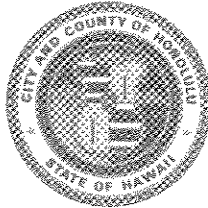


Attn: Margaret *FILE 2*

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



BENJAMIN B. LEE
CHIEF PLANNING OFFICER

ROLAND D. LIBBY, JR.
DEPUTY CHIEF PLANNING OFFICER

RECEIVED

'92 MAY 19 AM 1:54 MM 4/92-1363

May 15, 1992

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

Honorable Brian Choy, Director
Office of Environmental Quality Control
Central Pacific Plaza
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Acceptance Notice for the Proposed
Laie Development Plan Amendments--Folder No. 92/KL-1
Final Environmental Impact Statement (Final EIS)

We are notifying you of our acceptance of the Final EIS for the proposed Laie Development Plan Amendments, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes.

Pursuant to Section 11-200-23 (c), Chapter 200, Title 11 ("Environmental Impact Statement Rules") of the Administrative Rules, this acceptance notice should be published in the May 23, 1992 OEQC Bulletin.

We have attached our Acceptance Report of the Final EIS for the Laie Development Plan Amendments and the "DOCUMENT FOR PUBLICATION IN THE OEQC BULLETIN." Should you have any questions, please contact Melvin Murakami of our staff at 527-6020.

