROPERTY IN MANOA

	Tax Map Key	Address	Area	Existing Use	Site Constraints
1.	2-9-3: 6	University & Kaala	89,210 s.f.	Park (Kamanele Square)	
2.	2-9-7: 16	Manoa Road	35,709 s.f.	Park (Manoa Triangle)	Too small. Irregular shape.
3.	2-9-23: 23	Woodlawn Drive	8.57 Acres	Noelani School (4 Buildings)	Jurisdiction of the site under the State. Availability undetermined.
4.	2-9-36: 3	Manoa Road	2 Acres	Grassed Area	Designated for passive park.
5.	2-9-54: Various	Off Waaloa Way	---	Watershed and forest reserve.	BWS will not allow development.

EXHIBIT 5

a. Short Term
b. Long Term

4 - Adverse impact. Requires mitigation.
5 - Adverse impact. Requires modification to project/activity.

A. Land Development

1. Conformance with Comprehensive Plans and Zoning

Rating: 4 - Adverse Impact - Requires Mitigation

Sources: Department of General Planning letter of August 8, 1989

Existing Land Use Files

The subject site has the following land use designations:

State Land Use:	Urban
Development Plan (PUC):	Public (new site) Parks and Recreation
Zoning (Map #3):	R-7.5 - Residential (new site) P-2 General Preservation District

The current land use designation was assigned to allow development of a school, the use for which the site was originally acquired. The proposed elderly housing component of the project is not in conformance with the Development Plan and zoning designations. The DHCD will request City Council approval to waive these land use restrictions under the provisions of Chapter 201E, Hawaii Revised Statutes (HRS).

2. Compatibility and Urban Impact

Rating: 2 - No Impact Anticipated

Sources: Office of Human Resources letter of July 26, 1989

L. Freitas letter of August 16, 1989

D. Borchardt letter of August 16, 1989

Field Observation

The proposed project will be an expansion of the surrounding residential and park areas. The proximity of the housing component to the school and park encourages interaction between the elderly tenants and youngsters at the school which could have mutually beneficial effects on both groups.

Residents of the Manoa community have expressed concerns that elderly housing and park uses are not compatible as the elderly,

in general, cannot tolerate noise generated by the park users. Measures to mitigate potential noise problems are addressed in Section VI.G.

3. Slope;
4. Erosion; and
5. Soil Suitability

Rating: 2 - No Impact Anticipated

Sources: U.S. Department of Agriculture, "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii," August 1972

Soil Reports prepared by Fewell Geotechnical Engineering, Ltd., May 21, 1990 and June 11, 1990 (Appendix II)

Field Investigation

Soil categories:

Slope - 0 - 2%
Permeability - Moderate
Runoff - Very Slow
Erosion Hazard - Slight
Shrink-Swell Potential - Moderate

The U.S. Conservation Service classifies the soil as Hanalei silty clay, 0 to 2 percent slopes (HnA). This series consists of poorly drained soils on bottom lands. These soils developed in alluvium derived from basic igneous rock. They are level to gently sloping. Elevations range from nearly sea level to 300 feet. The annual rainfall amounts to 20 to 120 inches.

In a representative profile, the surface layer, about 10 inches thick, is dark-gray and very dark gray silty clay that has dark-brown and reddish mottles. The subsurface layer is very dark gray and dark-gray silty clay about 3 inches thick. The subsoil, about 13 inches thick, is mottled, dark-gray and dark grayish-brown silty clay loam that has angular blocky structure. The substratum is stratified alluvium. The soil is strongly acid to very strong acid in the surface layer and neutral in the subsoil.

There is no evidence of potential hazards from landslides, falling rocks or other unstable slope conditions. The site will be graded according to the City's grading and construction standards, subdivision rules and regulations and recommendations from the soil reports prepared for the project.

Construction activities will be in compliance with State Department of Health regulations for community and vehicular noise control.

6. Hazards and Nuisances, Including Site Safety

Rating 2: 2 - No Impact Anticipated

Source: Department of Land and Natural Resources letter of August 28, 1989

Field Observation

There is no evidence of unusual topographic features on the project site that could produce risks from natural hazards such as geologic faults, flash floods, volcanic activity, mud slides and fires.

There are no unwarranted risks from man-made hazards such as inadequate separation of pedestrian and vehicular traffic, lack of traffic control, visual obstructions to traffic, or presence of hazardous materials in the surrounding area.

7. Energy Consumption

Rating: 2 - No Impact Anticipated

The project site is located in an improved subdivision. Existing electrical and telephone utilities are adequate to service the proposed project.

B. Environmental Design and Historic Values
(Visual Quality - Coherence, Diversity, and Scale)

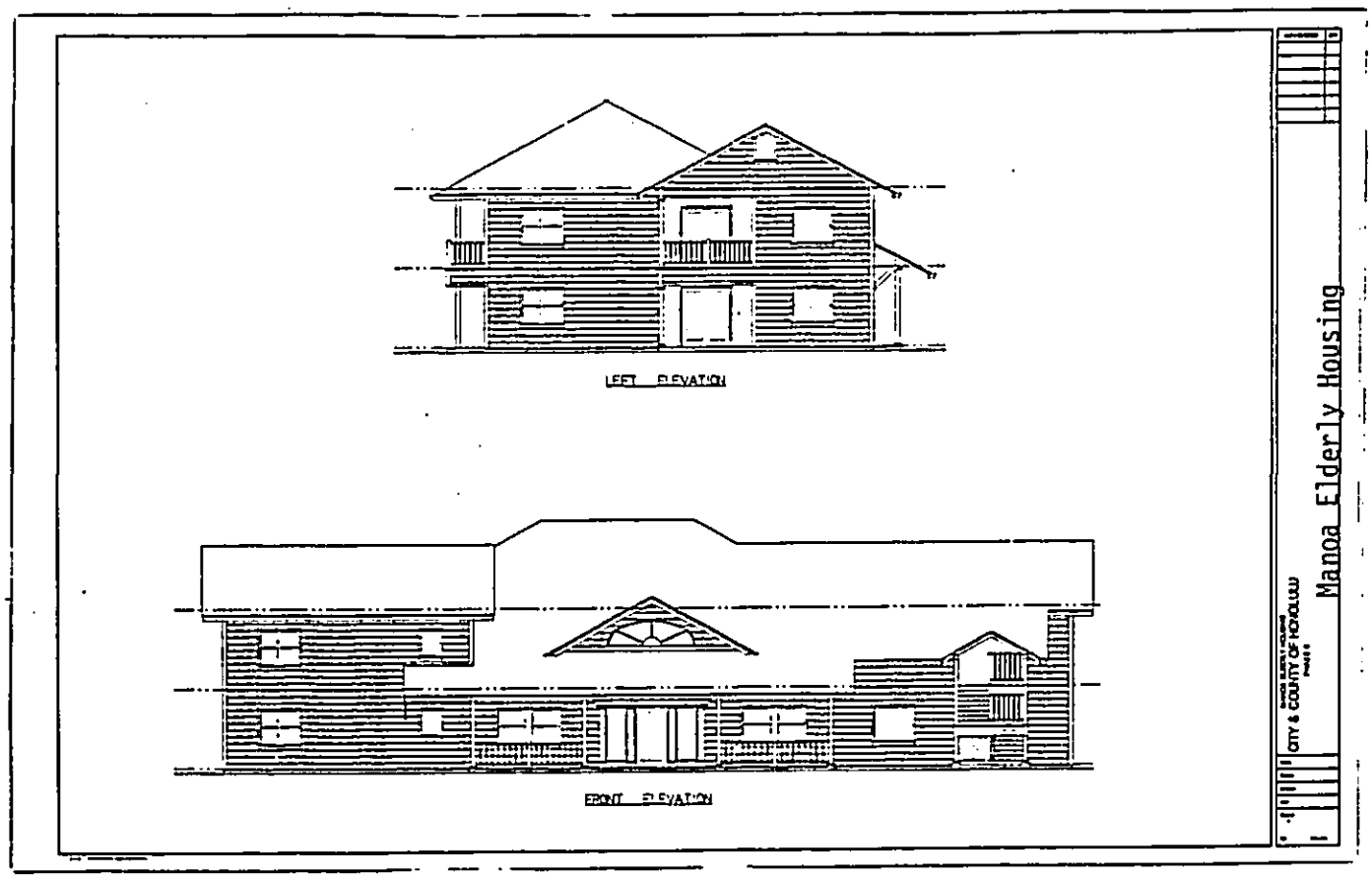
Rating: 1 - Potentially Beneficial Impact

Source: Field Observation

The proposed elderly housing, consisting of eight 2-story wooden structures, was designed to blend in with the surrounding homes. Exhibit 6 provides elevations of the structures. Each building will contain 10 studio and one bedroom units with a lounge area for the tenants which could also be used as a visiting room.

The community gardens will be relocated on the ewa side of the property, providing a natural buffer between the school and housing. A fence may be constructed around the gardens for security purposes. The presence of the gardens will also create a feeling of openness for the tenants.

The existing parking lot on Kahaloa Drive will be moved up a little and abut the housing complex. The new parking lot will be adequately


LEFT ELEVATION
FRONT ELEVATION
Manoa Elderly Housing
CITY & COUNTY OF HONOLULU

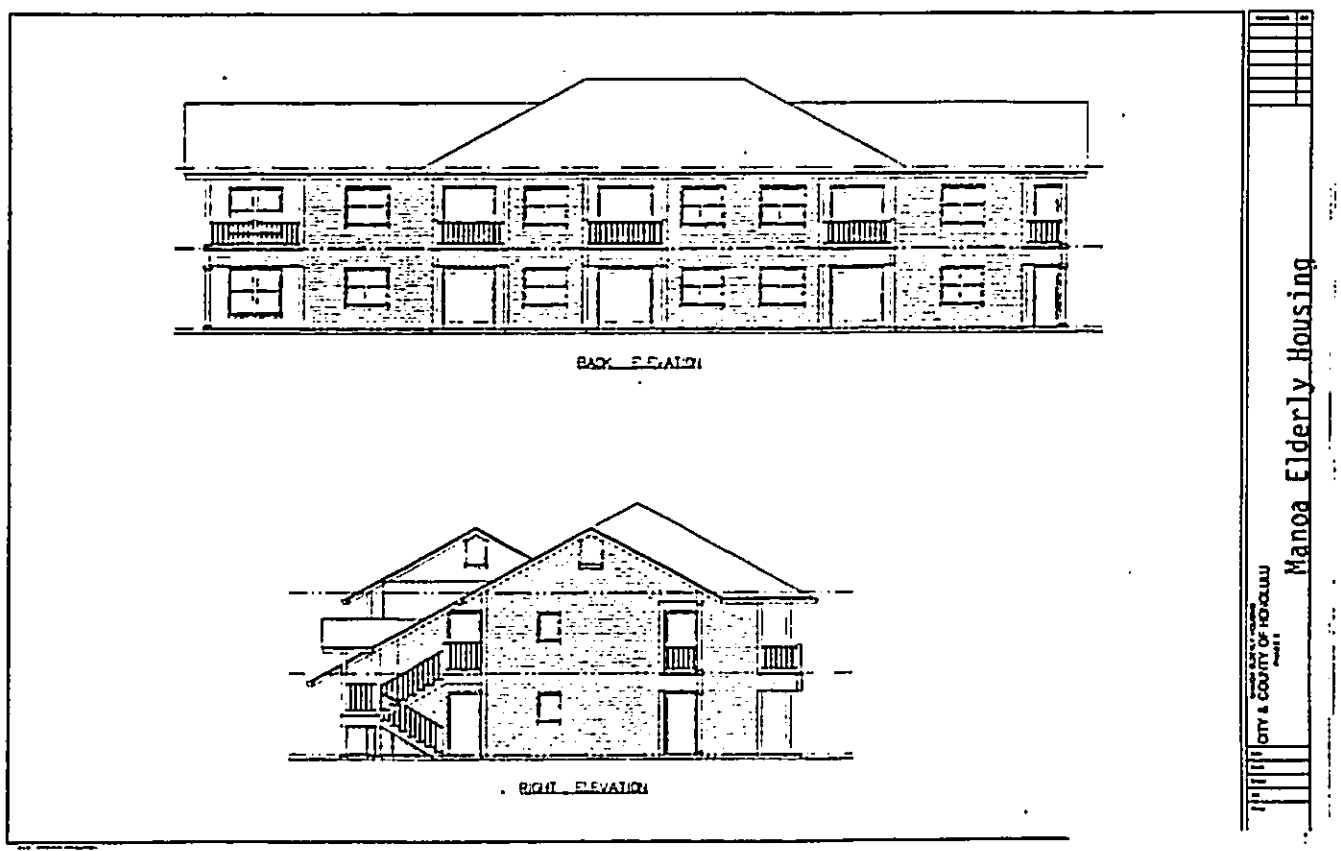

BACK ELEVATION
RIGHT ELEVATION
Manoa Elderly Housing
CITY & COUNTY OF HONOLULU

EXHIBIT 6

landscaped and provide a buffer between the park and elderly housing complex.

The new multi-purpose field will be located below the parking lot, contiguous to the existing ball fields.

C. Socio-Economic

1. Demographic/Character Changes

Rating: 2 - No Impact Anticipated

Sources: State of Hawaii Data Book, 1989

J. McLaren letter of August 26, 1989

U.S. Department of Commerce, Bureau of Census, 1960, 1970

The proposed project will add roughly 100 elderly persons to the Manoa community. This is a negligible increase to the 24,052 people living within the boundaries of the Manoa neighborhood board area as of 1988, the most recent year for which data is available.

The population, in general, is getting older. Since 1960, the median age of Hawaii residents has steadily increased from 24.3 years of age to 31.9 years in 1988. The elderly segment of the population (65 years and older) has been the fastest growing age cohort. In 1960, there were 28,304 senior citizens who comprised 4.5 percent of the total State population of 632,800. By 1988, the number of elderly quadrupled to 114,000 and made up 10.4 percent of the total State population of 1,098,000. These trends are expected to continue as medical advancements are made and people become more health conscious.

Similar trends have likely occurred in Manoa. According to Department of Education (DOE) statistics, the peak enrollment at Manoa Elementary School was in 1960 with 1,400 students (Noelani School did not exist until 1962). Both schools are currently operating at full capacity (approximately 500 students at each school) due mainly to the number of district exceptions, which has increased substantially since 1980.

The proposed project will add to the suburban character of the area. The existing park will be expanded to accommodate the demand for recreational space by sports organizations for youths. The housing area will be well landscaped to create a natural, park like setting and blend in with the surrounding homes.

2. Displacement

Rating: 1 - Potential Beneficial Impact

Sources: Topographic Survey

Field Observation

The new site is vacant, except for the community gardens which occupy roughly 34,500 square feet and contain 92 garden plots. Approximately 96 new plots will be provided on the ewa side of the site.

3. Employment and Income Patterns

Rating: 2 - No Impact Anticipated

Source: Existing Land Use Maps

The new tenants will be elderly and the majority of them probably retired. However, for the working tenants, there are numerous employment opportunities in the immediate area as well as nearby communities.

The intended economic mix of tenants is currently divided equally among low income, gap group and market level elderly individuals and families. The U.S. Department of Housing and Urban Development currently limits income levels by family size as follows:

	1 Person	2 Persons	3 Persons
Low Income (50% of Median)	$14,400	$16,500	$18,550
Gap Group	$34,560	$39,600	$44,400

The proposed project is not expected to significantly alter the employment and income patterns in the area.

D. Community Facilities and Services

1. Educational Facilities

Rating: 2 - No Impact Anticipated

Sources: "Public and Private School Enrollment," DOE, September 1985

Manoa Elementary, Noelani, Stevenson Intermediate and Roosevelt High Schools are the public schools available to serve the residents of Manoa Valley. There will not be any impact on the

existing public schools as a result of the proposed project due to the type of intended tenants.

The Manoa campus of the University of Hawaii is also available and directly on the public bus line.

2. Commercial Facilities

Rating: 2 - No Impact Anticipated

Source: Existing Land Use Map

Field Observation

In addition to the shopping facilities at Manoa Market Place and on East Manoa Road approximately one mile from the project area, the Ala Moana Shopping complex provides a wide range of goods and services for consumers islandwide. The proposed project should result in increased sales at the local retail facilities.

3. Health Care

Rating: 2 - No Impact Anticipated

Sources: Existing Land Use Map

Field Observation

The central location of the site enables quick and easy access to most of the major medical facilities on the island, including:

Queens Hospital on Punchbowl Street
Straub Hospital and Clinic on Ward Avenue and King Street

Both of these facilities provide a full range of medical services, including 24-hour emergency service, and are 5 to 10 minutes away from the site. There is also an optometrist and shiatsu/chiropractic office in Manoa Valley.

4. Social Services

Rating: 2 - No Impact Anticipated

Source: Existing Land Use Map

Field Observation

Services provided by governmental social service agencies in such categories as child care, adult assistance and family services are available from the State Department of Social Services and Housing located on Punchbowl Street. Also, on

Bethel Street, a public welfare unit offers aid for food, shelter and utility payments. Other public resource groups, such as child and family service, also offer various types of aid to those in need.

The Manoa Inter-Church Service and Outreach (MISO) organization, comprised of nine churches and religious organizations in the Manoa area, also provides social services to the community.

5. Solid Waste

Rating: 2 - No Impact Anticipated

Source: Department of Public Works

Public refuse collection is available bi-weekly.

6. Wastewater

Rating: 2 - No Impact Anticipated

Sources: Department of Public Works letter of August 1, 1989

Department of Health letter of August 11, 1989

The Department of Public Works has stated that the existing sewer system in Manoa is available and adequate to serve the proposed development. There is an existing 15" line running through the project site parallel to the Manoa Stream which the project will connect to. The wastewater will be conveyed to the Sand Island Sewer Treatment Plant which is maintained by the City and serves a major portion of the Honolulu district.

Based on an average occupancy of 1.5 persons per unit, the average sewage output is estimated to be 9,600 gallons per day. A minimum 6" line will be provided.

7. Storm Water (Drainage)

Rating: 1 - Potentially Beneficial Impact

Source: Field Observation

There is an existing auwai behind the project site which carries storm runoff from Manoa Road to the Manoa Stream. Occasional flooding currently renders many of the garden plots unusable. The parking lot near the tennis courts also ponds during heavy rains.

The proposed project will probably increase the total runoff by decreasing the available percolation area. The increase in

runoff is not anticipated to create adverse damage or erosion problems based on the following conditions.

a. The site will be adequately landscaped and absorb water and retain the soil; and

b. The site will be graded and include necessary swales to carry storm water to the adjacent flood control channel and alleviate flooding at the parking lot and gardens.

The State Department of Accounting and General Services is constructing a 48" covered drain behind Manoa Elementary School from Manoa Road to the beginning of the project boundary. The City will continue the new drain as part of the proposed project. Other drainage improvements will be constructed as required by the drainage study currently being prepared for the project.

8. Water Supply

Rating: 2 - No Impact Anticipated

Source: Board of Water Supply letter dated August 9, 1989

Honolulu Fire Department letter of August 3, 1989

An existing 12-inch main on Kahaloa Drive is available and adequate to serve the proposed project. Based on an average daily demand of 400 gallons per day (gpd), the water demand for the project is estimated to be 32,000 gpd. A minimum 8" water line will be installed to meet BWS standards for fire flow.

Construction plans will be coordinated with BWS and submitted for final review and approval.

9. Public Safety

a. Police

Rating: 2 - No Impact Anticipated

Source: Police Department letter dated July 31, 1989

Major access routes to the project site are adequate and available from all existing streets. The Pawaa Police Station provides coverage in the Central Honolulu area with an average response time of 7 to 10 minutes. The HPD has indicated that the proposed project will not significantly impact the service to the area.

Adequate lighting will be provided at the project site and security measures observed to prevent vandalism and increase security.

The elderly housing will have a secured entrance and onsite security. In addition, each unit will be provided with an emergency signaling system. The tenants may provide some degree of security for the surrounding homes by virtue of their presence during the day.

b. Fire

Rating: *2 - No Impact Anticipated*

Source: Fire Department letter dated August 3, 1989

The Fire Department has indicated that there will be no adverse impact on their services due to the proposed project. Fire protection services are adequate and will be furnished by one engine company and one ladder company from the Manoa Fire Station, located on East Manoa Road, with supporting services from the University and Makiki Fire Stations. The response time is 3-5 minutes.

Adequate access for emergency vehicles is available from Kahaloa Drive and will be provided within the elderly housing complex. BWS standards for fire flow will be complied with.

10. Open Space, Recreation and Cultural Facilities

Rating: 1 - Potentially Beneficial Impact

Sources: Department of Parks and Recreation letters of July 31, 1989 and August 22, 1988

L. Freitas letter of August 16, 1989

The existing Manoa Valley Field covers nearly 30 acres and contains the following:

- Gymnasium
- Recreation building with a kitchen, arts and crafts room, office and multi-purpose room
- Swimming pool
- Basketball/volleyball courts (lighted)
- Tennis courts and back board
- Softball fields
- Baseball field (lighted)

The facilities are used year-round by organized sports groups for children and adults, as well as the general public.