Sincerely,

For 
BENJAMIN B. LEE
Chief Planning Officer

BBL:ft

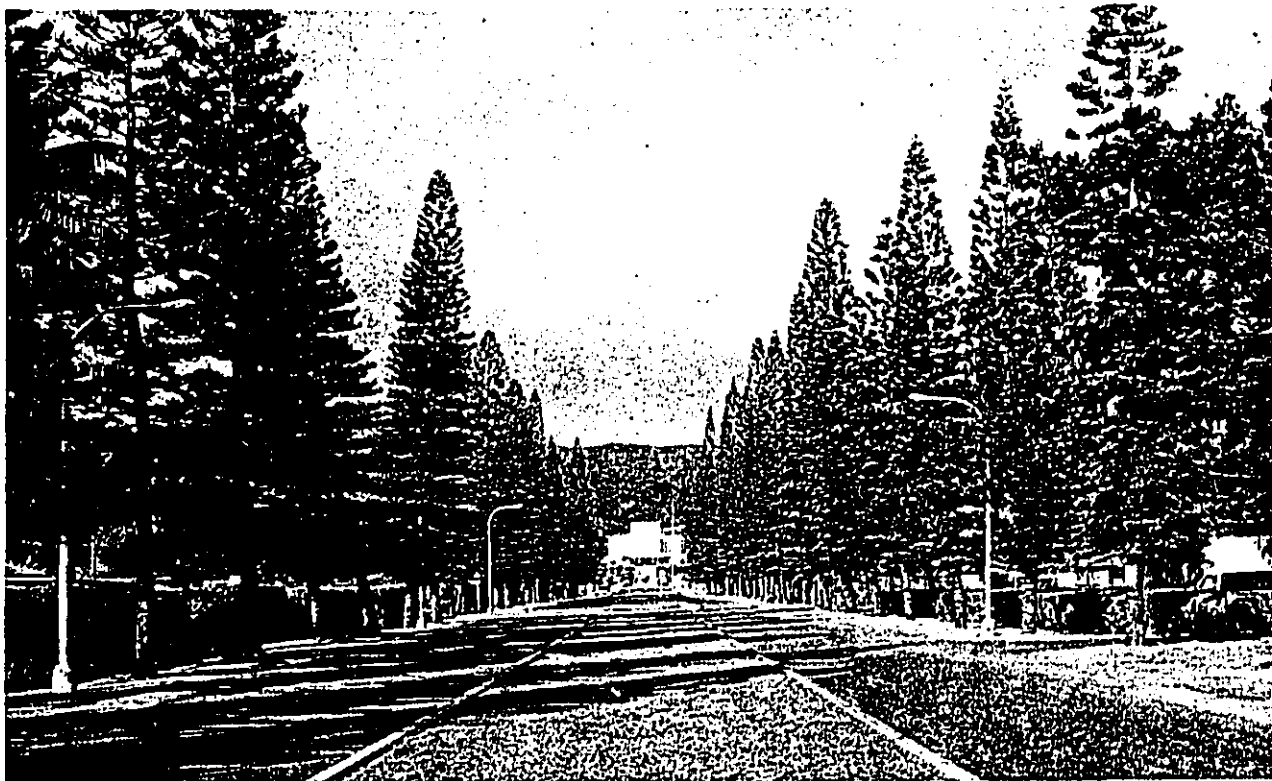
Attachments

cc: Zions Securities
Group 70 Limited

1992 - Oahu - FEIS -
Laie Development

FILE COPY

LA'IE DEVELOPMENT PLAN AMENDMENTS
LA'IE, KO'OLAULOA, O'AHU, HAWAII



FINAL ENVIRONMENTAL IMPACT STATEMENT
APPLICATION FOR KO'OLAULOA DEVELOPMENT PLAN AMENDMENTS

VOLUME I

ZIONS SECURITIES CORPORATION
LA'IE, HAWAII

APRIL 1992

LA'IE DEVELOPMENT PLAN AMENDMENTS

Ko'olauloa District, Island of O'ahu

FINAL ENVIRONMENTAL IMPACT STATEMENT

VOLUME I

Applicant:

Zions Securities Corporation
55-510 Kamehameha Highway
La'ie, Hawai'i 96762

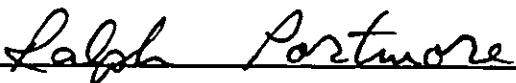
For Submission to:

City and County of Honolulu
Department of General Planning
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Prepared by:

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Submitted by:



Ralph Portmore, AICP
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Group 70 International, Inc.

LA'IE DEVELOPMENT PLAN AMENDMENTS
•Final Environmental Impact Statement•

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C. <u>Wastewater Management Plan for the La'ie Master Plan EIS, La'ie, O'ahu, HI; Aqua/Waste Engineers (January 1992)</u>	
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G. <u>Botanical Survey for the La'ie Master Plan Project, La'ie, O'ahu, HI; Char & Associates (December 1992)</u>	

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- H. Survey of the Avifauna and Feral Mammals at La'ie, O'ahu for the La'ie Master Plan; Phillip L. Bruner (November 1991)
- I. Bio-reconnaissance of Kahawainui Stream at La'ie, O'ahu; Environmental Technologies, Inc. (February 1992)
- J. Final Report: Background, Summary of Findings, and General Significance Assessments and Recommended General Treatments, Archaeological Inventory Survey, La'ie Master Plan Project, Lands of Malaekahana and La'ie, Ko'olauloa District, O'ahu; Paul H. Rosendahl, Ph.D., Inc. (April 1992)
- K. Traffic Impact Analysis Report for the Proposed La'ie Development Plan Amendments, La'ie, O'ahu, HI; The Traffic Management Consultant (April 1992)
- L. A Survey of La'ie Community Needs Volume I: Results; Community Resources, Inc. (May 1987)
- M. Economic and Demographic Impact Assessment of Proposed La'ie Development Plan Amendments, La'ie, O'ahu, HI; Community Resources, Inc. (December 1991)

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) has been prepared to address the potential environmental impacts of the proposed Amendments to the City and County of Honolulu Development Plan/Land Use Map within the La'ie community. It has been compiled to fulfill application requirements of the City and County of Honolulu Department of General Planning for a Development Plan Amendment.

This Executive Summary includes brief descriptions of the requested DP Amendment areas, beneficial and adverse impacts, proposed mitigative measures and alternatives. The proposal's relationship to existing government policies and plans for the area is also discussed, along with required permits and approvals.

Description of the Proposed Development Plan (DP) Amendments

The requested DP Amendments are located in La'ie, on the Island of O'ahu. La'ie is approximately 60 to 70 minutes travel time by car from Honolulu, located between Hau'ula and Kahuku on the upper windward coast. The La'ie community is located on the gently sloping coastal plain between the shore and the Ko'olau Mountains. Most of the existing community is at an elevation of 6 to 12 feet.

Zions Securities Corporation, the applicant, is seeking twelve amendments to the Development Plan within the La'ie community in order to implement a Master Plan, which has been developed with community input over the past five years. Following community surveys and discussions, a Draft La'ie Master Plan has been prepared which describes the long term plans for incremental growth within the community, including residential, industrial, recreation, resort, university and commercial land uses. Water, sewer, roadway and drainage infrastructure is planned in support of the new land uses and the existing community. The plan is intended to maintain the economic health of the existing community and provide needed homes for overcrowded residents.

In a continuing effort to achieve consensus regarding the most preferable location for a proposed new residential neighborhood, the applicant analyzed three different residential neighborhood sites in the Draft EIS. Following public review and discussion of the environmental, social and cost implications of the three residential alternatives, Zions Securities Corporation has identified a preferred site, BYU Mauka, for the requested Residential and Low Density Apartment land uses.

The properties which are evaluated in the EIS are generally discontinuous parcels of land throughout La'ie. Certain properties lie within the developed, urban portion of the existing community; the larger properties are located adjacent to or outside of the existing developed area. With only a few exceptions, these larger parcels are currently undeveloped or used for agricultural purposes.

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Construction of the project's roads, utilities, and building sites will require site disturbances such as clearing, grubbing, grading, and excavation. Building construction will involve the wastewater treatment facility, 450 residential units, Polynesian Cultural Center (PCC) exhibits, university facilities and student housing units, and light industrial buildings. Infrastructure requirements that will be constructed include: roadways; wastewater collection, treatment, and disposal facilities; potable water supply and distribution systems; drainage facilities; and other utilities installations. It is currently planned that several projects would commence by 1994, with others to be phased over a ten-year period.

The proposed project will create both beneficial and adverse effects on the natural and human environment. A detailed description of the existing environmental conditions was prepared for each environmental factor, and this was used as a background to assess potential benefits and adverse effects.

Beneficial Impacts

There are a number of features associated with this project that will be beneficial to residents of O'ahu, especially those living in the Ko'olauloa region. Anticipated beneficial impacts of the proposed land uses are listed below.

1. The proposed affordable housing is expected to have a positive impact on existing overcrowding in La'ie. It will also provide homes for those who will fill new jobs that will be generated within the community. An improvement in overall living conditions is expected because many existing residents will be afforded an opportunity to move out of overcrowded homes.
2. A school site will be provided to the State Department of Education to relieve the existing overcrowded elementary school facility which serves La'ie and surrounding community residents.
3. The long-term availability of park facilities in La'ie is assured with the redesignation of the Po'ohaili Street residential parcels to Parks and Recreation.
4. Archaeological resources have been inventoried on the property, and significant sites will be data recovered or preserved in accordance with direction from the State Department of Land and Natural Resources, Historic Preservation Division (DLNR-HPD).
5. An estimated 300 construction jobs per year will be generated by these proposed land uses between 1993 and 1995 in La'ie, tapering off to 140 jobs per year between 1996 and 2000.
6. By 2005, the DP Amendments are expected to create 100 to 130 new full-time jobs in La'ie and 40 full-time-equivalent jobs (students) at the proposed light industrial areas and the PCC expansion.

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7. The proposed land uses for the 2.6-acre Resort parcel will be visually less intrusive than the permitted uses under Residential zoning. Improved visual and pedestrian shoreline access will be provided.

Anticipated Short-Term Adverse Impacts and Mitigative Measures

Short-term construction-related impacts on the environment will be generated by the proposed land uses, and mitigative measures will be implemented to minimize these impacts.

Anticipated short-term adverse impacts and mitigative measures are listed below.