The proposed project will expand the existing park by approximately 2-1/2 acres and add a multi-purpose field and 84 new parking stalls by the tennis courts. In addition, 96 garden plots will replace the existing plots.

Based on the Park Dedication Ordinance, approximately 9,000 square feet should be provided as recreation space for the elderly tenants. Garden plots and passive park areas will be provided for the tenants. Additional recreational and social activities may be arranged for the tenants on site.

Natural recreational amenities include the Lyon Arboretum, the 0.8 mile Manoa Falls trail and the 3-mile Manoa Cliff trail which ends at Tantalus Drive.

11. Transportation

Rating: 2 - No Impact Anticipated

Source: Department of Transportation Services letter of August 14, 1989

State Department of Transportation letter of August 4, 1989

Field Observation

Adequate vehicular access to the elderly housing complex will be provided from East Manoa Road via Kahaloa Drive. Secondary access will also be available from Manoa Road.

Traffic counts taken by the DTS between November 30, 1989 and December 5, 1989 indicate that a large number of people enter the school/park area from Manoa Road and exit through Kahaloa Drive (see Appendix III). The bulk of the traffic is from parents picking up or dropping off children at the school as evidenced by the substantial decrease in traffic over the weekend period. The proposed project is not expected to significantly affect the existing traffic, except if new programs are scheduled for the multi-purpose field.

The City's Land Use Ordinance (LUO) requires 1 parking stall per unit plus 10 percent for guest parking. However, a survey of public elderly housing projects in Honolulu shows that only about 15 percent of the tenants actually have cars (or 1 out of 7 units). The table below shows the projects surveyed and the number of parking stalls actually used by the tenants.

CAR USAGE AT ELDERLY HOUSING PROJECTS IN HONOLULU

	Project	Units	Parking Provided Tenant	Parking Provided Visitor	Actual Use Tenant	Actual Use Visitor	Actual Use Other	% of Tenants w/Cars	Ratio
1.	Kalanihuia (Aala Park)	151	27	15	15	17	10	10%	1:10
2.	Makamae (Nuuanu)	124	16	13	8	17	4	6%	1:16
3.	Punchbowl Homes (Kalihi)	144	38	15	31	22	0	22%	1: 5
4.	Makua Alii (Kalakaua)	210	14	21	22	13	0	11%	1:10
5.	Paokalani (Kalakaua)	151	3	15	11	7	0	7%	1:14
6.	Midrise (Kalakaua)	122	24	12	28	8	0	23%	1: 4
7.	Kapuna I (Palama)	161	50	16	40	26	0	25%	1: 4
	TOTAL	1,063	172	107	155	110	14	15%	1: 7

The DHCD will be requesting a waiver from the LUO parking requirements to allow provision of 40 stalls. Approximately 84 new parking stalls will be provided above the tennis courts off Manoa Road, which was requested by the community to alleviate the crowded parking conditions on weekends. The existing parking lot off of Kahaloa Drive containing 140 stalls will be relocated in the new site below the elderly housing complex.

Adequate public transportation is available via Bus Route No. 6, Woodlawn Drive, which stops a short distance away on East Manoa Road. The bus system provides service to all areas at scheduled intervals of 20 to 30 minutes. On Sundays, the interval lengthens from 40 to 60 minutes.

E. Natural Features

1. Water Resources

Rating: 2 - No Impact Anticipated

Source: Board of Water Supply, Geology Section

Department of Land and Natural Resources letter of August 28, 1989

The proposed project is located adjacent to Manoa Stream. The proposed plans do not call for any alterations to the stream and the Department of Land and Natural Resources has stated that they do not have any objections to the proposed project. Appropriate measures will be taken to ensure that pollutants do not harm the stream.

The Board of Water Supply (BWS) periodically drills wells in search of new water sources to support the Pearl Harbor Ground Water Control Area. An exploratory well was drilled near the stream, mainly for irrigation purposes. The well was capped due to low output and will not be used unless there is a severe shortage of water. Structures are not proposed to be built over the well.

The soil investigation conducted by Fewell Geotechnical Engineering, Inc., did not find any evidence of subsurface water features.

2. Surface Water

Rating: 1 - Potentially Beneficial

Source: Field Observation

Ponding often occurs in the project area due to the topography and auwais running along the boundaries of the site, which empty into the Manoa Stream. An underground drain will be constructed along the mauka edge of the site, connecting to the 48" drain being constructed by the State, which will empty into Manoa Stream. The City will install storm drains and grade the area in accordance with the drainage study being prepared for the project and the Department of Public Works standards.

VI. STATUTORY CHECKLIST/HUD STANDARDS

A. Historic Properties

Rating: 2 - No Impact Anticipated

Sources: Department of Land and Natural Resources, Division of Historic Preservation

DHCD Letter of December 14, 1989

Field Observation

The project site is not listed on the State or National Registers of Historic Sites, nor has it been nominated for inclusion on said

registers. The staff of the Department of Land and Natural Resources (DLNR), Division of Historic Preservation has stated that it is unlikely that there are any significant subsurface archaeological remains on the site. However, if any archaeological or skeletal remains are found during construction, the contractor will be required to stop construction and notify the DLNR immediately.

B. Floodplain Management

Rating: 2 - No Impact Anticipated

Sources: Department of the Army letter of August 10, 1989

"Flood Insurance Rate Map, City and County of Honolulu," Panel 120 of 135, September 1987

Federal Emergency Management Agency, Flood Insurance Study, City and County of Honolulu, Hawaii, Vol. 1, September 4, 1987

A portion of the proposed project site is located within a designated flood zone as shown on Exhibit 4. The base flood elevation for the stream is 182 feet at the mauka portion to 178 feet at the bridge on Kahaloa Drive.

Little information on damage due to the flooding of Manoa Stream is available. However, a study conducted by the Federal Emergency Management Agency states the following:

> "Principal flood problems associated with Manoa Stream are due to inadequate capacities at several locations, especially at the numerous bridge crossings (twelve). At the higher area, from Paradise Park to Manoa Elementary School, the steep, sloping channel results in shallow, rapid, supercritical flows and minimal flooding. In the lower portion, the flatter terrain causes higher-level, slower-moving, subcritical flows which, when coupled with several bridge constrictions, do create a greater flooding potential. The Woodlawn area is particularly susceptible to flooding."

The segment of the stream adjacent to the project site has never been known to flood.

Structures will not be built within the designated flood limits. A notice informing the public of a proposed action within a designated floodplain was published in the Honolulu Advertiser on January 11, 1990. No comments were received.

C. Coastal Zone

Rating: 2 - No Impact Anticipated

Sources: Chapter 205A, Hawaii Revised Statutes

A review of the proposed project does not conflict with the objectives of the Hawaii Coastal Zone Management Program as provided in Chapter 205A, HRS.

D. Endangered Species

Rating: 2 - No Impact Anticipated

Sources: U.S. Department of the Interior, Fish and Wildlife Service letter of July 28, 1989

Department of Land and Natural Resources

Field Observation

There are no rare or endangered species which will be affected by the proposed project.

E. Farmland Protection

Rating: 2 - No Impact Anticipated

Sources: Department of Agriculture letter dated August 17, 1989

Field Observation

The project site is not classified as prime agricultural lands.

F. Air Quality

Rating: 3a - Minor Short Term Adverse Impacts Anticipated

Sources: Field Observation

Existing Land Use Map

The project site is located in a residential subdivision, away from major, heavily utilized roadways which would indicate the presence of high levels of vehicle-generated airborne pollutants. A site visit revealed no evidence of stationary sources of air pollutants such as power plants, sugar mills and industrial manufacturing.

Temporary adverse impacts may be caused during construction activities by dust and heavy equipment. However, frequent watering of the site during grading and excavation in accordance with Title 11, Department of Health Administrative Rules, Chapter 60, "Air Pollution Controls," Section 5, "Fugitive Dust," will minimize the release of fugitive dust into the immediate environment.

The proposed project does not include activities or uses which will adversely impact ambient air quality in the long term.

G. Noise

Rating: 3 - Minor Adverse Impacts

Sources: Field Observation

Existing Land Use Map

Short term increases in ambient noise levels resulting from construction related activities are anticipated. The building contractor will be required to comply with Title 11, Department of Health Administrative Rules, Chapter 43, "Community Noise Controls for Oahu" and Chapter 42, "Vehicular Noise Control for Oahu."

There are no high speed or highly utilized roadways near the project site which would indicate the presence of high levels of vehicular noise. East Manoa Road, one of the major thoroughfares leading into the valley, is roughly 400 feet from the proposed elderly housing units and will not impact the project. A site inspection revealed no evidence of stationary noise sources such as air conditioning units, compressors, industrial machinery or power generating stations.

The Manoa Valley Field is heavily utilized in the afternoons and on weekends. Natural buffers will be constructed between the elderly housing complex and parking lot to absorb some of the noise generated by the park activities. The units are situated in the mauka portion of the site where prevailing tradewinds will carry noise away from the housing site. Additionally, the units will be designed to minimize noise impacts on the tenants. Prospective tenants will be informed of potential nuisances from park activities prior to signing of rental agreements.

The presence of an additional field will increase noise levels at the park. Activities and uses of the elderly housing complex will not significantly impact ambient noise quality in the long term.

VII. DETERMINATION

Based on the findings and results of the environmental review, it is determined that the proposed project will not have a significant negative impact on the quality of the environment and that an Environmental Impact Statement (EIS) is not required. The reasons supporting this determination are:

A. The number of units to be emplaced by this project is far below the threshold (2,500 units) which would require the preparation and dissemination of an environmental impact statement under the provisions of Section 58.37, Federal Register, Volume 47, No. 70 dated April 12, 1982 (federal environmental review regulations).

B. The potential environmental impacts of this project will be mitigated or do not significantly affect the quality of the human environment:

1. A portion of the proposed project site is in a designated floodplain. However, the project does not include any activities which will be constructed in or adversely impact the floodplain.

2. Short term increases in noise levels attributable to construction related activities will be mitigated through compliance with Title 11, Administrative Rules, Department of Health, Chapter 43, "Community Noise Controls for Oahu."

   Noise impacts on the future tenants of the elderly housing will be reduced by constructing buffers between the housing and park areas and the design of the units.

3. Escape of fugitive dust into the environment will be minimized by frequent watering of the project site during clearance and excavation.

C. The proposed project will have beneficial impacts for: (1) the elderly by providing much needed affordable rental housing units; (2) the general community by adding a new multi-purpose field, additional parking stalls and reducing the occasional ponding at the existing fields; and (3) the community gardeners by relocating the gardens to an area less susceptible to flooding. A fence may also be constructed around the gardens to prevent thefts and vandalism.

D. The proposed project is not in conflict with the significance criteria listed in Chapter 200, Title 11, Administrative Rules of the Environmental Quality Control Environmental Impact Statement Regulations.

1. There are no known rare or endangered natural or cultural resources on the site which will be destroyed.

2. The project will not curtail the uses of the surrounding area. The proposed development is beneficial to elderly people as well as all park users by creating homes and park space in an area currently unutilized by anyone.

3. The proposed project is not in conflict with the State's long-term environmental policies (Chapter 344).

   a. The project will be designed to maximize the natural features of the site in a manner which will foster and promote the general welfare, create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of the people of Hawaii.

b. The project will provide a sense of identity, wise use of land, efficient transportation and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian.

c. The project will expand park and recreational areas for public uses and provide open space.

d. The project provides safe, sanitary and decent homes.

4. The project does not substantially affect the economic or social welfare or public health of the community or State.

5. The project will not cause significant changes in the population or affect public facilities.

6. The proposed project does not involve degradation of the environment but will rather enhance the area by adding unusable open space and architecturally designed homes in a well landscaped setting.

A Negative Declaration will be filed with the State Office of Environmental Quality Control in accordance with Chapter 343, HRS.

AGENCIES CONSULTED

	Response Received
Federal	
U.S. Army Corps of Engineers	8/10/89
U.S. Department of the Interior, Fish and Wildlife Service	7/28/89
U.S. Department of Agriculture, Soil Conservation Service	---
U.S. Department of Housing and Urban Development	8/ 1/89
State	
Department of Health	8/11/89
Department of Land and Natural Resources	8/28/89
Department of Land and Natural Resources, Historic Preservation Office	12/14/89
Department of Business and Economic Development	7/25/89
Department of Transportation	8/ 4/89
Housing Finance and Development Corporation	7/31/89
Environmental Center, University of Hawaii	---
Office of Environmental Quality Control	8/ 4/89
Department of Agriculture	8/17/89
Department of Education	8/ 2/89
Office of State Planning	6/15/89
City	
Board of Water Supply	8/ 9/89
Department of General Planning	8/ 8/89
Department of Land Utilization	8/15/89
Department of Public Works	8/ 1/89
Department of Transportation Services	8/14/89
Building Department	7/21/89
Department of Parks and Recreation	7/31/89
Fire Department	8/ 3/89
Police Department	7/31/89
Office of Human Resources	7/26/89
Others	
Mr. Ed Case, Chair, Manoa Neighborhood Board No. 7	8/26/89
Mr. James Misajon, Chair, Honolulu Committee on Aging	---
Citizens for Manoa Park Expansion, c/o Ms. Sally Youngblood	---
Manoa Inter-Church Service and Outreach (MISO), c/o Rev. Don Asman, Pastor	---
Mr. Gilbert Chun, Principal, Manoa Elementary School	---

APPENDIX II

Subsurface Investigation Reports
June 11, 1990 & May 21, 1990

FEWELL
GEOTECHNICAL
ENGINEERING, LTD.

SUBSURFACE INVESTIGATION REPORT
MANOA ELDERLY HOUSING
MANOA, OAHU, HAWAII

for

SUTTON CANDIA PARTNERS

by

FEWELL GEOTECHNICAL ENGINEERING, LTD.

ALAN J. SHIMAMOTO
REGISTERED
PROFESSIONAL
ENGINEER
No. 4393-C
HAWAII, U.S.A

Alan J. Shimamoto

ALAN J. SHIMAMOTO, P.E.

JUNE 11, 1990

96-1416 Waihona Place • Pearl City, Hawaii 96782-1973 • (808) 455-6569 • FAX 456-7062

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Appendices

SUBSURFACE INVESTIGATION REPORT

MANOA ELDERLY HOUSING
MANOA, OAHU, HAWAII

INTRODUCTION

A subsurface investigation was completed to define the general subsurface conditions at the proposed site of the Manoa Elderly Housing in Manoa, Oahu, Hawaii. This report summarizes the findings and conclusions of the investigation and presents geotechnical recommendations for the design and construction of the foundations, earthwork, concrete slabs-on-grade, and pavements for the development. This work has been completed in accordance with our October 12, 1989 Subsurface Investigation Proposal and Contract No. F-59310 dated February 21, 1990.

An abbreviated report format has been selected to present the recommendations in a brief and concise manner with only pertinent background information included. Additional detailed information on the investigation methods, test procedures, and analyses can be provided upon request.

The subsurface explorations, including the logs of the test borings, are summarized in Appendix A. Laboratory test results have been included on the boring logs, where appropriate, and also summarized in Appendix B. The limitations of this investigation have been included in Appendix C.

PROJECT CONSIDERATIONS

The proposed site for the Manoa Elderly Housing is immediately north of the Manoa District Park parking lot at the end of Kahaloa Street, and between Manoa Stream and Manoa Elementary School. The general area is shown on the attached Project Location Map, Figure 1, in Appendix A.

The site is a trapezoidally-shaped parcel covering an area of approximately 5.5 acres. The site is relatively level with a slope of approximately 2 percent down toward its southwesternmost corner. Existing ground surface elevations vary from Elev. 178 at the southern corner of the parcel up to Elev. 190 at its northern corner. Manoa Stream

forms the southeastern boundary of the parcel, and topography in this area generally consists of 8- to 10-foot high banks with slopes ranging from 1H:1V to 1-1/2H:1V.

The majority of the site is covered by scattered dense trees and heavy grass, although the southernmost perimeter has been cleared for the Manoa Community Gardens. Overhead electrical lines cross the northeastern corner of the site and a sewerline is located within 25 feet of the top of the bank for Manoa Stream. Two drainage ditches pass through the northern and southern portions of the site and drain into Manoa Stream.

The preliminary site plan indicates that the parcel will be developed to support 10 two-story multi-family structures and a community center. The structures will use light wood-frame construction with concrete slabs-on-grade and will be approximately 45 feet by 55 feet in plan dimensions.

Access to the townhouse units will be provided via a 620-foot long combined driveway and parking area extending into the site from its southernmost corner at the end of Kahaloa Drive. Additional parking will also be constructed immediately within the southern perimeter of the site.

The preliminary grading plans indicate that the site will be filled to provide the various finish pad levels at Elev. 183 up to Elev. 189, resulting in a maximum fill thickness of no more than 5 feet.

GENERAL SUBSURFACE CONDITIONS

Thirteen test borings were drilled during the period of April 17, through April 23, 1990 at the approximate locations shown on the attached Site and Boring Location Plan, Figure 2, in Appendix A. The borings were extended to depths ranging from 16.5 feet to 36.5 feet below the existing ground surface with truck-mounted Mobil B-53 and Simco 2400SK Drilling Rigs. The logs of the materials encountered are shown on the Boring Logs, Figures 3 through 15, in Appendix A. A Boring Log Legend has also been included as Figure 16.

The test borings revealed that the site is underlain by varying alluvial (water-deposited) formations ranging from near-surface silt and clay to loose sand and gravel at increasing depths. The near-surface silt and clay extended to depths of 11 feet to 15 feet below the existing ground surface in most of the borings, although they extended to 20 feet in Boring 6 and to the bottom of Borings 9 and 10. These soils exhibited very stiff to hard consistencies, high densities, and high shear strengths. However, they are highly plastic and exhibit a slight to moderate expansion potential. Although laboratory tests indicated relatively low swell values, the low values are likely due to the high in-situ moisture contents. Swell indices of up to 0.46 were observed, which is characteristic of *moderately expansive soils*. The swell index is a measure of the degree of expansion that can occur for each unit increase in moisture content. The surface clay also shrinks considerably when air-dried.

The clay and silt layers were generally underlain by 4- to 9-foot thick layers of loose to medium dense weathered sand and gravel, and medium stiff to stiff clayey silts with weathered gravel, which extended to depths of 18 to 24 feet. Both of these formations exhibit high moisture contents, low densities, and are moderately compressible. However, these soils exhibit relatively high preconsolidation pressures which results in reduced settlements under light-loading conditions. An 18-inch thick layer of medium stiff silt was encountered as shallow as 5 feet below the existing ground surface in Boring 11, but was not encountered in any of the remaining test borings.

The moderately compressible alluvial formations were underlain by stiff to very stiff clayey silts and dense sand and gravel formations which extended to the bottom of the deeper test borings.

Groundwater was encountered at depths of 12.5 to 22.0 feet below the existing ground surface, or approximately Elev. 162 to Elev. 173. Groundwater was shallowest, at approximately Elev. 173 on the northern end of the site, and deepest, at Elev. 162, at the site's southern perimeter.

DISCUSSION

We believe that the proposed site can be adequately developed to support the planned structures and their related site improvements provided the recommendations of this report are closely followed. Although some design and construction difficulties can result from the moderately expansive near-surface clay and the underlying moderately compressible soils, the presently proposed grading scheme should minimize the effects of these soils on the planned construction.

The subsurface investigation has revealed that the site is generally underlain by an 11- to 15-foot thick surface layer of moderately expansive silts and clays over 4 to 9 feet of moderately compressible silts, sands and gravel. The surface clays and silts are very stiff to hard and exhibit high shear strengths, but are highly plastic and moderately expansive. Although these soils should provide adequate support for the planned foundations and embankments, they can adversely affect the earthwork construction and the concrete slabs-on-grade, since they can lift lightly loaded floor slabs founded directly on them. This problem can be minimized by removing the expansive clay beneath the slabs and replacing them with non-expansive materials such that the slabs are underlain by at least 6 inches of slab cushion over 12 inches of non-expansive soils. The present grading scheme indicates that the site will be filled to obtain the final pad grades, and minimal undercutting to remove the expansive soils is anticipated.

The moderately compressible silts, and loose to medium dense sands and gravels beneath the near-surface expansive soils, are sufficiently deep that they should not significantly affect the dwelling's foundations. However, the weight of large areal fills placed on these soils can result in considerable embankment settlements. The effects of the settlements can be minimized by completing the site grading prior to the building construction and limiting the fill thicknesses to no more than 5 feet, which the present grading scheme indicates. The majority of the fill settlements should occur during the site grading leaving residual settlements of no more than 1/4-inch during the actual building construction.

The high plasticity of the surface silts and clays, combined with the normally moist site conditions, can result in significant difficulties in the earthwork construction. If possible, construction of the project should proceed during the drier periods of the year to facilitate and expedite the earthwork construction and to minimize delays.

Groundwater was encountered at depths of 13 to 20 feet below the existing ground surface and should not affect the foundation construction for the dwellings. Dewatering should be anticipated for utility excavations or other similar deep excavations which penetrate the groundwater levels.

RECOMMENDATIONS

General

1. The construction of the project should be scheduled during the drier periods of the year to facilitate and expedite the earthwork construction and to minimize delays.

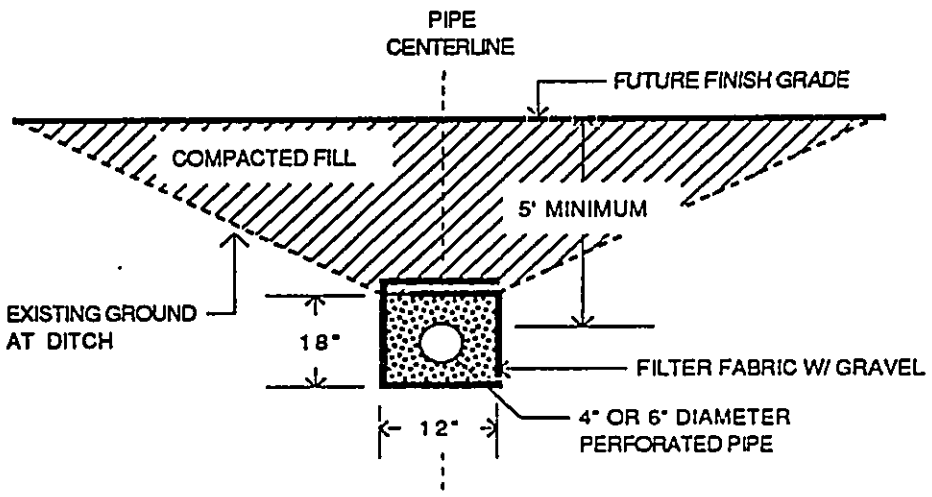
2. Site grading should be completed prior to the building construction to minimize the residual embankment settlements and post-construction building settlements.

Site Preparation

3. Prior to the start of actual grading operations, the site should be cleared and grubbed in accordance with Section 10 of the Standard Specifications for Public Works Construction of the City and County of Honolulu (Standard Specifications). All above-ground vegetation and trees not marked for landscaping by the Project Architect, boulders, slabs, and other deleterious materials should be cleared and removed from the site.

4. Existing utilities, which interfere with the new construction, and the existing drainage ditches which pass through the site should be removed and rerouted around the site perimeter. The existing ditches and resulting trenches should be cleaned out to hard natural ground and backfilled in accordance with the grading recommendations.

5. Subdrains should be provided at the bottom of the existing drainage ditches prior to backfilling. The subdrains should consist of 4- to 6-inch diameter perforated pipe surrounded by filter gravel or ASTM D448 No. 6 Aggregate (3B Fine) wrapped in filter fabric, placed in a trench approximately 18 inches deep by 12 inches wide. The subdrains should be designed such that the top of the pipe is at least 5 feet below the planned finish grade levels. A typical subdrain detail is shown below.



Grading

6. Once the site has been properly prepared, site grading can commence to establish the final design grades. The level building pads in their final configuration should extend a minimum of 3 feet beyond the building perimeters and their foundations. The foundations should be deepened where this criteria cannot be met.

7. The on-site expansive soils should then be removed such that a minimum of 18 inches of non-expansive materials can be placed between the bottom of the concrete slabs-on-grade and the expansive soils. The non-expansive soils beneath the slab should consist of a minimum of 6 inches of slab cushion underlain by 12 inches of imported

non-expansive fill. The undercutting and the placement of the 12 inches of non-expansive fill should extend throughout the building area, plus a 3-foot perimeter.

8. Areas designated to receive fill or foundation units should then be scarified, moisture-conditioned to within 3 percent of the optimum moisture content, and uniformly compacted to at least 90 percent relative compaction as determined by Laboratory Compaction Test ASTM D1557 for a minimum depth of 6 inches. Any soft spots encountered should be overexcavated to very stiff to hard natural ground and the resulting depression backfilled in accordance with these recommendations.

9. Fill and backfill should be placed in uniform lifts of no more than 8 inches in loose thickness, moisture-conditioned to within 3 percent of its optimum moisture content, and uniformly compacted to at least 90 percent relative compaction as determined by the above-referenced test. Fill utilized in the final 2 feet of roadway or parking area embankments should be compacted to at least 95 percent relative compaction.

10. The excavated on-site soils may be utilized as fill provided they are placed below a depth of 18 inches of the bottom of the concrete slabs-on-grade. The moderately expansive soils should not be allowed to dry excessively prior to the placement of additional layers of fill. Should this occur, the expansive soils should be scarified, remoisture-conditioned, and recompacted in accordance with these recommendations.

11. Imported fill should consist of non-expansive soils free of organics, rocks, and soil clods larger than 6 inches in diameter with a plasticity index of no more than 20. Additionally, fill utilized in the construction of the parking areas and roadway subgrades should be as good as or better than the on-site soils with a CBR of 7 or more.

12. Fill slopes should be limited to 2H:1V for the presently proposed heights.

Foundations

13. We believe that the proposed structures can best be supported on continuous foundations, individual spread footings, or a combination of these two types. Although other foundation systems have been considered, the recommended system should prove satisfactory and will likely be the most economical.

14. Individual spread foundations should have a minimum base width of 18 inches. Continuous foundations should have a base width of at least 16 inches.

15. Foundations should be embedded at least 18 inches below the lowest adjacent compacted subgrade. Foundations on slopes or within 3 feet of the top of slopes should be embedded such that there is a minimum of 5 feet of horizontal distance from the lower outside edge of the foundation to the compacted slope face.

16. Any soft spots encountered during the foundation excavations should be overexcavated and the resulting depression backfilled and compacted in accordance with the grading recommendations.

17. The foundations may bear on compacted fill, or the very stiff to hard natural on-site soils, where they may be designed for an allowable bearing capacity of 3,000 p.s.f. This value may be increased by one-third for short-term transient loads.

18. Steel reinforcement of the foundations should be provided as directed by the Project Structural Engineer. Total settlements exceeding 3/4-inch and differential settlements exceeding 1/2-inch are not anticipated under assumed loads of 6 kips per foot for the bearing walls and 48 kips per column. FGE, Ltd. should be notified should the actual column and wall loads exceed these values.

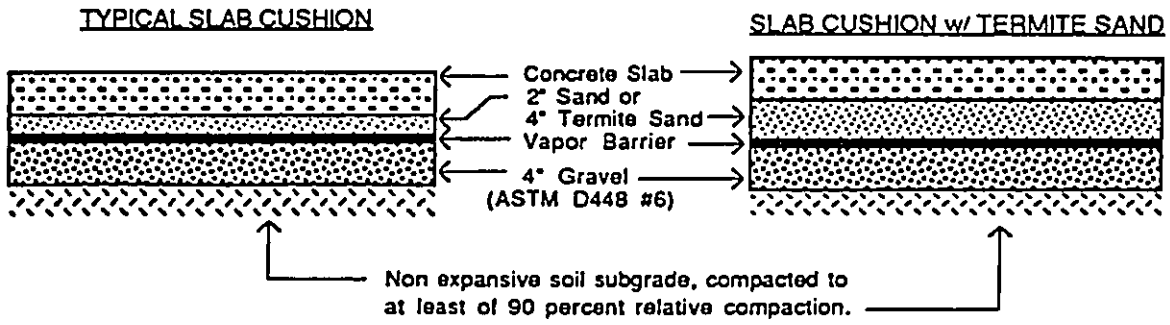
19. Exterior backfill of the foundations should consist of the relatively impermeable on-site soils to minimize water intrusion beneath the structure, unless these areas are protected by sidewalks or pavements.

Concrete Slabs-on-Grade

20. Concrete slabs-on-grade may be used provided the grading recommendations have been followed. This will assure that the grading has been completed prior to the building construction, and that the concrete slabs are constructed over a slab cushion underlain by a minimum of 12 inches of non-expansive materials compacted to at least 90 percent relative compaction.

21. The concrete slabs should be underlain by a minimum of 6 inches of slab cushion consisting of 4 inches of lightly compacted ASTM D448 No. 6 Gravel (3B Fine), a vapor barrier, and 2 inches of sand. The gravel should be placed on the subgrade to act as a capillary break. A vapor barrier should be provided over the gravel and 2 inches of sand should be placed between the bottom of the slab and the vapor barrier to promote even curing of the concrete and to minimize shrinkage cracking.

22. Should it be desirable to utilize termite sand in the construction, 4 inches of termite sand may be placed between the bottom of the concrete slab and the vapor barrier in lieu of the 2 inches of sand recommended above. The termite sand should be compacted to at least 90 percent relative compaction. Typical slab cushion details for both alternatives are shown below:



23. Steel reinforcement of the concrete slabs should be provided as directed by the Project Structural Engineer. The concrete slabs should be structurally divorced from the foundations to allow for minor differential settlements.

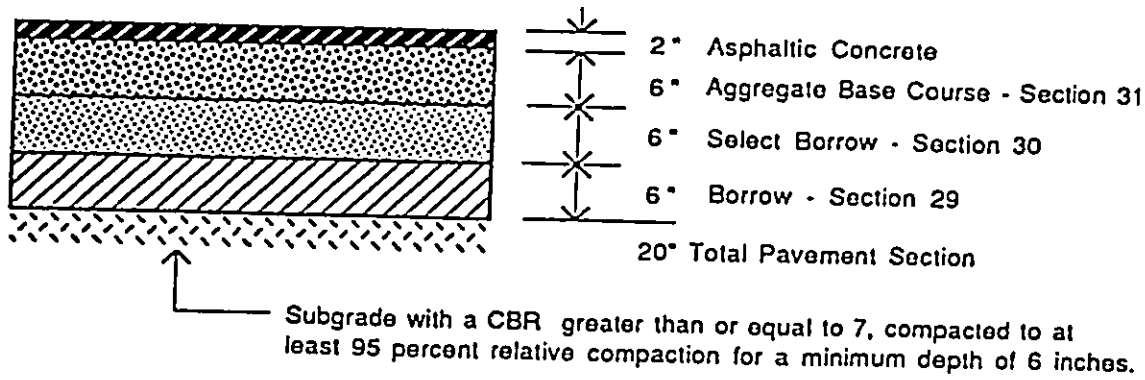
Pavements

24. A sample of the predominant surface soils was tested in accordance with Laboratory Bearing Ratio Test ASTM D1883 to determine its pavement design characteristics. The tests indicate that these soils possess a CBR of 7.1 and a swell of 2.2 percent.

25. Based on these test results and the anticipated residential traffic, we believe that a 20-inch pavement section, consisting of 2 inches of Asphaltic Concrete, 6 inches of Aggregate Base Course, 6 inches of Select Borrow, and 6 inches of Borrow placed on the compacted subgrade should be sufficient for the anticipated traffic. The composition, placement, and compaction of the Aggregate Base Course, Select Borrow, and Borrow materials should conform to Sections 31, 30, and 29 of the Standard Specifications.

26. The subgrade should be shaped to drain and compacted to at least 95 percent relative compaction for a minimum depth of 6 inches. The total pavement section is shown below:

20" PAVEMENT SECTION



27. The above pavement is given for preliminary design purposes. The actual pavement section should be determined by California Bearing Ratio Tests on the actual subgrade soils during construction.

Quality Control

28. All site preparation and site grading should be monitored by FGE, Ltd. with intermittent density tests taken to determine whether the specified levels of compaction are consistently attained.

29. Samples of the proposed fill materials should be submitted to FGE, Ltd. no less than 7 working days prior to their intended jobsite delivery to allow adequate time for testing, evaluation, and approval.

30. Foundation excavations should be monitored by FGE, Ltd. to verify that the anticipated bearing materials have been encountered. The recommendations given herein are contingent upon adequate construction monitoring of the geotechnical phases of the construction by FGE, Ltd.

Miscellaneous

31. Utilities should be installed and backfilled in accordance with Section 11 of the Standard Specifications. Jetting and ponding of the backfill materials should not be allowed.

32. Adequate shoring and bracing should be provided by the contractor in accordance with the governing safety regulations of all utility trenches and similar excavations. Dewatering should be anticipated where the utility trenches extend below the anticipated water levels.

33. Positive drainage provisions should be incorporated into the design of the project to preclude the ponding of water adjacent to or beneath the structures and their foundations.

Limitations

34. This report has been prepared in accordance with generally accepted engineering practice. The limitations of this investigation are outlined in Appendix C. Should you have any questions concerning the findings and conclusions of this report, please do not hesitate to contact us.

APPENDICES ON FILE AT DHCD

FEWELL
GEOTECHNICAL
ENGINEERING, LTD.

Subsurface Investigation Report
Proposed Parking Lot at
Manoa District Park
Honolulu, Oahu, Hawaii

for

SUTTON CANDIA PARTNERS
1210 Ward Avenue, Penthouse
Honolulu, Hawaii 96814

by

FEWELL GEOTECHNICAL ENGINEERING, LTD.

MAY 21, 1990

96-1416 Waihona Place • Pearl City, Hawaii 96782-1973 • (808) 455-6569 • FAX 456-7062

FEWELL
GEOTECHNICAL
ENGINEERING, LTD.

File 879-2
May 21, 1990

Sutton Candia Partners
1210 Ward Avenue, Penthouse
Honolulu, Hawaii 96814

Attention: Mr. Patrick Seguirant

Subject: **Subsurface Investigation Report**
Proposed Parking Lot at Manoa District Park
Honolulu, Oahu, Hawaii

Gentlemen:

We have completed a subsurface investigation for the proposed new parking lot at Manoa District Park in Manoa Valley, Oahu, Hawaii. This letter summarizes our findings and conclusions and presents geotechnical recommendations for the design and construction of its earthwork and pavements.

This work was completed in conjunction with the subsurface investigation for the proposed Manoa Elderly Housing project under Contract No. F-59310 dated February 21, 1990. Separate reports are being submitted for the proposed parking lot and the housing project in order to avoid confusion between the recommendations for the two projects.

Project Considerations - The proposed site for the new parking lot is on the southern side of the intersection between Manoa Road and the access road leading to the existing parking lot for Manoa District Park. The general area is shown on the attached Project Location Map, Figure 1.

The site is bounded by the access road to its east, Manoa Road on its northern side, and an existing drainage ditch on its western side. It is presently an open lawn area which slopes down toward the south with an overall gradient of approximately 8 percent. A 4- to 5-foot high 2.5H:1V slope, which is part of the Manoa Road embankment, borders the site's northwestern corner. Ground surface elevations range from approximately Elev. 204 up to Elev. 218 within the immediate area of the parking lot.

The new parking lot will be approximately 120 feet by 220 feet in plan dimensions. Access to the lot will be provided by new driveways from Manoa Road and the existing access road to the gymnasium. The preliminary grading plans indicate that site grading

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will be minimal with cuts of no more than 3 feet in depth and fill thicknesses of less than 6 feet.

General Subsurface Conditions - Three test borings were drilled on April 17, 1990 at the approximate locations shown on the attached Site and Boring Location Plan, Figure 2. The borings were extended to a depth of 11.5 feet below the existing ground surface using a truck-mounted 2400 SK Simco drilling rig. The materials encountered are shown on the attached Boring Logs, Figures 3 through 5. A Boring Log Legend has been included as Figure 6. Laboratory test results have been included on the logs, where appropriate, and are also graphically exhibited in Figures 7 and 8.

The test borings revealed that the site is generally underlain by very stiff to hard alluvial and colluvial silty clays and clayey silts which extended to the bottom of the borings. The soils exhibited high in-situ moisture contents and correspondingly low dry densities. The laboratory tests indicate that the moisture contents of the near-surface clays were approximately 6 to 12 percent above their optimum and increased with increasing depth. Below a depth of approximately 2 feet, the moisture contents were generally 16 to 17 percent above optimum at the time of this investigation.

The near-surface silty clays, which extended to depths of 8 to 10 feet below the existing ground surface, are highly plastic and moderately expansive, with swell values ranging from 2.6 percent to 5.1 percent and swell indices of 0.4 to 0.6. (The swell index is a ratio of the incremental increase in expansion for each increment of increase in moisture content). Low swell values were obtained for some of the samples due to their high in-situ moisture contents. The clays exhibit a high affinity for moisture and low shear strengths, and the shear strength tends to decrease with increasing moisture content.

Groundwater was encountered in Boring 3 at a depth of 8.5 feet below the existing ground surface and appears to fluctuate with the weather conditions. Groundwater was not encountered in any of the remaining borings, although increasingly higher moisture conditions were encountered with increasing depth.

Discussion - We believe that the proposed site can be satisfactorily developed to support the planned parking lot, provided the recommendations of this report are followed. The subsurface investigation has revealed that the site is underlain by relatively poor subsurface conditions, which can pose some difficulties in the design and construction of the parking lot.

Based on the preliminary plans, the site grading will entail shallow cuts of no more than 3 feet and fill thicknesses of up to 6 feet. The near-surface silty clays will therefore have the most significant effect on the planned construction. The clays are highly plastic, moderately expansive, and exhibited high in-situ moisture contents and low shear strengths. These characteristics will necessitate minimizing the site grading and will require a relatively thick pavement structure for the parking lot.

The high plasticity and low shear strength of the near-surface clay can result in slope stability problems for large embankments or deep cuts. Although the shallow cuts and fills of the present grading scheme should not pose significant stability problems, cuts and fills exceeding those presently proposed should be avoided.

The proposed layout of the parking lot indicates that it will be constructed approximately 10 feet from an 8-foot high 1.8H:1V side slope of the existing ditch which borders the southwestern corner of the site. Should the parking layout be revised, the 10-foot setback should be maintained between to the top of bank of the existing ditch and the new construction.

The on-site soils may be used as fill in the deeper fill areas provided they are properly placed and compacted. However, due to their high plasticity and moisture contents, compaction of these soils will be difficult without significant drying, and imported fill will be required to facilitate and expedite the site grading.

Groundwater was encountered in Boring 3, which was drilled in the existing swale passing through the eastern portion of the site, and the water levels appeared to fluctuate with the weather conditions. In view of the fluctuating shallow water level and the high moisture contents of the soils, near-surface seepage may occur in this area during periods of heavy rainfall. Subdrains should be installed beneath the fill placed within the swale to minimize the intrusion of subsurface water into the fill.

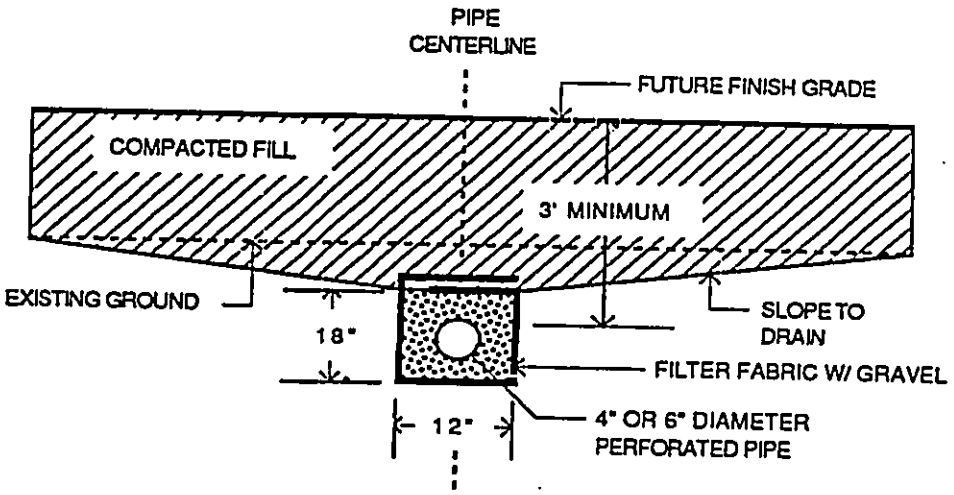
Recommendations

Site Preparation - Prior to the start of actual grading operations, the site should be cleared and grubbed in accordance with Section 10 of the Standard Specifications for Public Works Construction of the City and County of Honolulu (Standard Specifications). The cleared and grubbed material should not be used as fill, but should be wasted off-site.

Areas designated to receive fill, which slope in excess of 5H:1V, should be benched by a series of horizontal terraces prior to fill placement. The benches should extend through any loose slopewash into very stiff to hard natural ground or compacted fill.

A subdrain should be installed within the shallow swale which passes through the eastern portion of the site at the approximate location shown on Figure 2. The actual location should be adjusted in the field during construction. Should unanticipated seepage conditions be encountered during construction, additional segments should be added where necessary.

The subdrain should consist of 4- to 6-inch diameter perforated pipe placed in a trench at least 12 inches in width by 18 inches deep. The pipe should be surrounded by filter gravel or ASTM D448 No. 6 Gravel (3B Fine) wrapped in filter fabric. The subdrain should be installed in the trench below the existing grades, and a sufficient depth such that the top of pipe is at least 3 feet below the finish grades, except where the pipes are led to daylight. A typical subdrain detail is shown below:



Site Grading - Once the site has been properly prepared, site grading may commence to generate the finish grades. The top of slopes for the parking lot embankments should extend a minimum of 3 feet beyond the edge of the pavements or curbs.