1. Soils will be disturbed for grading and excavation at development sites. Some soil erosion will occur during construction but will be limited through on-site erosion control measures. Soil erosion mitigative measures recommended by the State Department of Health, City and County of Honolulu, and Soil Conservation Service will be implemented during construction phases. Expedient revegetation will minimize erosion of soils on these sites.
2. Trucks and worker vehicles will create short-term effects on traffic conditions on local roadways, mainly Kamehameha Highway and its nearby intersections. Mitigative measures that will be implemented to minimize short-term traffic effects will include off-peak truck use of highways, and possible implementation of staggered worker start and finish times.
3. Noise will be generated by construction activities on the project site. Compliance with existing State and City and County regulations will mitigate construction noise generated by the project to acceptable levels. Construction vehicles using local roadways must satisfy the noise level requirements defined in Hawai'i Administrative Rules, Title 11.
4. Air quality will be affected by the generation of fugitive dust, and construction equipment and worker vehicle emissions. Dust conditions will be controlled by frequent watering of roadways, and equipment will be maintained in proper working order to minimize emissions.
5. Construction activities will be most visible at sites located adjacent to Kamehameha Highway. Construction operations at the proposed industrial sites will be visible from Wahinepee Street and Kamehameha Highway, and from some residences. Views of the construction operations on the site will be minimized by proper equipment and materials storage, minimized vegetation clearing, expedient revegetation, and non-intrusive security lighting.
6. Emergency medical facilities in Kahuku may occasionally be utilized by sick or injured construction workers during the period 1994 to 2004.

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Anticipated Long-Term Adverse Impacts and Mitigative Measures

The land uses proposed with the La'ie DP Amendments are long-term in nature and are not expected to be fully implemented for another ten years. Following implementation or build-out, some long-term adverse effects will have occurred or will continue to occur. Mitigative measures will be implemented to minimize the long-term adverse effects of the proposed land uses. Anticipated long-term adverse impacts and proposed mitigative measures are listed below.

1. The various projects proposed by the DP Amendments will be planned to avoid changes in topography and grading of steep slope areas. The site's natural slopes and features will be respected, as feasible, to minimize grading requirements.
2. Approximately 0.3 mgd (average daily demand) is proposed to be withdrawn from the freshwater aquifer to serve the proposed DP Amendments. In an effort to preserve potable water resources, plans to re-use a portion of the tertiary treated effluent from the La'ie Wastewater Treatment Facility will be pursued, under the direction of the State Department of Health. A water master plan will be developed for La'ie to include provision for two new water sources that will satisfy the demands of the requested DP Amendments. All plans for well development will be reviewed by the State Commission on Water Resource Management, prior to implementation. An additional storage tank will be constructed to meet water storage needs of the proposed land uses plus the current 0.5 mgd storage deficit. Water distribution and fire flow facilities will be installed for new development areas. To protect groundwater and surface water quality, lease provisions with future industrial area tenants will require compliance with all government requirements, including those pertaining to environmental protection and clean-up. The developer of the areas designated for residential use will consider the use of water conservation measures in the design of new housing in a manner that ensures that efforts to achieve the goals of providing affordable housing and water conservation are mutually supportive.
3. One of the proposed DP Amendment areas is located in the tsunami inundation zone. No habitable structures would be built at the 2.6-acre site proposed for resort-related amenities only.
4. Limited quantities of pesticides and fertilizers are expected to be applied in residential areas, parks and school sites. Park and school grounds maintenance personnel will be trained in the judicious application, handling and storage of fertilizers and pesticides. Runoff from developed areas will be released through natural vegetation swales, first passing through detention basins in some locations, to help eliminate potentially adverse concentrations of chemicals through evaporation, sunlight breakdown, dilution and uptake of organic material.
5. A maximum of 201 acres of vegetation will be cleared to allow development of the proposed land uses. Landscaping of development sites will be included with specific projects. Vegetation will be established as buffers, as needed, between

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different land uses. Areas which are determined to be wetland in accordance with Federal guidelines will be subject to the protections of permits issued by the Army Corps of Engineers.