The excavated on-site silty clays may be used as fill in the deeper fill areas below a depth of 24 inches from the finish grade levels provided they are properly placed and compacted in accordance with these recommendations. However, the contractors should be made aware that the soils are highly plastic and possess moisture contents well above the optimum, and that considerable drying will be required in order to obtain adequate compaction. The use of imported fill should be anticipated to supplement the on-site soils in order to facilitate compaction and expedite the grading operation. Imported fill should conform to the material requirements specified under "Borrow" as designated in Section 16 of the Standard Specifications.

Areas designated to receive fill should be scarified, moisture conditioned such that it is within 3 percent of the optimum moisture content, and uniformly compacted to at least 90 percent relative compaction as determined by Laboratory Compaction Test ASTM D1557 for a minimum depth of 6 inches. Any soft spots encountered should be removed and the resulting depression backfilled and compacted in accordance with these recommendations.

Fill should be placed in uniform lifts of no more than 8 inches in loose thickness, similarly moisture conditioned to within 3 percent of the optimum moisture content, and uniformly compacted to no less than 90 percent relative compaction as determined by the above-referenced test. Fill placed in the final 2 feet of embankment construction should be compacted to at least 95 percent relative compaction.

Fill slopes should be limited to no steeper than 2H:1V for heights of up to 10 feet. Cut slopes should be limited to 2H:1V for heights of up to 5 feet. Slopes exceeding these heights are not anticipated on this project, and should be individually evaluated should they occur.

Pavements - A sample of the predominant surface silty clay was tested in accordance with ASTM D1883 to determine its pertinent pavement support characteristics. The laboratory tests indicated that the soils possess a CBR of 5.3 and a swell value of 5.1 percent.

Based on these test results and the anticipated light residential-type traffic, we believe that a pavement section consisting of 2 inches of Asphaltic Concrete, over 6 inches of Aggregate Base Course, over 14 inches of Select Borrow should be sufficient for the parking lot and driveway pavements. The Asphaltic Concrete should be thickened to 2-1/2 inches where buses or heavy trucks are anticipated. The select borrow layer should extend under the curbs and a lateral distance of at least 18 inches beyond their exterior edges.

The Aggregate Base Course and Select Borrow should conform to Sections 31 and 30, respectively, of the Standard Specifications, and should be compacted to at least 95 percent relative compaction.

The subgrade should be shaped to drain and similarly compacted to 95 percent relative compaction for a minimum depth of 6 inches prior to the placement of the select borrow. Weepholes should be installed at the catch basins or drain inlets at the level of the bottom of the select borrow layer to minimize the accumulation of water beneath the pavements.

The above pavement section should be used for preliminary design purposes. The final pavement section will be dependent on the actual soils encountered at the subgrade level, and the above pavement section should be verified by CBR tests on these soils during construction.

Quality Control - The site preparation and site grading should be monitored by FGE, Ltd., and intermittent field density tests should be taken to determine whether the specified levels of compaction are consistently obtained. Samples of the proposed fill materials should be submitted to FGE, Ltd. no less than 7 working days prior to their intended jobsite delivery to allow adequate time for testing, evaluation, and approval.

Miscellaneous - Utilities should be installed in accordance with Section 11 of the Standard Specifications, and the backfill should be compacted in accordance with the grading recommendations of this report. Jetting or ponding of the backfill should not be allowed.

Positive drainage provisions should be included in the design of the project to prevent the ponding of water adjacent to or beneath the parking lot and its pavements.

Limitations - This report has been prepared for the exclusive use of Sutton Candia Partners for the Proposed Parking Lot at Manoa District Park in Honolulu, Oahu, Hawaii, in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

The analysis, conclusions and recommendations of this report are based in part upon the data obtained in the test borings and upon the assumption that the soil conditions do not deviate from those observed. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the

present time, FGE, Ltd. should be notified so that supplemental recommendations can be given. The conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing.

The site investigation for this report may not have disclosed the presence of underground structures, such as cesspools, drywells, storage tanks, etc. that may be present at the site. Should these items be encountered during construction, FGE, Ltd. should be notified to provide recommendations for their disposition. The cost for these services was not included within the fee for this investigation.

Unanticipated soil conditions are commonly encountered and cannot be fully determined by soil samples, test borings, or test pits. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. Some contingency funds are recommended to accommodate such potential extra costs.

The boring locations are approximately determined by tape measurements from existing physical features. Elevations were approximately determined from the plan contours. The locations and elevations of the borings should be considered accurate only to the degree implied by the methods used.

Groundwater was encountered at the depths and times indicated on the boring logs. It must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, tides, temperature, and other factors not present at the time the measurements were made.

FGE, Ltd. should be provided the opportunity for general review of the final design drawings and specifications in order that the earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications. If FGE, Ltd. is not accorded the privilege of making this recommended review, it can assume no responsibility for misinterpretations of the recommendations.

FGE, Ltd. should also be retained to provide periodic soil engineering services during construction. This is to observe compliance of the design concepts, specifications, and recommendations and to allow design changes in the event the subsurface conditions differ from that anticipated prior to construction. The recommendations contained herein are contingent upon adequate construction monitoring of the geotechnical phases of the construction by FGE, Ltd.

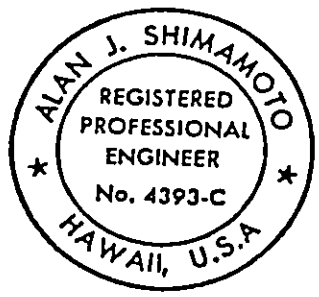
Should you have any questions pertaining to any aspect of this report, or if we can be of further assistance to you, please do not hesitate to contact us.

Respectfully submitted,

FEWELL GEOTECHNICAL ENGINEERING, LTD.

By Alan J. Shimamoto, P.E.

Attachments



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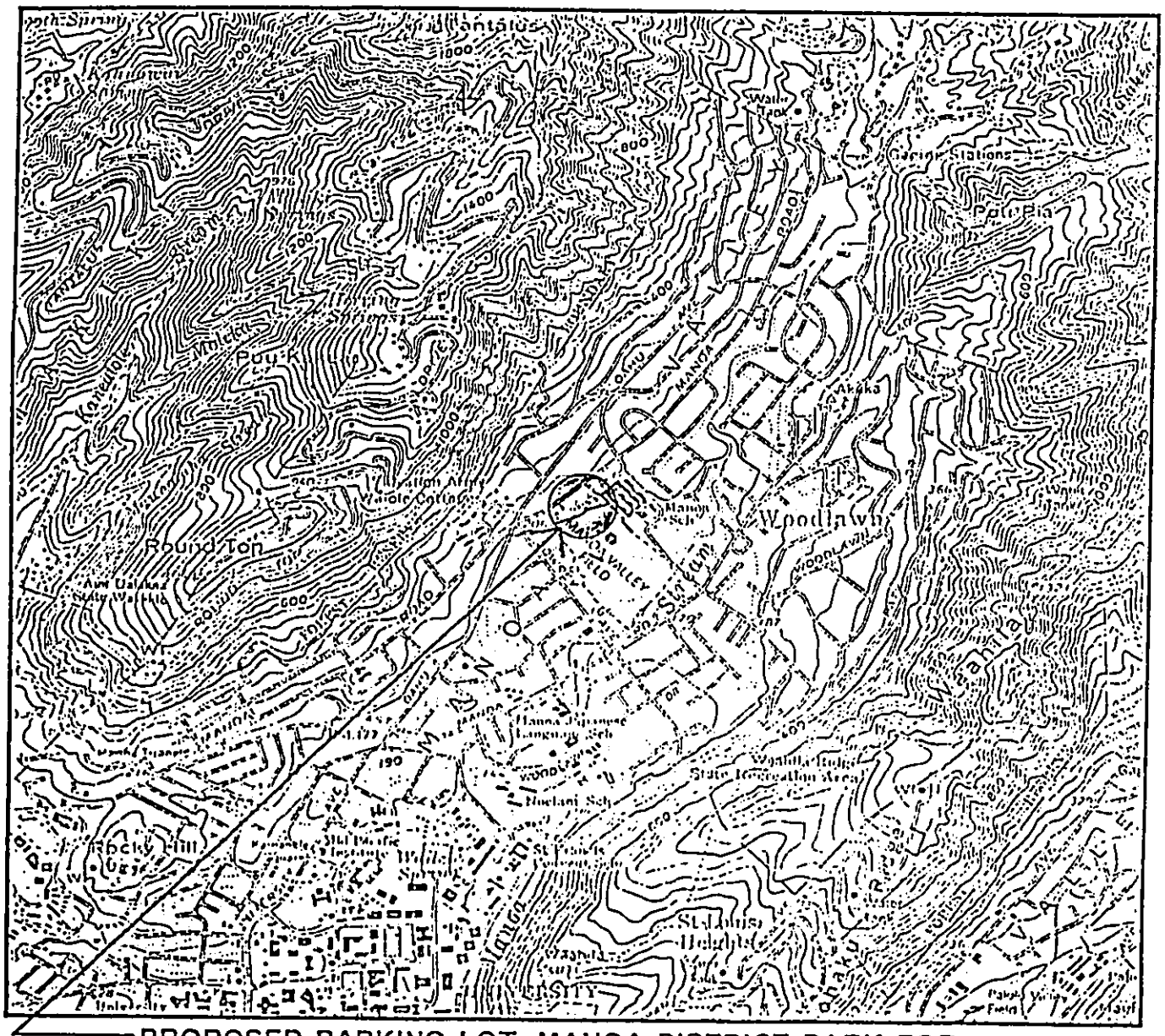


PROPOSED PARKING LOT, MANOA DISTRICT PARK. FOR SUTTON CANDIA PARTNERS

PROJECT LOCATION MAP

SCHEMATIC - NOT TO SCALE

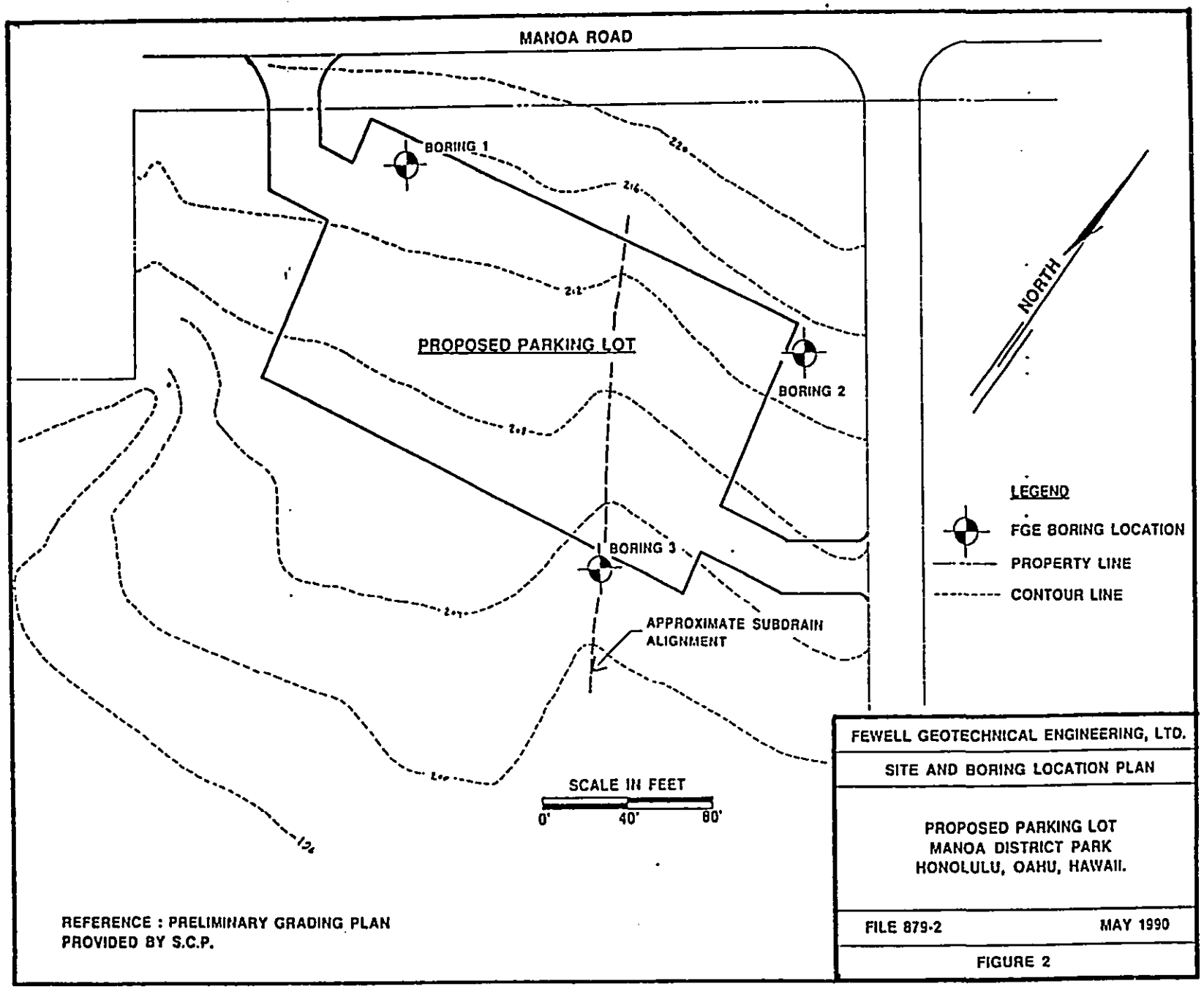
REFERENCE:

HONOLULU QUADRANGLE
U.S.G.S. TOPOGRAPHIC MAP

GENERAL AREA:

HONOLULU, OAHU,
HAWAII

FEWELL GEOTECHNICAL ENGINEERING, LTD.
FILE 879-2 FIGURE 1



REFERENCE : PRELIMINARY GRADING PLAN
PROVIDED BY S.C.P.

FEWELL GEOTECHNICAL ENGINEERING, LTD.

SITE AND BORING LOCATION PLAN

PROPOSED PARKING LOT
MANOA DISTRICT PARK
HONOLULU, OAHU, HAWAII.

FILE 879-2 MAY 1990

FIGURE 2

BORING: B-1
FILE: 879-2
DATE: 4-17-90

PROJECT: Proposed Parking Lot, Manoa District Park
SURFACE ELEV.: 215' ±
DEPTH TO WATER: None Encountered

LAB TEST RESULTS	MOIST CONT %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
LL=105, PI=56 Swell=1.1%	47	75	23	1-1		Brown Silty CLAY (MH-CH), hard, damp (ALLUVIUM)
Swell=0	52	71	25	1-2	5	
	55	69	44	1-3		
	79	55	28	1-4	10	Brown Clayey SILT (ML) with Sand, very stiff, moist (ALLUVIUM)
						BOH @ 11.5'
					15	
					20	
					25	
					30	
					35	

FIGURE 3

BORING: B-2
FILE: 879-2
DATE: 4-17-90

PROJECT: Proposed Parking Lot, Manoa District Park
SURFACE ELEV.: 215' ±
DEPTH TO WATER: None Encountered

LAB TEST RESULTS	MOIST CONT %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
	41	76	17	2-1		Brown Silty CLAY (MH-CH), very stiff, damp (ALLUVIUM)
LL=106, PI=58 Swell=0.5%	51	71	17	2-2		
					5	Gray Silty CLAY (MH-CH), very stiff, damp (COLLUVIAL)
Swell=0.6%	44	80	28	2-3		
						Brown Silty CLAY (MH) with weathered Gravel, very stiff, moist (ALLUVIUM)
	46	77	23	2-4	10	
						BOH @ 11.5'
					15	
					20	
					25	
					30	
					35	

FIGURE 4

BORING: B-3
FILE: 879-2
DATE: 4-17-90

PROJECT: Proposed Parking Lot, Manoa District Park
SURFACE ELEV.: 202' ±
DEPTH TO WATER: 8.5 ' (5/11/90)

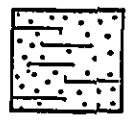
LAB TEST RESULTS	MOIST CONT %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
LL=85, PI=36 Direct Shear: ϕ=15 deg C=975 p.s.f. Swell=2.6%	31	80	25	3-1		Brown/gray Silty CLAY (MH-CH), very stiff, moist (ALLUVIUM)
	41	73	27	3-2		
	52	69	32	3-3	5	Brown Silty CLAY (MH), hard to very hard, damp (ALLUVIUM)
	68	54	19	3-4	10	Brown Clayey SILT (MH) with Sand and Gravel, very stiff, moist to wet (ALLUVIUM) BOH @ 11.5'
					15	
					20	
					25	
					30	
					35	

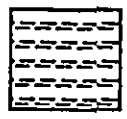
FIGURE 5

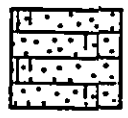
BORING LOG LEGEND

MAJOR ROCK TYPES


BASALT

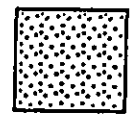

TUFF

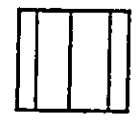

DECOMPOSED ROCK

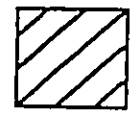

CORAL

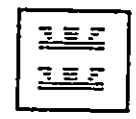
MAJOR SOIL TYPES


GRAVEL

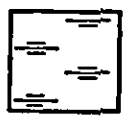

SAND

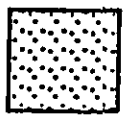

SILT

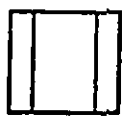

CLAY

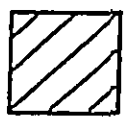

PEAT/ORGANICS

SECONDARY CLASSIFICATION


GRAVELLY


SANDY


SILTY


CLAYEY

SAMPLING SYMBOLS

3" O.D. UNDISTURBED SAMPLE

3" O.D. DISTURBED SAMPLE

2" O.D. STANDARD PENETRATION SAMPLE

NO RECOVERY

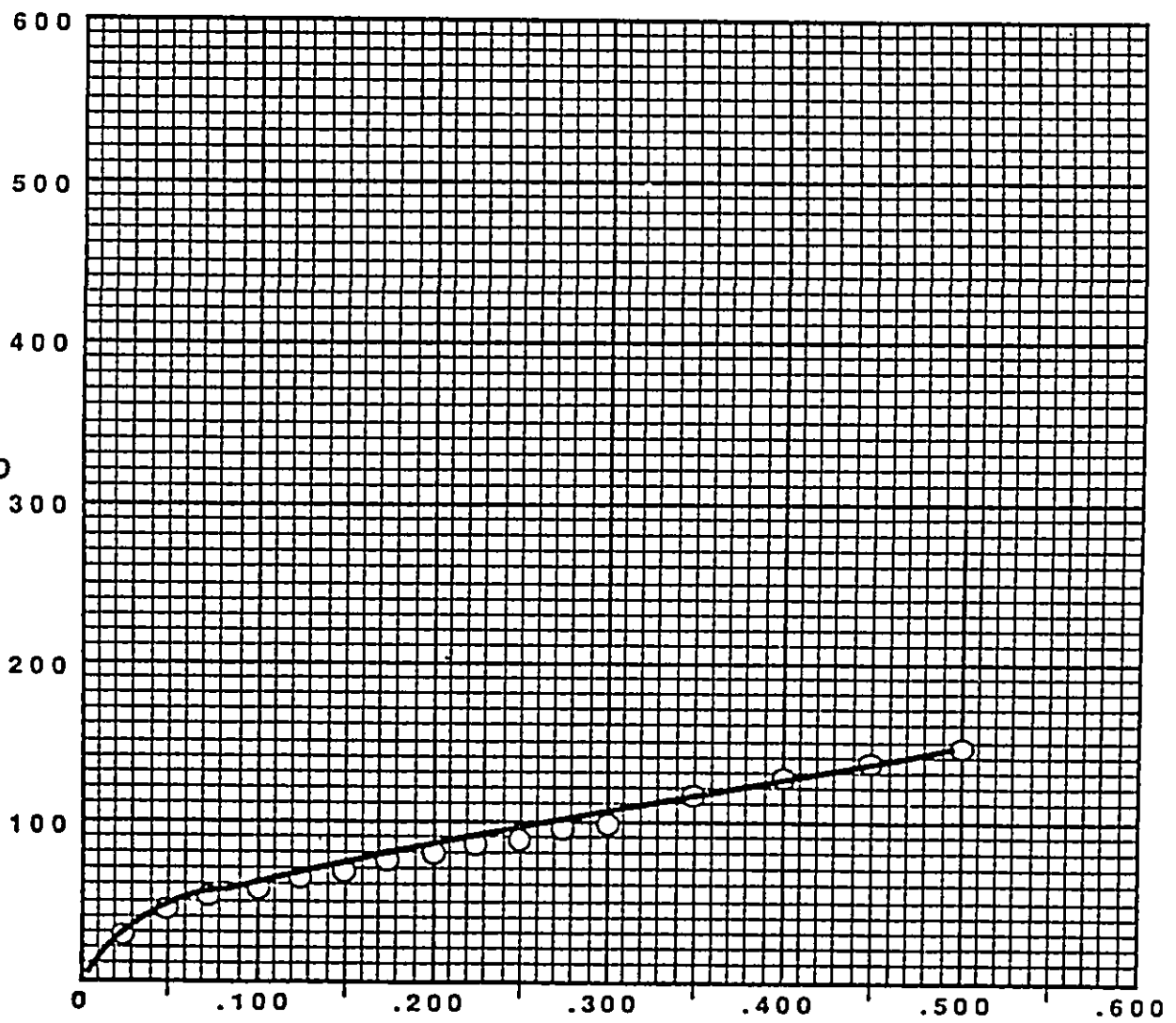
SHELBY TUBE

NX-CORE 

WATER LEVEL 

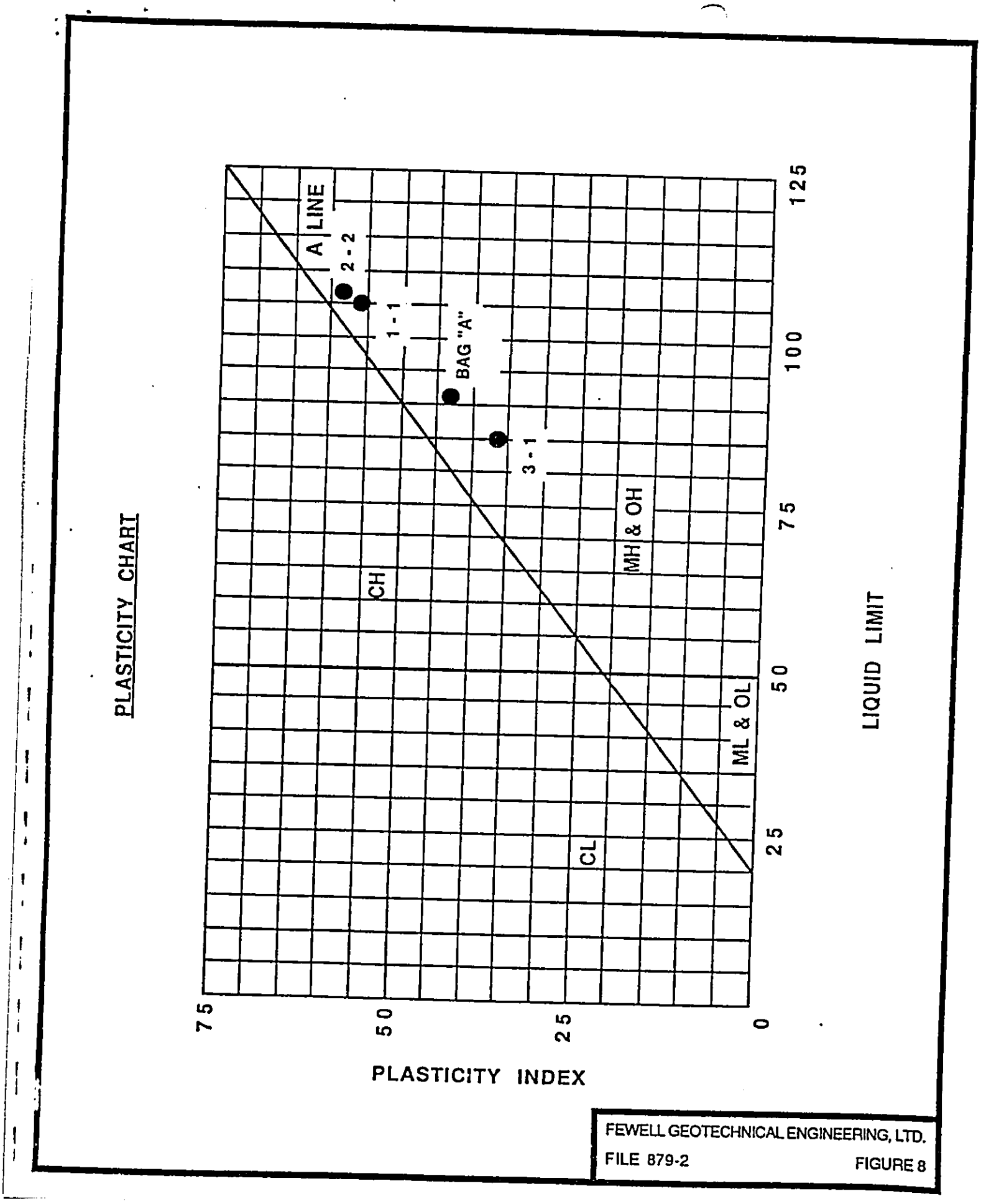
FEWELL GEOTECHNICAL ENGINEERING, LTD.	
FILE 879-2	FIGURE 6

CBR TEST RESULTS



BAG NO. BAG "A"	DESCRIPTION BROWN SILTY CLAY (MH)
CBR VALUE 5.3	
MAX. DENSITY 84 p.c.f.	% SWELL 5.1%
CBR DENSITY 85 p.c.f.	OPT. MC 35
LIQUID LIMIT 91	% COMP. 101%
PLASTICITY INDEX 43	REMARKS:

FEWELL GEOTECHNICAL ENGINEERING, LTD.
FILE: 879-2 FIGURE: 7



FEWELL GEOTECHNICAL ENGINEERING, LTD.

FILE 879-2 FIGURE 8

APPENDIX III

Traffic Counts

DOCUMENT CAPTURED AS RECEIVED

DEPARTMENT OF TRANSPORTATION SERVICES

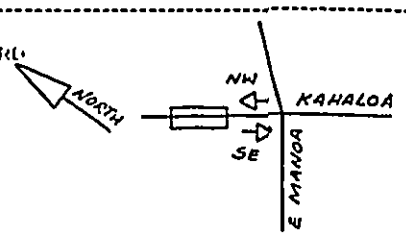
CITY AND COUNTY OF HONOLULU

TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	2		6	
12:30	0		4	
12:45	1		7	
13:00	3	(6)	9	(26)
13:15	0		5	
13:30	2		8	
13:45	0		3	
14:00	2	(4)	13	(29)
14:15	12		18	
14:30	10		47	
14:45	4		15	
15:00	5	(31)	16	(89)
SUBTOTAL		41		154
15:15	7		10	
15:30	1		8	
15:45	3		6	
16:00	2	(13)	11	(37)
16:15	3		18	
16:30	3		12	
16:45	5		7	
17:00	5	(16)	7	(44)
17:15	4		24	
17:30	3		11	
17:45	2		9	
18:00	2	(11)	10	(54)
SUBTOTAL		40		135
18:15	3		12	
18:30	1		7	
18:45	0		2	
19:00	0	(4)	5	(26)
19:15	1		8	
19:30	3		5	
19:45	3		0	
20:00	2	(9)	2	(13)
20:15	4		2	
20:30	2		2	
20:45	0		1	
21:00	1	(7)	1	(6)
SUBTOTAL		20		45
21:15	3		1	
21:30	8		2	
21:45	8		4	
22:00	4	(19)	2	(9)
22:15	2		4	
22:30	1		1	
22:45	0	-	2	
23:00	2	(5)	1	(8)
23:15	0		0	
23:30	3		2	
23:45	0		1	
24:00	0	(3)	1	(4)
SUBTOTAL		27		21
12-HR TOTAL		128		355

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	1		0	
00:30	0		0	
00:45	0		3	
01:00	0	(1)	0	(3)
01:15	0		1	
01:30	0		0	
01:45	0		0	
02:00	0	0	1	(2)
02:15	0		0	
02:30	0		1	
02:45	0		0	
03:00	1	(1)	0	(1)
SUBTOTAL		2		6
03:15	1		0	
03:30	0		0	
03:45	0		0	
04:00	0	(1)	0	0
04:15	0		2	
04:30	0		1	
04:45	0		0	
05:00	0	0	0	(3)
05:15	1		0	
05:30	0		0	
05:45	0		2	
06:00	0	(1)	1	(3)
SUBTOTAL		2		6
06:15	0		4	
06:30	1		5	
06:45	0		5	
07:00	2	(3)	7	(21)
07:15	6		8	
07:30	5		20	
07:45	21		34	
08:00	36	(68)	57	(119)
08:15	3		22	
08:30	0		2	
08:45	0		2	
09:00	5	(8)	8	(32)
SUBTOTAL		79		172
09:15	0		7	
09:30	0		3	
09:45	2		2	
10:00	0	(2)	5	(17)
10:15	0		10	
10:30	2		7	
10:45	1		8	
11:00	1	(4)	4	(27)
11:15	3		11	
11:30	1		8	
11:45	1		7	
12:00	4	(9)	13	(37)
SUBTOTAL		15		81
12-HR TOTAL		98		265
24-HR TOTAL		226		620

LOCATION : KAHALOA DR NW OF EAST MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1677
DATE : THU 11/30/89 TO FRI 12/1/89



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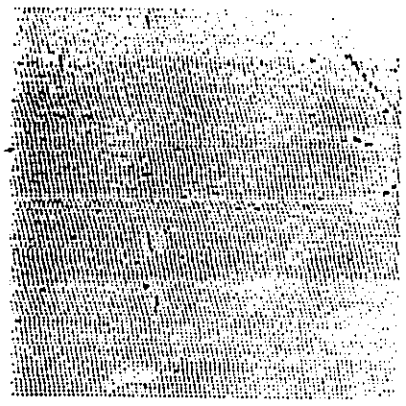
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

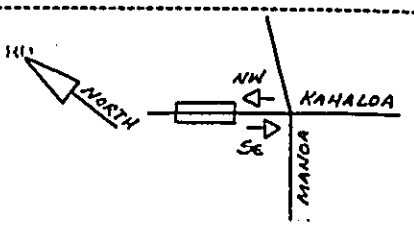
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	2		8	
12:30	1		3	
12:45	2		4	
13:00	0	(5)	4	(19)
13:15	0		6	
13:30	3		4	
13:45	1		5	
14:00	5	(9)	9	(24)
14:15	10		24	
14:30	14		53	
14:45	3		20	
15:00	4	(31)	10	(107)
SUBTOTAL		45		150
15:15	0		5	
15:30	2		6	
15:45	6		11	
16:00	1	(9)	18	(40)
16:15	3		14	
16:30	0		13	
16:45	5		17	
17:00	5	(13)	17	(61)
17:15	8		14	
17:30	11		9	
17:45	8		8	
18:00	9	(34)	9	(40)
SUBTOTAL		56		141
18:15	9		17	
18:30	4		12	
18:45	5		8	
19:00	2	(20)	11	(48)
19:15	2		1	
19:30	4		5	
19:45	2		8	
20:00	3	(11)	5	(17)
20:15	1		11	
20:30	3		5	
20:45	4		10	
21:00	2	(10)	11	(37)
SUBTOTAL		41		102
21:15	4		8	
21:30	5		8	
21:45	5		9	
22:00	3	(17)	5	(28)
22:15	2		2	
22:30	0		2	
22:45	3		2	
23:00	0	(5)	0	(6)
23:15	5		0	
23:30	1		1	
23:45	1		1	
24:00	2	(9)	2	(4)
SUBTOTAL		31		38
12-HR TOTAL		173		431

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	0		1	
00:30	3		1	
00:45	2		0	
01:00	1	(6)	1	(3)
01:15	0		0	
01:30	2		1	
01:45	0		0	
02:00	1	(3)	0	(1)
02:15	1		0	
02:30	1		1	
02:45	2		0	
03:00	0	(4)	2	(3)
SUBTOTAL		13		7
03:15	0		2	
03:30	0		0	
03:45	1		1	
04:00	0	(1)	1	(4)
04:15	0		1	
04:30	1		1	
04:45	1		0	
05:00	0	(2)	0	(2)
05:15	0		1	
05:30	0		0	
05:45	0		0	
06:00	0	0	0	(1)
SUBTOTAL		3		7
06:15	0		4	
06:30	4		1	
06:45	0		0	
07:00	2	(6)	1	(6)
07:15	1		1	
07:30	1		3	
07:45	1		1	
08:00	0	(3)	4	(9)
08:15	2		4	
08:30	1		2	
08:45	1		7	
09:00	3	(7)	8	(21)
SUBTOTAL		18		38
09:15	1		4	
09:30	3		8	
09:45	7		10	
10:00	6	(17)	2	(22)
10:15	5		12	
10:30	5		11	
10:45	0		11	
11:00	5	(15)	12	(46)
11:15	4		13	
11:30	3		9	
11:45	5		8	
12:00	3	(15)	12	(40)
SUBTOTAL		47		108
12-HR TOTAL		79		158
24-HR TOTAL		252		589



LOCATION : KAHALOA DR NW OF EAST MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1677
DATE : FRI 12/1/89 TO SAT 12/2/89



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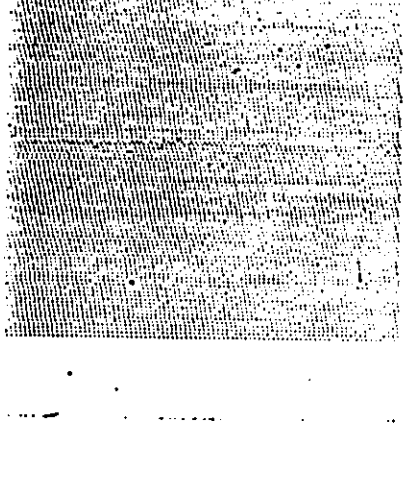
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

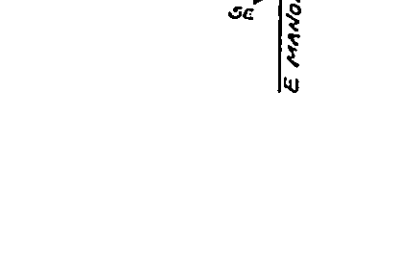
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	3		18	
12:30	2		3	
12:45	3		7	
13:00	0	(8)	10	(36)
13:15	2		11	
13:30	0		7	
13:45	3		10	
14:00	0	(5)	5	(33)
14:15	6		10	
14:30	1		9	
14:45	4		7	
15:00	2	(13)	13	(39)
SUBTOTAL		26		108
15:15	4		8	
15:30	1		11	
15:45	4		12	
16:00	3	(12)	12	(43)
16:15	1		6	
16:30	6		4	
16:45	1		3	
17:00	1	(9)	7	(20)
17:15	5		6	
17:30	4		5	
17:45	5		7	
18:00	0	(14)	8	(24)
SUBTOTAL		35		87
18:15	3		8	
18:30	0		5	
18:45	1		5	
19:00	0	(4)	4	(22)
19:15	0		2	
19:30	2		6	
19:45	1		1	
20:00	0	(3)	2	(11)
20:15	1		2	
20:30	0		5	
20:45	0		2	
21:00	0	(1)	2	(11)
SUBTOTAL		8		44
21:15	0		2	
21:30	2		9	
21:45	0		3	
22:00	0	(2)	2	(16)
22:15	3		1	
22:30	0		3	
22:45	4		3	
23:00	1	(8)	3	(10)
23:15	1		1	
23:30	4		4	
23:45	2		4	
24:00	2	(9)	1	(10)
SUBTOTAL		19		38
12-HR TOTAL		88		275

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	1		1	
00:30	2		1	
00:45	2		1	
01:00	0	(5)	3	(6)
01:15	0		0	
01:30	0		0	
01:45	0		0	
02:00	0	0	1	(1)
02:15	0		2	
02:30	0		0	
02:45	0		0	
03:00	0	0	1	(3)
SUBTOTAL		5		10
03:15	0		0	
03:30	0		1	
03:45	0		0	
04:00	1	(1)	0	(1)
04:15	0		0	
04:30	0		0	
04:45	0		0	
05:00	0	0	0	0
05:15	0		0	
05:30	0		0	
05:45	0		0	
06:00	0	0	4	(4)
SUBTOTAL		1		5
06:15	1		2	
06:30	1		0	
06:45	0		1	
07:00	0	(2)	4	(7)
07:15	0		1	
07:30	0		2	
07:45	0		2	
08:00	0	0	0	(5)
08:15	1		2	
08:30	1		2	
08:45	0		8	
09:00	1	(3)	6	(18)
SUBTOTAL		5		30
09:15	1		7	
09:30	3		6	
09:45	1		3	
10:00	0	(5)	3	(19)
10:15	3		3	
10:30	5		7	
10:45	2		2	
11:00	1	(11)	1	(13)
11:15	2		7	
11:30	4		7	
11:45	0		4	
12:00	3	(9)	9	(27)
SUBTOTAL		25		59
12-HR TOTAL		36		104
24-HR TOTAL		124		379



LOCATION : KAHALOA DR NW OF EAST MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1677
DATE : SAT 12/2/89 TO SUN 12/3/89



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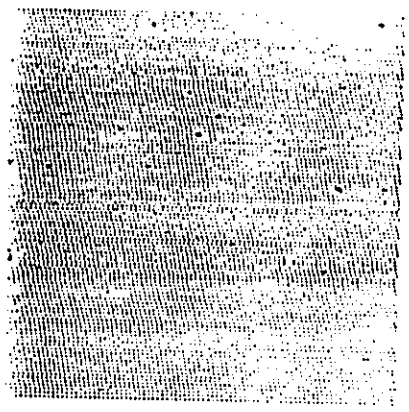
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

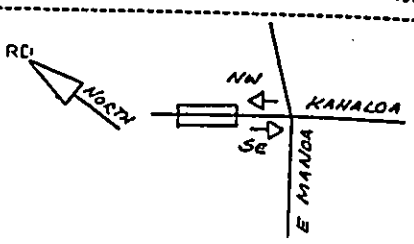
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	1		5	
12:30	0		2	
12:45	3		7	
13:00	2	(6)	5	(18)
13:15	2		8	
13:30	0		9	
13:45	3		6	
14:00	2	(7)	15	(38)
14:15	3		9	
14:30	0		7	
14:45	4		8	
15:00	1	(8)	6	(28)
SUBTOTAL		21		85
15:15	4		6	
15:30	3		16	
15:45	0		15	
16:00	4	(11)	9	(46)
16:15	2		8	
16:30	6		9	
16:45	5		13	
17:00	1	(15)	7	(35)
17:15	1		4	
17:30	1		6	
17:45	0		7	
18:00	1	(3)	8	(25)
SUBTOTAL		29		106
18:15	1		12	
18:30	0		2	
18:45	0		0	
19:00	2	(3)	8	(22)
19:15	4		1	
19:30	1		3	
19:45	2		3	
20:00	0	(7)	3	(10)
20:15	0		0	
20:30	3		1	
20:45	1		1	
21:00	2	(6)	3	(5)
SUBTOTAL		16		37
21:15	2		3	
21:30	0		2	
21:45	0		0	
22:00	2	(4)	1	(6)
22:15	0		2	
22:30	1		1	
22:45	0		0	
23:00	0	(1)	0	(3)
23:15	0		1	
23:30	1		0	
23:45	0		2	
24:00	0	(1)	0	(3)
SUBTOTAL		6		12
12-HR TOTAL		72		240

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	1		0	
00:30	1		0	
00:45	0		0	
01:00	0	(2)	1	(1)
01:15	0		0	
01:30	0		0	
01:45	0		0	
02:00	0	0	0	0
02:15	0		0	
02:30	0		0	
02:45	0		0	
03:00	1	(1)	0	0
SUBTOTAL		3		1
03:15	0		1	
03:30	0		0	
03:45	0		2	
04:00	0	0	1	(4)
04:15	0		0	
04:30	0		2	
04:45	0		0	
05:00	0	0	0	(2)
05:15	0		0	
05:30	1		0	
05:45	0		3	
06:00	0	(1)	3	(6)
SUBTOTAL		1		12
06:15	1		2	
06:30	0		6	
06:45	1		3	
07:00	1	(3)	9	(20)
07:15	2		14	
07:30	17		24	
07:45	34		29	
08:00	35	(88)	63	(130)
08:15	7		26	
08:30	3		8	
08:45	2		8	
09:00	1	(13)	4	(48)
SUBTOTAL		104		138
09:15	1		0	
09:30	0		3	
09:45	3		1	
10:00	5	(9)	4	(8)
10:15	2		5	
10:30	0		5	
10:45	2		7	
11:00	4	(8)	6	(23)
11:15	1		1	
11:30	0		4	
11:45	5		3	
12:00	0	(8)	2	(10)
SUBTOTAL		23		41
12-HR TOTAL		131		250
24-HR TOTAL		203		490



LOCATION : KAHALOA DR NW OF EAST MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1677
DATE : SUN 12/3/89 TO MON 12/4/89



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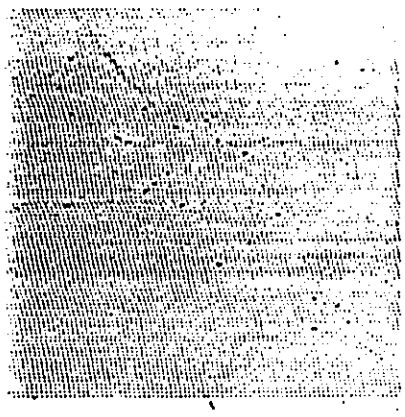
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