6. There are ten identified archaeological sites within the DP Amendment request areas. Significant sites will undergo archaeological data recovery or site preservation, in accordance with State of Hawaii DLNR-Historic Preservation Division recommendations.
7. Future (2004) traffic volumes along Kamehameha Highway will increase from the projects built as a result of the DP Amendments. As compared to 2004 traffic without these projects, Kahuku-bound peak hour volumes with the projects are projected to increase by 12 to 13 percent. Hau'ula-bound peak hour volumes are projected to increase by 12 to 15 percent with the projects, as compared to 2004 traffic without the projects. Traffic flow at some key intersections will be slightly better with the proposed BYU Mauka residential site than for either of the alternative residential sites. Under the worst case conditions, Kamehameha Highway is expected to continue to operate within its maximum capacity to carry traffic. The need for installation of traffic signals at the various key intersections with Kamehameha Highway to accommodate left turn movements will be assessed as future traffic volumes build. Cost sharing for signal installation will be considered based upon the relative contribution of traffic from new developments of the DP Amendment request areas.
8. Sufficient capacity will be incorporated in the design of the private wastewater treatment and disposal facilities to serve the project.
9. The proposed new land uses will generate additional demands for electrical power. Zions Securities Corporation will coordinate its subsequent development planning efforts with HECO's planning efforts to supply power to the area and provide the necessary distribution systems as required for the proposed projects within the DP Amendment areas. The developer of the areas designated for residential use will consider the use of alternative energy sources in the design of new housing in a manner that ensures that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.
10. The proposed residential units are not anticipated to substantially increase the number of students attending local schools, since the housing is primarily planned to relieve crowding in La'ie. However, Zions Securities plans to dedicate approximately eight acres of land for a second elementary school in La'ie. The new school site will be located adjacent to the new residential development site.
11. Using standard population generation factors, the population increase associated with the La'ie DP Amendments is approximately 1,300 persons. This is expected to be substantially reduced by existing residents moving out of overcrowded households into the new housing units.

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12. The project will create a maximum of 3 to 4 tons per day of refuse for removal and disposal by a private carting firm at an appropriate City and County landfill, or other solid waste disposal facility. Property tax revenues generated by the project will contribute toward the financing of additional waste disposal facilities as deemed necessary by the City and County. Source separation, recycling collection stations, and other types of programs for recycling will be supported by Zions Securities Corporation.
13. Public services such as police and fire protection, emergency medical facilities, and recreational facilities will be required by the proposed DP Amendments, but only a minor effect is expected on these services. Property tax revenues generated by the new land uses are expected to cover any increase in operational costs.

Alternatives to the Proposed Project

Four alternatives to the proposed project have been considered involving different land use and development concepts. These alternatives include the no-action alternative, the preferred residential site alternative, and two different residential/school site alternatives. Included below are brief discussions of each alternative, selected associated impacts, and a comparison with the proposed project.

No Action Alternative: The no-action alternative would involve no changes in the foreseeable future to the land use designations and current uses of the ten potential development sites proposed for DP Amendments. Current land uses of these ten sites would continue into the foreseeable future. Public access to many of the various DP request areas would remain restricted under the no-action alternative, to avoid disturbance of existing activities and prohibit trespassing. Agricultural uses on these lands would continue in their present status, should they remain economically viable. Most environmental characteristics of these sites would remain unchanged.

Without some of the DP Amendments, there will be continued overcrowding and a lack of new employment opportunities for the residents of La'ie and the upper windward area. The generation of property taxes would continue at existing levels. The no-action alternative would force the owner of these lands to continue paying property taxes without gaining an offsetting income from any of these sites. It is possible that the State or City could purchase these sites for conservation or other public purposes, however, there are no known plans for this to occur.

As compared to the proposed project, the no-action alternative would create fewer environmental effects. Social and economic benefits, as well as recreational benefits, would not be generated the no-action alternative.

Proposed BYU-Mauka Residential Area: The existing area designated for the BYU Mauka residential area is currently used for agriculture and an active sand quarry operation (expected to terminate in the near future). Active small-scale farming occurs on approximately 32 acres. There are two houses on the property which are occupied by Zions Securities personnel. Approximately 20 to 25 percent of the site is vacant mixed forest and scrub vegetation. Approximately 25 percent of the site contains either

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moderate slopes (10 to 20 percent) or steep slopes (20 to 30 percent). No streams cross this site, and there are no *kuleana* parcels.