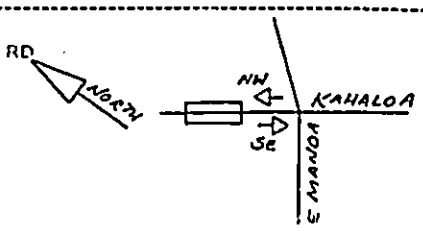
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	4		4	
12:30	3		3	
12:45	2		3	
13:00	0	(9)	7	(23)
13:15	4		6	
13:30	1		5	
13:45	3		2	
14:00	9	(17)	10	(23)
14:15	21		21	
14:30	7		52	
14:45	7		17	
15:00	6	(41)	8	(98)
SUBTOTAL		67		144
15:15	5		11	
15:30	2		7	
15:45	6		8	
16:00	3	(16)	12	(38)
16:15	4		15	
16:30	3		15	
16:45	6		8	
17:00	3	(16)	7	(45)
17:15	6		20	
17:30	4		17	
17:45	6		7	
18:00	2	(18)	12	(56)
SUBTOTAL		50		139
18:15	4		5	
18:30	5		7	
18:45	2		8	
19:00	0	(11)	3	(23)
19:15	0		3	
19:30	0		6	
19:45	0		0	
20:00	2	(2)	2	(11)
20:15	1		2	
20:30	0		0	
20:45	0		1	
21:00	2	(3)	4	(7)
SUBTOTAL		16		41
21:15	1		2	
21:30	2		3	
21:45	1		0	
22:00	1	(5)	1	(6)
22:15	1		1	
22:30	0		1	
22:45	1		1	
23:00	0	(2)	1	(4)
23:15	1		2	
23:30	1		0	
23:45	0		1	
24:00	0	(2)	1	(4)
SUBTOTAL		9		14
12-HR TOTAL		142		338

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	0		0	
00:30	0		0	
00:45	0		0	
01:00	0	0	1	(1)
01:15	1		0	
01:30	0		1	
01:45	0		0	
02:00	0	(1)	0	(1)
02:15	0		1	
02:30	1		0	
02:45	0		0	
03:00	0	(1)	0	(1)
SUBTOTAL		2		3
03:15	0		0	
03:30	0		0	
03:45	0		0	
04:00	0	0	0	0
04:15	0		0	
04:30	0		0	
04:45	0		2	
05:00	1	(1)	0	(2)
05:15	1		0	
05:30	2		0	
05:45	0		0	
06:00	0	(3)	3	(3)
SUBTOTAL		4		5
06:15	0		2	
06:30	0		8	
06:45	0		4	
07:00	3	(3)	4	(18)
07:15	8		11	
07:30	7		10	
07:45	25		27	
08:00	44	(82)	58	(107)
08:15	5		13	
08:30	1		1	
08:45	2		6	
09:00	1	(9)	3	(23)
SUBTOTAL		94		148
09:15	1		5	
09:30	1		4	
09:45	0		5	
10:00	0	(2)	1	(15)
10:15	0		4	
10:30	1		3	
10:45	1		5	
11:00	3	(5)	2	(14)
11:15	1		2	
11:30	2		2	
11:45	4		4	
12:00	1	(8)	7	(15)
SUBTOTAL		15		44
12-HR TOTAL		115		200
24-HR TOTAL		257		538



LOCATION : KAHALOA DR NW OF EAST MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1677
DATE : MON 12/4/89 TO TUE 12/5/89



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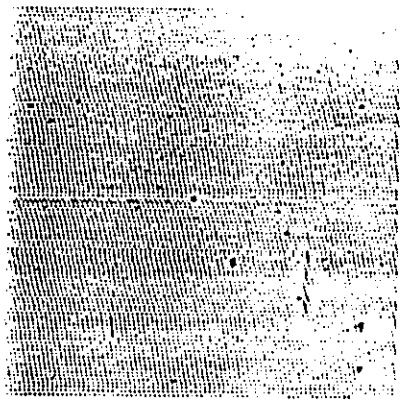
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

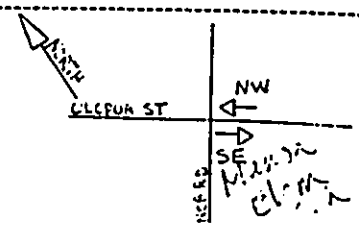
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	0		3	
12:30	0		2	
12:45	2		4	
13:00	0	(2)	1	(10)
13:15	0		4	
13:30	0		3	
13:45	0		8	
14:00	1	(1)	19	(34)
14:15	8		29	
14:30	2		11	
14:45	2		9	
15:00	0	(13)	9	(58)
SUBTOTAL		16		102
15:15	3		6	
15:30	0		3	
15:45	2		6	
16:00	1	(6)	8	(23)
16:15	0		6	
16:30	2		10	
16:45	2		8	
17:00	0	(4)	9	(33)
17:15	3		10	
17:30	0		4	
17:45	0		5	
18:00	3	(6)	5	(24)
SUBTOTAL		18		80
18:15	0		3	
18:30	0		1	
18:45	0		3	
19:00	0	0	2	(9)
19:15	0		2	
19:30	0		1	
19:45	1		2	
20:00	0	(1)	1	(6)
20:15	0		1	
20:30	0		2	
20:45	0		2	
21:00	0	0	1	(6)
SUBTOTAL		1		21
21:15	0		1	
21:30	0		1	
21:45	0		4	
22:00	0	0	0	(6)
22:15	0		1	
22:30	0		0	
22:45	0		3	
23:00	0	0	0	(4)
23:15	0		0	
23:30	0		1	
23:45	0		0	
24:00	0	0	0	(1)
SUBTOTAL		0		11
12-HR TOTAL		33		214

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	0		0	
00:30	0		1	
00:45	0		0	
01:00	0	0	0	(1)
01:15	0		0	
01:30	0		0	
01:45	0		1	
02:00	0	0	0	(1)
02:15	0		0	
02:30	0		0	
02:45	0		0	
03:00	0	0	0	0
SUBTOTAL		0		2
03:15	0		0	
03:30	0		0	
03:45	0		0	
04:00	0	0	0	0
04:15	0		1	
04:30	0		0	
04:45	0		0	
05:00	0	0	1	(2)
05:15	0		0	
05:30	0		0	
05:45	0		0	
06:00	0	0	2	(2)
SUBTOTAL		0		4
06:15	0		2	
06:30	0		3	
06:45	2		7	
07:00	5	(7)	26	(38)
07:15	4		41	
07:30	5		49	
07:45	9		67	
08:00	3	(21)	14	(171)
08:15	2		2	
08:30	2		3	
08:45	1		5	
09:00	0	(5)	4	(14)
SUBTOTAL		33		223
09:15	0		1	
09:30	1		3	
09:45	0		1	
10:00	0	(1)	4	(9)
10:15	1		2	
10:30	0		4	
10:45	0		3	
11:00	0	(1)	1	(10)
11:15	0		1	
11:30	1		3	
11:45	1		4	
12:00	1	(3)	4	(12)
SUBTOTAL		5		31
12-HR TOTAL		38		260
24-HR TOTAL		71		474



LOCATION : OLOPUA ST AT MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1066 AND 1666
DATE : THU 11/30/89 TO FRI 12/01/89



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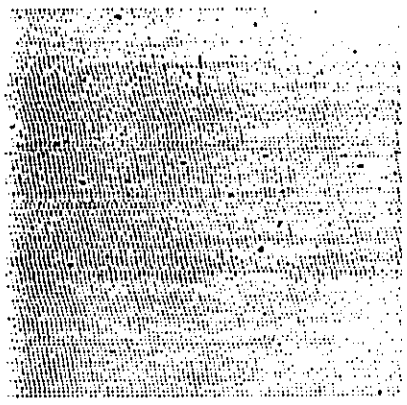
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

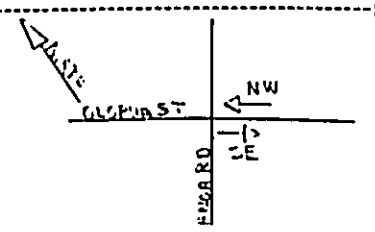
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	0		1	
12:30	0		2	
12:45	0		1	
13:00	0	0	2	(6)
13:15	1		4	
13:30	2		5	
13:45	0		6	
14:00	4	(7)	22	(37)
14:15	24		26	
14:30	10		13	
14:45	2		3	
15:00	4	(40)	5	(47)
SUBTOTAL		47		90
15:15	3		7	
15:30	2		11	
15:45	3		10	
16:00	2	(10)	9	(37)
16:15	3		5	
16:30	2		9	
16:45	4		21	
17:00	2	(11)	7	(42)
17:15	0		6	
17:30	1		8	
17:45	0		7	
18:00	3	(4)	7	(28)
SUBTOTAL		25		107
18:15	1		12	
18:30	0		10	
18:45	1		2	
19:00	1	(3)	4	(28)
19:15	0		3	
19:30	0		3	
19:45	0		3	
20:00	1	(1)	5	(14)
20:15	0		3	
20:30	0		2	
20:45	0		0	
21:00	0	0	3	(8)
SUBTOTAL		4		50
21:15	2		2	
21:30	0		3	
21:45	1		1	
22:00	0	(3)	1	(7)
22:15	0		0	
22:30	0		1	
22:45	0		0	
23:00	0	0	2	(3)
23:15	0		1	
23:30	0		5	
23:45	1		2	
24:00	0	(1)	0	(8)
SUBTOTAL		4		18
12-HR TOTAL		80		265

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	0		0	
00:30	0		0	
00:45	0		0	
01:00	0	0	0	0
01:15	0		1	
01:30	0		0	
01:45	1		0	
02:00	0	(1)	0	(1)
02:15	0		1	
02:30	0		1	
02:45	0		2	
03:00	0	0	0	(4)
SUBTOTAL		1		5
03:15	0		0	
03:30	0		0	
03:45	0		0	
04:00	0	0	0	0
04:15	0		1	
04:30	0		0	
04:45	0		1	
05:00	0	0	1	(3)
05:15	0		1	
05:30	0		0	
05:45	0		0	
06:00	1	(1)	1	(2)
SUBTOTAL		1		5
06:15	0		0	
06:30	0		0	
06:45	0		0	
07:00	0	0	1	(1)
07:15	0		2	
07:30	0		2	
07:45	0		0	
08:00	0	0	1	(5)
08:15	0		2	
08:30	0		3	
08:45	1		8	
09:00	0	(1)	9	(22)
SUBTOTAL		1		28
09:15	1		3	
09:30	1		5	
09:45	0		1	
10:00	0	(2)	4	(13)
10:15	1		3	
10:30	0		2	
10:45	1		4	
11:00	0	(2)	3	(12)
11:15	0		2	
11:30	2		3	
11:45	1		5	
12:00	2	(5)	2	(12)
SUBTOTAL		9		37
12-HR TOTAL		12		75
24-HR TOTAL		92		340



LOCATION : OLOPUA ST AT MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1066 AND 1666
DATE : FRI 12/01/89 TO SAT 12/02/89



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DEPARTMENT OF TRANSPORTATION SERVICES

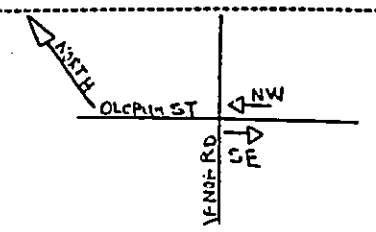
CITY AND COUNTY OF HONOLULU

TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	1		2	
12:30	2		8	
12:45	0		2	
13:00	1	(4)	2	(14)
13:15	0		9	
13:30	1		6	
13:45	0		2	
14:00	1	(2)	2	(19)
14:15	0		4	
14:30	1		2	
14:45	0		2	
15:00	2	(3)	4	(12)
SUBTOTAL		9		45
15:15	0		3	
15:30	1		3	
15:45	0		5	
16:00	1	(2)	3	(14)
16:15	0		1	
16:30	0		2	
16:45	0		3	
17:00	1	(1)	3	(9)
17:15	0		2	
17:30	3		4	
17:45	0		0	
18:00	1	(4)	8	(14)
SUBTOTAL		7		37
18:15	0		3	
18:30	0		3	
18:45	1		3	
19:00	0	(1)	2	(11)
19:15	0		2	
19:30	0		0	
19:45	0		1	
20:00	0	0	2	(5)
20:15	1		3	
20:30	0		2	
20:45	1		0	
21:00	1	(3)	1	(6)
SUBTOTAL		4		22
21:15	0		2	
21:30	0		1	
21:45	0		2	
22:00	0	0	1	(6)
22:15	0		0	
22:30	0		4	
22:45	0		2	
23:00	0	0	1	(7)
23:15	1		1	
23:30	0		0	
23:45	0		2	
24:00	0	(1)	1	(4)
SUBTOTAL		1		17
12-HR TOTAL		21		121

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	0		0	
00:30	0		0	
00:45	0		0	
01:00	0	0	0	0
01:15	0		0	
01:30	0		0	
01:45	0		0	
02:00	0	0	0	0
02:15	0		0	
02:30	0		0	
02:45	0		1	
03:00	0	0	0	(1)
SUBTOTAL		0		1
03:15	0		0	
03:30	0		0	
03:45	0		1	
04:00	0	0	0	(1)
04:15	0		0	
04:30	0		0	
04:45	0		0	
05:00	0	0	0	0
05:15	0		0	
05:30	0		0	
05:45	0		1	
06:00	0	0	1	(2)
SUBTOTAL		0		3
06:15	0		0	
06:30	0		2	
06:45	0		2	
07:00	0	0	1	(5)
07:15	0		1	
07:30	0		1	
07:45	0		0	
08:00	0	0	2	(4)
08:15	1		1	
08:30	0		1	
08:45	0		1	
09:00	0	(1)	3	(8)
SUBTOTAL		1		15
09:15	5		5	
09:30	0		12	
09:45	1		4	
10:00	0	(6)	5	(26)
10:15	3		4	
10:30	0		11	
10:45	2		5	
11:00	0	(5)	4	(24)
11:15	0		2	
11:30	1		5	
11:45	0		8	
12:00	1	(2)	5	(18)
SUBTOTAL		13		88
12-HR TOTAL		14		87
24-HR TOTAL		35		208

LOCATION : OLOPUA ST AT MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1066 AND 1666
DATE : SAT 12/02/89 TO SUN 12/03/89



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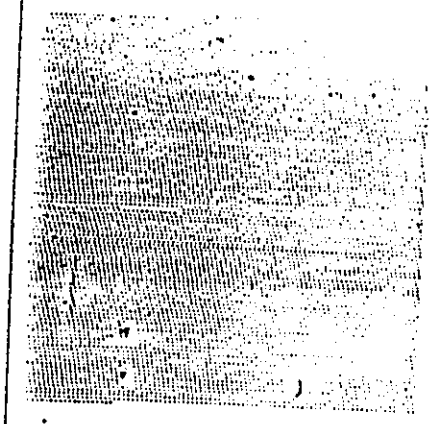
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

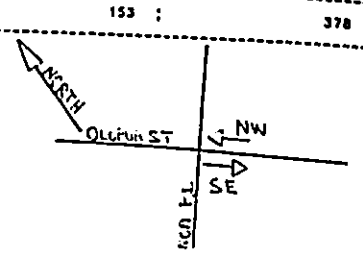
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	0		0	
12:30	1		3	
12:45	1		3	
13:00	1	(3)	7	(13)
13:15	0		4	
13:30	0		3	
13:45	0		8	
14:00	1	(1)	6	(23)
14:15	1		6	
14:30	1		6	
14:45	0		3	
15:00	2	(4)	7	(21)
SUBTOTAL		8		57
15:15	4		9	
15:30	3		3	
15:45	0		6	
16:00	3	(10)	5	(23)
16:15	0		3	
16:30	3		1	
16:45	0		4	
17:00	0	(3)	2	(10)
17:15	2		2	
17:30	0		3	
17:45	0		8	
18:00	1	(3)	3	(16)
SUBTOTAL		16		49
18:15	1		1	
18:30	0		1	
18:45	0		0	
19:00	0	(1)	2	(4)
19:15	0		1	
19:30	1		2	
19:45	0		0	
20:00	0	(1)	0	(3)
20:15	0		0	
20:30	0		0	
20:45	0		1	
21:00	0	0	1	(2)
SUBTOTAL		2		9
21:15	0		2	
21:30	0		0	
21:45	0		1	
22:00	0	0	0	(3)
22:15	0		0	
22:30	0		0	
22:45	0		0	
23:00	0	0	0	0
23:15	0		1	
23:30	0		1	
23:45	0		0	
24:00	0	0	1	(3)
SUBTOTAL		0		6
12-HR TOTAL		26		121

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	1		0	
00:30	0		0	
00:45	0		0	
01:00	0	(1)	0	0
01:15	0		0	
01:30	0		0	
01:45	0		0	
02:00	0	0	0	0
02:15	0		0	
02:30	0		0	
02:45	0		0	
03:00	0	0	0	0
SUBTOTAL		1		0
03:15	0		0	
03:30	0		0	
03:45	0		0	
04:00	0	0	0	0
04:15	0		0	
04:30	0		0	
04:45	0		0	
05:00	0	0	0	0
05:15	0		0	
05:30	0		1	
05:45	1		1	
06:00	0	(1)	0	(2)
SUBTOTAL		1		2
06:15	0		1	
06:30	0		4	
06:45	1		10	
07:00	19	(20)	25	(40)
07:15	17		38	
07:30	25		44	
07:45	46		77	
08:00	8	(98)	8	(167)
08:15	0		7	
08:30	0		5	
08:45	2		1	
09:00	0	(2)	1	(14)
SUBTOTAL		118		221
09:15	0		2	
09:30	0		2	
09:45	1		2	
10:00	2	(3)	1	(7)
10:15	1		5	
10:30	0		2	
10:45	1		1	
11:00	0	(2)	2	(10)
11:15	0		3	
11:30	1		2	
11:45	0		7	
12:00	1	(2)	5	(17)
SUBTOTAL		7		34
12-HR TOTAL		127		257
24-HR TOTAL		153		378



LOCATION : OLOPUA ST AT MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1066 AND 1666
DATE : SUN 12/03/89 TO MON 12/04/89



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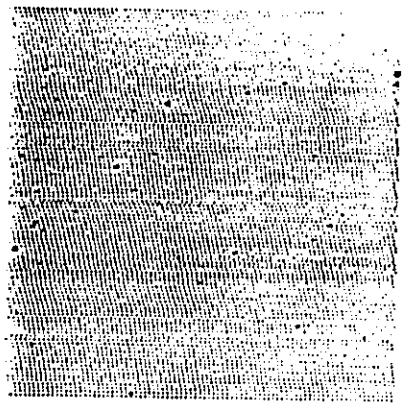
DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

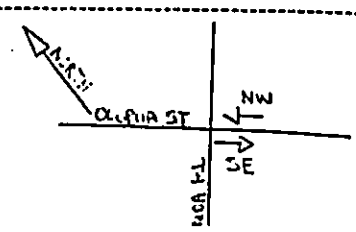
TRAFFIC VOLUME COUNTS

PM	NORTHWEST BOUND		SOUTHEAST BOUND	
12:15	3		4	
12:30	0		2	
12:45	1		3	
13:00	2	(6)	4	(13)
13:15	0		4	
13:30	2		3	
13:45	1		9	
14:00	2	(5)	18	(34)
14:15	30		27	
14:30	3		9	
14:45	2		5	
15:00	1	(36)	5	(46)
SUBTOTAL		47		93
15:15	1		3	
15:30	1		3	
15:45	3		9	
16:00	5	(10)	4	(19)
16:15	4		7	
16:30	4		7	
16:45	3		5	
17:00	5	(16)	12	(31)
17:15	7		12	
17:30	4		4	
17:45	0		3	
18:00	0	(11)	2	(21)
SUBTOTAL		37		71
18:15	1		4	
18:30	2		4	
18:45	1		5	
19:00	0	(4)	2	(15)
19:15	0		3	
19:30	1		0	
19:45	0		0	
20:00	0	(1)	0	(3)
20:15	0		0	
20:30	0		0	
20:45	0		3	
21:00	1	(1)	1	(4)
SUBTOTAL		8		22
21:15	0		1	
21:30	0		0	
21:45	0		0	
22:00	0	0	0	(1)
22:15	0		0	
22:30	0		0	
22:45	0		0	
23:00	0	0	1	(1)
23:15	1		0	
23:30	0		1	
23:45	0	-	1	
24:00	0	(1)	1	(3)
SUBTOTAL		1		5
12-HR TOTAL	91		191	

AM	NORTHWEST BOUND		SOUTHEAST BOUND	
00:15	0		0	
00:30	0		0	
00:45	0		0	
01:00	0	0	0	0
01:15	0		0	
01:30	0		0	
01:45	0		0	
02:00	0	0	0	0
02:15	0		0	
02:30	0		0	
02:45	0		2	
03:00	0	0	0	(2)
SUBTOTAL		0		2
03:15	0		0	
03:30	0		0	
03:45	0		0	
04:00	0	0	0	0
04:15	0		0	
04:30	0		1	
04:45	0		0	
05:00	0	0	1	(2)
05:15	0		0	
05:30	0		0	
05:45	0		0	
06:00	0	0	1	(1)
SUBTOTAL		0		3
06:15	0		2	
06:30	0		1	
06:45	0		10	
07:00	5	(5)	15	(28)
07:15	17		27	
07:30	28		50	
07:45	27		84	
08:00	8	(80)	11	(152)
08:15	1		2	
08:30	2		0	
08:45	0		3	
09:00	0	(3)	2	(7)
SUBTOTAL		88		187
09:15	1		3	
09:30	2		6	
09:45	2		2	
10:00	1	(6)	4	(15)
10:15	1		0	
10:30	1		5	
10:45	1		4	
11:00	1	(4)	3	(12)
11:15	1		5	
11:30	3		2	
11:45	0		2	
12:00	0	(4)	1	(10)
SUBTOTAL		14		37
12-HR TOTAL	102		229	
24-HR TOTAL	193		420	



LOCATION : OLOPUA ST AT MANOA RD
DIRECTION : NORTHWEST BOUND
SOUTHEAST BOUND
METER NUMBER : 1066 AND 1666
DATE : MON 12/04/89 TO TUE 12/05/89



COMMENTS FROM PUBLIC AGENCIES

AND OTHER INTERESTED PARTIES

89-8-2186

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

August 10, 1989

Planning Branch

'89 AUG 14 A9:57
DEPT. OF HOUSING & COMM. DEVELOPMENT

Mr. Michael N. Scarfone, Director
Department of Housing and
Community Development
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

Dear Mr. Scarfone:

Thank you for the opportunity to review the Environmental Assessment (EA) Preparation Notice for the proposed Manoa Elderly Housing and Park Expansion, Honolulu. The following comments are offered:

a. The Department of the Army regulates the placement of fill in waters of the United States. If any work is planned in, near, or above Manoa Stream, then Operations Branch (telephone 438-9258) should be contacted as soon as possible.

b. The flood hazard information provided on page 1 of the Project Description is correct.

Sincerely,

Kisuk Cheung
Chief, Engineering Division

U.S. Department of Housing and Urban Development
Honolulu Office, Region IX
300 Ala Moana Blvd., Room 3318, Box 50007
Honolulu, Hawaii 96850-4991

89-261

August 1, 1989

Mr. Michael Scarfone
Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

'89 AUG -7 A9:16
& COUNTY OF HONOLULU

Dear Mr. Scarfone:

SUBJECT: Manoa Elderly Housing and Park Expansion
Environmental Assessments

This responds to your request for comments on the proposed action in Manoa Valley that will develop approximately 75 rental units for the elderly; build a community center for the tenants; develop a new soccer field; relocate existing parking stalls; and expand parking facilities and access from Manoa Road.

The proposed action will not require the preparation of an Environmental Impact Statement in accordance with 24 CFR Part 58 Environmental Review Procedures for Title I Community Development Block Grant Programs.

We do not have any specific environmental concerns that should be addressed. However, you may want to work closely with community groups that have expressed concerns over the proposed action. This may be achieved through meetings with particular interest groups and/or holding a public meeting with the residents in the neighborhood.

We note that the City will finance and develop the elderly housing component using City funds. Upon completion, CDBG funds would be provided to a non-profit corporation to purchase some of the units for rent to low- and moderate-income elderly persons/families. If details of the use of CDBG funds have been finalized, please provide us with the following information:

a. Type of City financing (tax-exempt or nontax-exempt bonds).

b. Type of non-profit entity. (Established under 570.204?)

c. Use of proceeds from the sale of units to the non-profit.

d. Percent of units to be sold to the non-profit.

e. How will the "sale" be accomplished in terms of property interests of the non-profit ownership?

We are raising these issues to avoid any future misunderstanding on compliance with the CDBG rules.

If you have any questions, you may call Frank Johnson at 541-1327.

Very sincerely yours,

Calvin Lew
Director
Community Planning and
Development Division

United States Department of the Interior
FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS OFFICE
P.O. BOX 50167
HONOLULU, HAWAII 96850

ES
Room 6307

JUL 28 1989

Mr. Michael N. Scarfone, Director
Department of Housing and Community Development
City and County of Honolulu
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

Re: Manoa Elderly Housing and Park Expansion Environmental Assessment

Dear Mr. Scarfone:

Due to current manpower and budget restrictions, the Office of Environmental Services cannot review fish and wildlife concerns associated with the referenced action at this time. We suggest that you contact the State of Hawaii, Department of Land and Natural Resources and to solicit their comments on your proposal.

In accordance with the Fish and Wildlife Coordination Act, the Service may review future actions related to this proposal should administrative constraints be alleviated or if adverse impacts to significant fish and wildlife resources are identified. Please continue to keep this office apprised of the project's status.

Sincerely yours,

for Ernest Kosaka
Field Office Supervisor
Environmental Services

'89 JUL 31 A9:09
DEPT. OF HOUSING
& COMM. DEVELOPMENT

JOHN WAIHEE
GOVERNOR

YUKIO KITAGAWA
CHAIRPERSON, BOARD OF AGRICULTURE

SUZANNE D. PETERSON
DEPUTY TO THE CHAIRPERSON

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

FAX: 548-6100

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822-0159

August 17, 1989

'89 AUG 24 P1:51

DEPT. OF HOUSING & COMM. DEVELOPMENT

Mr. Michael N. Scarfone, Director
Department of Housing and Community Development
City and County of Honolulu
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

Dear Mr. Scarfone:

Subject: Manoa Elderly Housing and Park Expansion
Environmental Assessment
DHCD
TMK: 2-9-36: Por. of 3
Manoa, Oahu

The Department of Agriculture has reviewed the preliminary information relating to the subject project and we have no comments to offer at this time.

Thank you for the opportunity to comment.

Sincerely,

Yukio Kitagawa
YUKIO KITAGAWA
Chairperson, Board of Agriculture

Island Fresh

DEPARTMENT OF BUSINESS
AND ECONOMIC DEVELOPMENT

JOHN WAIHEE
GOVERNOR
ROGER A. ULVELING
DIRECTOR
BARBARA KIM STANTON
DEPUTY DIRECTOR
LESLIE S. MATSUBARA
DEPUTY DIRECTOR

KAMAMALU BUILDING, 250 SOUTH KING ST., HONOLULU, HAWAII
MAILING ADDRESS: P.O. BOX 2359, HONOLULU, HAWAII 96804 TELEX: 7430250 HIDPED FAX: (808) 523-6637

July 25, 1989

'89 JUL 28 AM 11:05
DEPT OF HOUSING & COMM. DEVELOPMENT

Mr. Michael N. Scarfone
Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Re: Manoa Elderly Housing and Park Expansion
Environmental Assessment

Dear Mr. Scarfone:

The Department of Business and Economic Development has no comments on the Environmental Impact Statement Preparation Notice dated July 17, 1989.

Sincerely,

Roger A. Ulveling

RAU:dq

JOHN WAIHEE
GOVERNOR

CHARLES T. TOGUCHI
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

August 2, 1989

'89 AUG -8 P2:25
COMM. DEVELOPMENT

Mr. Michael N. Scarfone, Director
Department of Housing and Community Development
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Scarfone:

SUBJECT: Manoa Elderly Housing and Park Expansion

Our review of the subject project indicates that it will have negligible impact on the area schools.

However we feel that the removal of the access roadway to Kahaloa Drive will cause the school a problem. It is our suggestion that the parking area be retained with a design to accommodate pick-up and drop-off of students.

Thank you for the opportunity to comment.

Sincerely,

for Kenso Dakate
Charles T. Toguchi
Superintendent

CTT:jl

cc: Mr. E. Imai
Dr. M. Oda

JOHN WAIHEE
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
465 SOUTH KING STREET, ROOM 104
HONOLULU, HAWAII 96813

MARVIN T. MIURA, Ph.D.
DIRECTOR

TELEPHONE NO.
548-6915

'89 AUG -8 A11:11
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

August 4, 1989

Michael N. Scarfone
Director
Department of Housing and Community Development
650 South King Street, 5th Floor
Honolulu, HI 96813

Dear Mr. Scarfone

SUBJECT: MANOA ELDERLY HOUSING AND PARK EXPANSION ENVIRONMENTAL ASSESSMENT

We are preparing our response to your request dated July 17, 1989 for comments on the above-titled project. In order for our response to be most helpful to you, we need information in addition to that provided with your letter. We therefore respectfully request the answers to the following questions:

1. DEMOGRAPHIC DATA

   a. How many people are expected to be living in the housing project? Where are they living now?

   b. What will be the density of the housing project population? How does this compare with the density of the community?

   c. Are there any other housing projects for the elderly in Manoa?

   d. How many people use the recreational areas?

2. NOISE EFFECTS

   a. Will the housing project residents be able to tolerate the noise from the school and recreational areas? What are current noise levels?

3. TRAFFIC EFFECTS

a. Where will guests of the housing project residents park?

b. Most of the roads in the vicinity have only two lanes. Traffic is congested at certain times of the day on East Manoa Road. How much of a burden will the additional traffic be?

c. Many sports events are held in the recreational areas. Will attenders of these events and housing project residents be competing for space on the roads?

4. SOCIAL EFFECTS

COMMUNITY GARDENS

a. How many community gardens are there? How many people tend them? Does the county have a list of these people?

b. Do these people use the produce to supplement their food supply or income?

c. Have these people been consulted about the obliteration of their gardens by this project? If so, what have been their comments?

COMMUNITY CENTER

a. Will the community center be used by people who don't live in the housing project (e.g., guests of the residents)?

5. ENVIRONMENTAL EFFECTS

a. Manoa Stream is polluted with heavy metals. Will the stream be further degraded as a result of this project? How will this project affect the quality of the water in the stream?

6. FEDERAL COMMUNITY DEVELOPMENT BLOCK GRANT

a. What are the conditions of the grant?

b. Can we obtain a copy of the application and grant award letter?

Thank you very much for providing us with this information as soon as possible. If you have any questions regarding this request, please contact Pat Matsueda at 548-6915.

Sincerely,

for Martin T. Miura, Ph.D.
Director

:ptm

JOHN WAIHEE
GOVERNOR

JOSEPH K. CONANT
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
SEVEN WATERFRONT PLAZA, SUITE 300
500 ALA MOANA BOULEVARD
HONOLULU, HAWAII 96813
FAX (808) 543-6841

IN REPLY REFER TO:

89:PLNG/2975 JT

July 31, 1989

'89 AUG -4 P9:27
DEPT. OF PLANNING & DEVELOPMENT

Mr. Michael N. Scarfone, Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street, 5th floor
Honolulu, Hawaii 96813

Dear Mr. Scarfone:

Re: Environmental Assessment for the Proposed Manoa Elderly Housing and Park Expansion Project

Thank you for the opportunity to review the preliminary information on the subject project. We are supportive of your efforts to increase affordable housing opportunities for the elderly.

Sincerely,

JOSEPH K. CONANT
Executive Director

89-E-2232

JOHN WAIHEE
GOVERNOR OF HAWAII

'89 AUG 17 P12:49

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

DEPT. OF HOUSING & COMM. DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
EPHSD

August 11, 1989

MEMORANDUM

To: Mr. Michael N. Scarfone, Director, Department of Housing & Community Development, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: Environmental Assessment (EA) for Manoa Elderly Housing and Park Expansion, Tax Map Key 2-9-36: Por. of 3

Thank you for allowing us to review and comment on the subject EA. We provide the following comments:

Wastewater Disposal

The project must connect to the public sewer system.

Noise

1. Concerns on this development are directed towards the following potential noise impacts affecting residents of the proposed elderly housing and adjacent single-family residential areas:

   a. Noise from activities associated with the community center located within the residential multi-plex structures. Subject to the type of use, noise from activities such as entertainment for parties may result in adverse impacts.

   b. Expansion of the recreational areas may increase noise disturbances.

   c. Expansion of parking areas will increase vehicular traffic within the area and create adverse noise impacts.

   d. Noise from stationary equipment, such as air conditioning units, pumps, generators and exhaust fans, must be attenuated to meet the allowable noise levels as specified in Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu.

2. Construction activities must comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu.

a. The contractor must obtain a noise permit if the noise levels from the contruction activities are expected to exceed the allowable levels of the rules.

b. Construction equipment and onsite vehicles requiring an exhaust of gas or air must be equipped with mufflers.

c. The contractor must comply with the requirements specified in the rules and conditions issued with the permit.

3. Traffic noise from heavy vehicles travelling to and from the construction sites must be minimized near existing residential areas and must comply with the provisions of Title 11, Administrative Rules Chapter 42, Vehicular Noise Control for Oahu.

Bruce S. Anderson
BRUCE S. ANDERSON, Ph.D.

JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

LIBERT K. LANDGRAF
MANABU TAGOMORI
RUSSELL N. FUKUMOTO

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

REF:OCEA:SOR

FILE: 90-52
DOC.: 6361E

AUG 28 1989

'89 AUG 30 A11:09

The Honorable Michael N. Scarfone
Director
Department of Housing and
Community Development
City and County of Honolulu
650 So. King Street, 5th Floor
Honolulu, Hawaii 96813

Dear Mr. Scarfone:

SUBJECT: Manoa Elderly Housing and Park Expansion,
Manoa Valley, Oahu; TMK 2-9-36: 3 (por.)

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the materials you submitted and have the following comments.

From an aquatic resources standpoint, we have no objection to the proposal. We trust that appropriate mitigating measures will be incorporated into the construction plans to minimize erosion and silt-laden runoff, and the release and/or leaching of petroleum products, building materials (including concrete) and other pollutants into Manoa Stream.

Thank you again for your cooperation in this matter. Please feel free to call me or Jay Lembeck of my staff, at 548-7837, if you have any questions.

Very truly yours,

WILLIAM W. PATY

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: 523-4427 • FAX 527-5498

FRANK F. FASI
MAYOR

MICHAEL N. SCARFONE
DIRECTOR

RONALD B. MUN
DEPUTY DIRECTOR

December 14, 1989

Mr. William W. Paty, Jr., Chair
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

Attention: Division of Historic Preservation

Dear Mr. Paty:

Subject: Manoa Elderly Housing and Park Expansion Project
Tax Map Key: 2-9-36: 3 (Portion)
Historic Preservation Compliance

'90 JAN -2 A8:10
DEPT. OF HOUSING & COMM. DEVELOPMENT

We respectfully request your concurrence with our findings on the subject matter.

Per conversation on December 13, 1989, with Ms. Joyce Bath of the Division of Historic Preservation and Karen Iwamoto, Department of Housing and Community Development (DHCD), the subject project will have "no effect" on any known historic property. This determination was based on a review of the National and Hawaii Registers of Historic Places and site inspections conducted by DHCD staff on July 26, 1988 and February 9, 1989.

If archaeological or human skeletal remains are found during construction, the contractor will be required to notify the DHCD and the Division of Historic Preservation immediately.

This letter shall confirm the City's ~~effect~~ effort to comply with Section 106 of the National State Historic Preservation Act of 1969, as amended, and the State Historic Preservation Program authorized under Hawaii Revised Statutes Chapter 6E.

After signing, please return a copy of this letter for our files.

Sincerely,

Original signed by
Michael N. Scarfone

MICHAEL N. SCARFONE, Director

CONCUR:

WILLIAM W. PATY, JR., Chair
State Historic Preservation Officer

OFFICE OF STATE PLANNING
Office of the Governor
STATE CAPITOL, HONOLULU, HAWAII 96813 TELEPHONE (808) 548-5893
JOHN WAIHEE, Governor

Ref. No. P-9549

June 15, 1989

'89 JUN 21 AM 9:51
OFF. OF PLANNING
& COMM. DEVELOPMENT

Mr. Paul T. Leong
Chief Budget Officer
Department of the Budget
City and County of Honolulu
Honolulu, Hawaii 96813

Dear Mr. Leong:

Subject: Hawaii Coastal Zone Management (CZM) Program Federal Consistency Review of the City and County of Honolulu's Fifteenth Year Community Development Block Grant (CDBG) Program (FC/87-014)

Your letter dated May 31, 1989, was forwarded to us by the Department of Business and Economic Development. For your information, the Hawaii Coastal Zone Management Program was transferred to the Office of State Planning in July 1988. Our mailing address is:

Mr. Harold S. Masumoto
Director
Office of State Planning
State Capitol
Honolulu, Hawaii 96813
Attn: Coastal Zone Management
Telephone: 548-8467

On April 8, 1987, a CZM general consistency certification was issued to the U.S. Department of Housing and Urban Development (HUD) for their CDBG program in the State of Hawaii. HUD subsequently authorized CDBG grantees, including the City and County of Honolulu, to determine which of their projects meet the criteria established by the CZM general consistency certification and which require separate CZM consistency reviews. For guidance on this matter, please refer to the CZM consistency assessment form developed by HUD and distributed to all Counties. The City and County of Honolulu, Department of Housing and Community Development, has been implementing these procedures since 1987.

We will continue to review those projects requiring separate CZM consistency reviews. If we can be of assistance during your review process, please feel free to contact our CZM office at 548-5973. Thank you for your cooperation in complying with the Hawaii CZM Program.

Sincerely,

Harold S. Masumoto

Harold S. Masumoto
Director

cc: Mr. Frank Johnson, HUD,
Honolulu Office
Department of Housing and Community
Development, City and County of Honolulu

JOHN WAIHEE
GOVERNOR

EDWARD Y. HIRATA
DIRECTOR

DEPUTY DIRECTORS
JOHN K. UCHIMA
RONALD N. HIRANO
DAN T. KOCHI
JEANNE K. SCHULTZ

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HWY-PS
2.7664

AUG 04 1989

'89 AUG -7 A9:55

Mr. Michael N. Scarfone, Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

Dear Mr. Scarfone:

Environmental Assessment Preparation, Manoa
Elderly Housing and Park Expansion, Manoa, Oahu
TMK: 2-9-36: Por. 3

Thank you for your letter of July 17, 1989 requesting our review of the subject project.

The proposal will not affect our State highway facilities.

Very truly yours,

Edward Y. Hirata
Director of Transportation

89-E-2215

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET

HONOLULU, HAWAII 96843

FRANK F. FASI, Mayor

DONNA B. GOTH, Chairman
JOHN K. TSUI, Vice Chairman
SISTER M. DAVILYN AH CHICK, O.S.F.
SAM CALLEJO
EDWARD Y. HIRATA
WALTER O. WATSON, JR.
MAURICE H. YAMASATO

KAZU HAYASHIDA
Manager and Chief Engineer

August 9, 1989

'89 AUG 16 P1:29

& COMM. DEVELOPMENT

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: FOR KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: YOUR LETTER OF JULY 17, 1989 REGARDING MANOA ELDERLY HOUSING AND PARK EXPANSION

We have the following comments on the proposed project:

1. An existing 12-inch main on Kahaloa Drive which ends on the Manoa School side of Manoa Stream is available to serve the project.

2. The projected water demand for the project should be stated.

3. Construction plans for the project should be coordinated with the Board of Water Supply.

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

89-7-1967

BUILDING DEPARTMENT

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 89-640

July 21, 1989

'89 JUL 25 A8:42

MEMO TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA)
MANOA ELDERLY HOUSING AND PARK EXPANSION

We have reviewed your proposal to prepare an Environmental Assessment for the subject project and have no comments to offer.

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: J. Harada

FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

1455 S. BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

FRANK F. FASI
MAYOR

FRANK K. KAHOOHANOHANO
FIRE CHIEF

LIONEL E. CAMARA
DEPUTY FIRE CHIEF

August 3, 1989

'89 AUG -7 A9:47

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING & COMMUNITY DEVELOPMENT

FROM: FRANK K. KAHOOHANOHANO, FIRE CHIEF

SUBJECT: MANOA ELDERLY HOUSING AND PARK EXPANSION
ENVIRONMENTAL ASSESSMENT

We have reviewed the subject material provided and foresee no adverse impact in Fire Department facilities or services, planned or now provided, existing fire protection is considered adequate.

The project shall conform to Board of Water Supply fire flow standards, access for emergency vehicles and conform to fire and building standards.

Should you have any questions, please contact Battalion Chief Michael Zablan of our Administrative Services Bureau at local 3838.

FRANK K. KAHOOHANOHANO
Fire Chief

MZ:ny

8-2-2771

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

FRANK F. FASI
MAYOR

DONALD A. CLEGG
CHIEF PLANNING OFFICER

GENE CONNELL
DEPUTY CHIEF PLANNING OFFICER

JB/DGP 7/89-2707

August 8, 1989

'89 AUG 10 P3:46

MEMORANDUM

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: DONALD A. CLEGG, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

SUBJECT: MANOA ELDERLY HOUSING AND PARK EXPANSION
ENVIRONMENTAL ASSESSMENT PREPARATION NOTICE

This is in reply to your memo dated July 17, 1989 regarding the above.

Under the Development Plan Land Use Map for the Primary Urban Center adopted by Ordinance No. 81-79, as amended, the proposed development site is designated for Public Facility use. Consequently, the proposed elderly housing development does not conform with the land use designation for the area.

We understand, however, that to resolve this matter, your department plans to request an exemption from county statutes and ordinances (the Development Plan included) under Section 201E-210 of the Hawaii Revised Statutes.

We have no objections to these exemptions and fully support the development of needed affordable rental units for the elderly.

Donald A. Clegg
DONALD A. CLEGG
Chief Planning Officer

DAC:ft

OFFICE OF HUMAN RESOURCES
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING, 6TH FLOOR
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 527-5311

FRANK F. FASI
MAYOR

MARIA VICTORIA R. BUNYE
DIRECTOR

VICTOR D. GUILLERMO, JR.
DEPUTY DIRECTOR

July 26, 1989

'89 JUL 26 AM 10:27
PLNG. & COMM. DEVELOPMENT

MEMORANDUM

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: MARIA VICTORIA R. BUNYE, DIRECTOR
OFFICE OF HUMAN RESOURCES

SUBJECT: COMMENTS ON MANOA ELDERLY HOUSING AND PARK EXPANSION

This memorandum presents comments on the Manoa Elderly Housing and Park Expansion Project in response to correspondence from your department dated July 17, 1989.

The Office of Human Resources has been and continues to be strongly in favor of this project.

Adequate and affordable housing for the elderly population has become scarcer in the last decade. As of February 1989, there were more than 1,980 elderly people on waiting lists for 968 public elderly housing units available on Oahu. Wait lists for these units are 2 ½ to 5 years long. Privately managed elderly projects provide an additional 972 units with wait lists for these units averaging more than one year.

Senior citizens realize the magnitude of the problem of shelter. In a survey conducted by our office in January 1989 of 270 persons over 60 years of age, medical care, housing, and home care help were selected to be the three most serious problemS facing older adults on Oahu.

We support your Department's initiative to address the need for elderly housing. We feel that the location of this project within an established community is excellent as it maximizes the older resident's access to shopping, banks, doctor's offices, recreation and other programs and facilities. Access to community and supportive services is more critical to the older less mobile population.

Thank you for the opportunity to comment on this project. If there are any questions, please contact Mrs. Lynette Kurren at 523-4361. We look forward to the project's completion.

89-8-2202

DEPARTMENT OF LAND UTILIZATION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

FRANK F. FASI
MAYOR

JOHN P. WHALEN
DIRECTOR

BENJAMIN B. LEE
DEPUTY DIRECTOR

LU7/89-4331(RF)

August 15, 1989

'89 AUG 15 P2:04

DEPT. OF LAND UTILIZATION & COMM. DEVELOPMENT

MEMORANDUM

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: JOHN P. WHALEN, DIRECTOR

SUBJECT: MANOA ELDERLY HOUSING AND PARK EXPANSION PROJECT
TAX MAP KEY: 2-9-36: PORTION 3; MANOA

In response to your memorandum of July 17, 1989, we have the following comments:

1. Traffic: Proposed access should be described. The DTS should be consulted regarding access, traffic to be generated, and necessary road improvements.

2. Surrounding Uses: We recommend buffering the project with a solid wall and/or landscaping, in order to reduce impacts on the project from the school and the park and impacts of the project on the adjoining residential area.

If you have any questions regarding the above-captioned project, please contact Geri Ung of our staff at x6256.

JOHN P. WHALEN
Director of Land Utilization

JPW:sl
0293N/10

L ARTMENT OF PARKS AND RECREATIC
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALTER M. OZAWA
DIRECTOR

July 31, 1989

'89 AUG -2 A3:16

TO: MIKE N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: MANOA ELDERLY HOUSING & PARK EXPANSION
ENVIRONMENTAL ASSESSMENT

The Department of Parks and Recreation has reviewed the above-referenced project and offers the following comments.

Manoa Valley Field is a very heavily used district park, used not only by the Manoa Community, but also by surrounding communities. A portion of this use occurs during the evening hours. The environmental assessment should address potential noise and light disturbance problems.

WALTER M. OZAWA, Director

WMO:al

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

HIRAM K. KAMAKA
DIRECTOR

WALTER M. OZAWA
DEPUTY DIRECTOR

August 22, 1988

'88 AUG 24 P3:38
DEPT. OF HOUSING
& COMM. DEVELOPMENT

TO: MIKE MOON, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: HIRAM K. KAMAKA, DIRECTOR

SUBJECT: MANOA VALLEY FIELD

Your request for data on usage of the Manoa Valley Field was informally provided previously to your department staff, Ms. Karen Iwamoto. A summary of the field usage is attached.

In addition to the use of ballfields at Manoa Valley Field, the Boys' Baseball League uses fields at Noelani Elementary School, Kaimuki High School, Mid-Pacific High School, Nuuanu Elementary School, Stevenson Intermediate School and McKinley High School. Approximately nine (9) teams totalling 180 participants practice Monday through Friday at the above sites.

An additional softball/soccer field combination practice site is needed at Manoa Valley Field to adequately meet the current and future demand in Manoa. Thirty to forty baseball/soccer players will use the additional practice field daily from Monday through Friday.

We do not have data regarding park usage by persons not residing in the Manoa district.

If there are any further questions, please do not hesitate to call Recreation Director, Rodney Kochiyama, at telephone number 988-4747.

HIRAM K. KAMAKA, Director

HKK:aw

Attachment

MANOA VALLEY FIELD USAGE

Months Used	Activity	No. of Teams	No. of Fields	Days Used	Time	Purpose	Players & Coaches Per Team Per Day	Parents & Spectators Per Team Per Day	Totals Per League Per Week	Waiting List
Jan - Jun	Boys' Baseball	27	4	Mon - Fri	3:00pm- 7:00pm	Practice/Games	20	30	1,000	50
		24	4	Sat/Sun	8:00am- 6:00pm	Practice/Games	20	55	2,000	30
Jun - Aug	Girls' Softball	12	4	Mon - Fri	3:00pm- 7:00pm	Practice/Games	20	30	600	
		12	4	Saturday	8:00am- 6:00pm	Practice/Games	20	55	900	
Jun - Aug	Summer Fun		4	Mon - Fri	8:30am- 4:30pm	Summer Fun	450 enrollment		2,000	
Jul - Nov	Makule Softball	12	3	Sunday	10:00am- 5:00pm	Games	20	25	500	
Aug - Nov	Pop Warner Football	2	1	Mon - Fri	3:00pm- 7:00pm	Practice	40	30	600	
		2	1	Saturday	7:00am- 4:00pm	Games	40	100	900	
Aug - Dec	Soccer	26	3	Mon - Fri	3:00pm- 7:00pm	Practice	20	30	600	75
Sep - Jun	Manoa Elementary School		4	Mon - Fri	8:00am- 2:00pm	School Activity	600 enrollment		2,900	
	DPR Softball	4	1	Mon - Fri	2:30pm- 4:00pm	Practice Games	15	15	300	
Year Round	Permits for Picnics, school excursions, Special Activities and picnics		4	Mon - Fri	8:00am- 2:00pm	Various outdoor Act.	30			
			4	Sat/Sun	8:00am-12:00Noon	Various			1,000	Avg.p/event;p/m
Year Round	Permits for Lighted Field Activities (various)		1	Mon - Fri	7:00pm- 9:30pm	Practice/Games for soccer, softball	20	10	150	

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96814 - AREA CODE (808) 943-3111

FRANK F. FASI
MAYOR

DOUGLAS G. GIBB
CHIEF

WARREN FERREIRA
DEPUTY CHIEF

OUR REFERENCE KN-LK

July 31, 1989

AUG 1 1989 08
2 COMM. [illegible]

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: DOUGLAS G. GIBB, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: MANOA ELDERLY HOUSING AND PARK EXPANSION
ENVIRONMENTAL ASSESSMENT

We have reviewed the project description and location maps for the above proposal and find that it will not significantly impact the level of police services for that area.

Thank you for the opportunity to comment.

DOUGLAS G. GIBB
Chief of Police

BY
JOSEPH AVEIRO
Assistant Chief of Police
Support Services Bureau

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

FRANK F. FASI
MAYOR

SAM CALLEJO
DIRECTOR AND CHIEF ENGINEER

In reply refer to:
ENV 89-134(449)

August 1, 1989

'89 AUG -3 A2:15
DEPT. OF HOUSING
& COMM. DEVELOPMENT

MEMORANDUM

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING & COMMUNITY DEVELOPMENT

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA)
MANOA ELDERLY HOUSING AND PARK EXPANSION
TAX MAP KEY: 2-9-36: PORTION OF 3

We have reviewed the subject EA and have the following comments:

1. The existing sewers are available and adequate for the proposed development.

2. There is an existing 15-inch sewer line running through the property parallel to Manoa Stream.

3. An easement may be required in the elderly housing site.

4. We do not have drainage comments at this time.

SAM CALLEJO
Director and Chief Engineer

89-8-2216

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

ALFRED J. THIEDE
DIRECTOR

JOSEPH M. MAGALDI, JR.
DEPUTY DIRECTOR

TE-4550
PL1.1701

August 14, 1989

'89 AUG 15 P3:27

DEPT. OF HOUSING & COMM. DEVELOPMENT

MEMORANDUM

TO: MICHAEL N. SCARFONE, DIRECTOR
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

FROM: ALFRED J. THIEDE, DIRECTOR

SUBJECT: MANOA ELDERLY HOUSING AND PARK EXPANSION
ENVIRONMENTAL ASSESSMENT
TMK: 2-9-36: PORTION OF 3

This is in response to your memorandum of July 17, 1989 requesting our review and comments on the subject project.

Our primary concern is that adequate off-street parking be provided to support the proposed housing project and park expansion in accordance with the Land Use Ordinance.

Should you have any questions, please contact Wayne Nakamoto of my staff at Local 4190.

Roy T. Kamuka

ALFRED J. THIEDE

P+A M/O File

16 August 1989

'89 AUG 21 A9:33

DEPT OF HOUSING & COMM. DEVELOPMENT

Mr. Michael N. Scarfone
Director
Department of Housing and Community Development
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

Subject: Manoa Elderly Housing Project
Environmental Assessment

Dear Mr. Scarfone:

I would like to present the following comments on the preliminary project information for the Manoa Elderly Housing and Park Expansion project.

1. According to the Historic Sites Section of the Department of Land & Natural Resources (DLNR), an archaeological survey has never been conducted for this parcel. Because of the parcel's location next to a stream and our subsequent discovery of an underground spring, the Historic Sites Section has indicated they would require an extensive archaeological survey be conducted on this parcel. I concur with their decision and would also request that an extensive archaeological survey be conducted on this parcel.

2. The Development Plan (DP) Public Utilities map for this parcel indicates a well which supports the claim of underground springs on this parcel. This further supports an archaeological survey. In addition, would this affect the foundation of the project and will the proposed housing project affect the flow of spring water into Manoa Stream?

3. There has been conflicting information regarding the exact number of parking stalls for use by park users which exist prior to and after construction of the proposed housing project. We would like to know <u>exactly</u> how many parking stalls exist for park users prior to and after construction of the proposed project. In addition, it is felt that 82 parking stalls for 75

housing units is inadequate and there will be spillover into the already burdened parking stalls.

4. Will Kahaloa Street be reconnected to Manoa School from East Manoa Road and, if so, how will this affect the soccer field. From a review of the proposed site plan, reconnecting Kahaloa Street will eliminate the soccer field. The community desires to keep this street open.

5. It was our understanding that an Environmental Impact Statement (EIS) would be required for any project utilizing Federal funds such as the Community Development Block Grant. We have been led to believe that a negative declaration is expected for this project at least at the City/County level. Relevant information concerning the rules and regulations for EA/EIS procedures for Federal funded projects should be included with the EA.

6. The community is seriously concerned about future complaints concerning noise and constant use of Manoa Park from the elderly residents residing in the proposed project. Some reassurances should be given that steps will be taken by the City to prevent this from happening.

7. We would expect the EA to include a very detailed discussion of Alternative Sites since there are clearly some very viable sites within Manoa. Within this section, a complete explanation of the different infrastructures required for each site and a clear cost breakdown should be included.

Thank you for the opportunity to comment on this project.

Sincerely,

Diane E. Borchardt

2841-B Kolowalu Street
Honolulu, Hawaii 96822

PTA M/O File

August 16, 1989

'89 AUG 21 A9:33
DEPT. OF HOUSING & COMM. DEVELOPMENT

Michael Scarfone, Director
Department of Housing and Community Development
650 South King Street, 5th Floor
Honolulu, Hawaii

Dear Sir:

Thank you for your consideration in sending our group information concerning the Manoa Elderly Housing Project. We strongly feel that an Environmental Impact Statement is needed and warranted for this project. We feel this Environmental Impact Statement will help guide the City and the community in addressing the needs of each party. Our group has numerous concerns regarding this site:

1. Noise from the surrounding park use- the park is in use from 7 AM until 10 PM many weekends. We are deeply concerned that this community use will be jeopardized by a new housing development.

2. In the present plan presented there is no access road to Manoa School from Kahaloa Drive, although the principal of Manoa School has gone through Department of Education channels to ask for an access. We are concerned by the lack of access to Manoa School from Kahaloa Drive in the event an emergency arises at the school. The school will be accessible from only one road, which may not be adequate in an emergency. If this road is put into the plans, the proposed soccer field will be non-existent.

3. The added traffic in the valley. This proposed project will enable dependents to reside with the tenants, this will invariably mean more cars in the valley and in the park itself. This will add to the existing parking problem.

4. Park Parking: there has not been a clear answer given by either the Housing Department or Mr. Abercrombie's office about the number of newly created spaces the park expansion will be given. As our group sees it, the present explanation does not address the needs of the parking problems already occurring at the park.

5. The newly proposed parking lot will restrict use of the Pony Field in the park.

6. Instability of Foundation: there is a well on the proposed site and an underground spring. In view of the problems Manoa has had with the slides and wreckage of homes because of poor infastructure, this possible hazard must be avoided.

7. The Federal Community Development Block Grant: we have been given two different answers as to how these monies will be used: one for purchase of the land, another for the purchase of an already completed apartment. Which is the correct answer?

Thank you again for your time and effort,

Leinaala Freitas

Leinaala Freitas
Citizens for Manoa Park Expansion

'89 AUG 29 P2:23

DEPT. OF HOUSING & COMM. DEVELOPMENT

John C. McLaren
3240 Manoa Road
Honolulu, Hawaii 96822

August 26, 1989

Michael N. Scarfone, Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

Re: Environmental Assessment for Proposed Manoa Elderly Housing Project

Dear Mr. Scarfone:

This will respond to your request for comments dated July 17, 1989 addressed erroneously to Ed Case, former Chair, Manoa Neighborhood Board, on the preparation by your Department of an Environmental Assessment on this project, and your letter dated July 21, 1989 addressed to me in which you indicated that you did not foresee the need to prepare an Enviromental Impact Statement for this proposed project.

I am responding to your request for comments as an individual member of the Manoa Neighborhood Board and as an attorney licensed to practice law in the State of Hawaii. I apologize for not responding to your request for comments prior to your August 17, 1989 deadline. I trust that your staff will consider thoughtfully and answer nonetheless in your Department's Environmental Assessment my questions posed in this letter.

The Board may adopt at its September 6, 1989 regular meeting an official position on your Department's Environmental Assessment preparation. In such an event, I will provide you with the official Board position on this matter after this meeting.

As you know, an "environmental assessment" is defined in Hawaii Administrative Rules §11-200-2 as: "a written evaluation to determine whether an action may have a significant enviromental effect."

"Environment" is defined in this administrative rules subsection as: "humanity's surroundings, inclusive of all the physical, economic and social

conditions that exist within the area affected by a proposed action, including land, human and animal communities, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (emphasis added)

"Significant effect" or "significant impact" is defined in this subsection of the administrative rules as: "the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the state's environmental policies or long-term environmental goals and guidelines as established by law, or adversely affect the economic or social welfare, or are otherwise enumerated in section 11-200-9 of this chapter."(emphasis added)

Subsection 11-200-12 of the Hawaii Administrative Rules mandates applicant agencies to consider in the environmental assessment process "the sum of effects on the quality of the environment" and requires an evaluation of "the overall and cumulative effects of an action." This subsection also requires applicant agencies to "consider every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as short and long-term effects of the action."

Subsection 11-200-12(b) states specifically in part: "In most instances, an action shall be determined to have a significant effect on the environment ..." (emphasis added) and enumerates eleven general situations which require the preparation of an environmental impact statement.

According to the Hawaii Administrative Rules §11-200-1 et seq., pertaining to the preparation of Environmental Assessments, and my lifelong knowledge of this area of Manoa Valley, your Department's Environmental Assessment on this proposed housing project should answer each of the following questions:

Impact on current and future native Hawaiian land claims

Who was the original owner of this property prior to 1898? Was the property part of the Republic of

Hawaii land which was "ceeded" to the United States under the joint resolution of annexation approved on July 7, 1898 and subsequently acquired by the State of Hawaii on March 18, 1959 pursuant to §5 of the Admission Act? Is this land a current subject or possible subject of state or federal legislation and/or litigation pertaining to the recognition of aboriginal land rights of native Hawaiians or an alleged breach of the "public trust" provisions under §5(f) of the Admission Act? What will happen to this project if a claim is made by native Hawaiians to acquire this site in accordance with legally recognized aboriginal land entitlements?

Permanent loss of natural or cultural resources

Will this proposed housing project cause a permanent loss of any natural or cultural resource existing on the site? Are there any rare or endangered animal or plant species on this property? Will this proposed project and the resultant permanent loss of this undeveloped open space in Manoa Valley affect Manoa Valley as a whole in any way? Will loss of this open space affect the larger Honolulu community in any way?

At least a portion of the project site has historically served as a natural drainage area for numerous small streams, possibly remnants of ancient Hawaiian auwai, which, as the result of modern subdivision development, have been realigned under Manoa Road and now exit as a single stream below Manoa Road parallel to the school's roadway leading to the park. Will this natural drainage system be affected in any way if housing is constructed on this site?

The proposed project site has been vacant, undeveloped open space for at least 40 years. What were the historic uses of this property prior to its designation as an intermediate school site? Does the site have potentially significant historic or archeological value? Have any historic or archeological assessments been made of this site in the past 50 years? Should such an assessment be conducted prior to the start of site construction?

Other potential beneficial uses of the site

Will other potential beneficial uses of this property be curtailed if the housing project is constructed? Have any potential non-housing beneficial uses been proposed for this site recently? Does this site have value as passive or recreational open space to the residents of Manoa Valley and of the larger Honolulu community?

Economic and social impacts

Will this project adversely affect the general economic and social welfare of the community in Manoa Valley? Will this project cause an increase in real property assessments or other taxes in Manoa Valley to help support City subsidized rent and maintenance costs after construction is completed? Will construction of this project and the loss of this site as open space force Manoa residents seeking park and recreation space to travel out of Manoa Valley for such opportunities?

Effects on public health

Will this project have any adverse impact the general health status of the surrounding community and on the current users of Manoa Valley Park?

Secondary impacts and cumulative effects

Will the project increase the resident and transient population density in this part of Manoa Valley? Will it increase demands on public facilities and services such as roadways in the vicinity of the project, public transportation services, sewers, police and fire protection, schools and public parks and public recreation programs in Manoa Valley? Will such any facilities or services have to be expanded to accomodate increased demands as a result of the proposed housing project?

Ohana housing has proven to be a very popular enhancement to traditional single family dwellings in Manoa Valley. In fact, Manoa has the largest concentration of Ohana housing in Hawaii. Will construction of the City's proposed housing project limit or curtail further Ohana housing development in

Manoa Valley because of the public facilities infrastructure demands created by the project?

Detrimental environmental effects

What will the effects of the proposed project be on water quality in Manoa Stream? Where will rain water from the project be deposited after construction is completed? Will Manoa Stream receive significant amounts of oil, gasoline or other toxic pollutants from the project parking lot or dwelling units? Will the ambient noise levels on this site be increased when it is occupied by tenants and their automobiles? Will air quality remain the same after the project is completed? Will toxic chemicals be used during in project construction and during its occupancy such as termite treatment pesticides and wood preservatives?

Effect on environmentally sensitive area

What are the effects of this project construction on a known flood plain immediately adjacent to Manoa Stream? What effect will this project have on existing natural drainages on the site? What is the character of the subsurface soil? Is building movement and slippage likely to occur over time at this site? How deep beneath the surface is the ground water table throughout this site? Will toxic chemicals used during the construction and occupancy of this project leach into the soil and migrate into the adjacent stream?

As I understand the environmental assessment criteria and the purposes of completing an Environmental Impact Statement, the construction of a multi-family housing project on the proposed vacant, unimproved lot site on the scale envisioned by your Department is in and of itself a sufficiently significant impact to require the completion of an EIS.

Accordingly, I urge your Department to complete its Environmental Assessment with the knowledge that the completion of an Environmental Impact Statement for this project is required.

Since I am the Chair of the Manoa Neighborhood Board Planning and Zoning Committee, I would appreciate

receiving at the address listed above a copy of your Environmental Assessment as soon as it is available for public distribution. If you or your staff have any questions on this letter, please do not hesitate to contact me.

Sincerely,

John C. McLaren

cc: Kent Keith, Chair, Manoa Neighborhood Board