Egg Farm Alternative Residential Area: One of the two alternative sites for a new 450 home residential development and elementary school at the northern end of La'ie is called the Egg Farm site. Approximately 27 acres of this site are currently in active agricultural use, including the Cackle Fresh Egg Farm operation. Two caretaker residences are also located on the lands used by Cackle Fresh. A single *kuleana* parcel (TMK 5-5-05:11) is located within the Egg Farm alternative site, but outside the Cackle Fresh Egg Farm. The remainder of this land is vacant. The land included for this site extends far *mauka* from Kamehameha Highway, into a valley in the lower reaches of the Ko'olau Range. No streams cross this site. Areas with steep and moderate slopes extend over approximately 35 percent of the site. There are extensive mixed forest woodlands on this site, outside active and fallow agriculture areas.

La'iemalo'o Alternative Residential Area: Approximately 50 percent of the La'iemalo'o alternative site is currently used for small scale farming. The remainder of this land is vacant. Three streams cross the site, including Kokololio Stream, Aakakii Stream and La'iemalo'o (also known as Koloa) Stream (forms the northern boundary of the site). There is one *kuleana* parcel (TMK 5-5-01:12) included in the alternative residential area which has a residence on it. Residences are located along Kamehameha Highway adjacent to the southern portion of this site. Slopes on this site are generally gradual, with about 20 percent of the site involving moderate and steep slopes in the *mauka* portion of the property along the coastal *pali*. A small agricultural pond field is found on this site.

Comparative Environmental Impacts of Proposed Residential Site and Two Alternative Sites:

- The proposed BYU Mauka and Egg Farm alternative sites have more moderate sloped (10 to 20 percent) and steep sloped (20 to 30 percent) land to contend with, as compared to the La'iemalo'o alternative site.
- Land disturbance through clearing and grading of approximately 50 to 60 acres at any of the three sites would result in construction period soil erosion and silt runoff.
- The Egg Farm alternative site has only about 30 percent of its land rated by LSB as prime soils. The proposed BYU Mauka and La'iemalo'o alternative sites have nearly 50 percent of the land rated by LSB as prime agricultural soils. Displacement of the Egg Farm would be a significant issue.
- Required drainage improvements would probably be most extensive at the La'iemalo'o alternative site, as compared to the other two sites, due to the three streams crossing the property and agricultural pond fields.
- Domestic water use is estimated at 225,000 gpd for the 450 proposed residences, school and church.

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- Residential use of the proposed BYU Mauka residential site could potentially contribute some leached chemicals to the drinking water aquifer.
- In terms of direct effects, the La'iemalo'o residential alternative site poses the greatest potential for contributing urban runoff constituents to the collecting streams because they cross this site.
- The potential impact of vegetation clearing on existing natural vegetation is greatest at the Egg Farm and La'iemalo'o residential alternative sites. The proposed site and two alternative sites do not involve wetlands or endangered native or endemic vegetation species.
- The La'iemalo'o alternative site could be expected to contribute a greater input of urban chemicals to the ocean through surface runoff and leaching to shallow groundwater.
- The La'iemalo'o alternative site contains four archaeological sites which may be significant prehistorical agricultural features. It is anticipated that with preservation of the most significant sites and proper data recovery of the other sites, residential development could proceed at the proposed BYU Mauka residential site or at each of the two residential alternative sites without adverse effects to archaeological resources.
- The traffic impacts of the proposed BYU Mauka residential site and the two residential alternatives are roughly equivalent in terms of traffic volumes generated. The proposed BYU Mauka site would create slightly fewer impacts to Kamehameha Highway traffic flow because of the substantial number of off-highway internal trips to jobs at BYUH and PCC.
- Construction phase and long-term noise effects would probably be greatest with the proposed BYU Mauka residential site and the La'iemalo'o alternative residential site.
- Due to the dispersed nature of traffic generated by the proposed BYU Mauka site, less vehicle emissions would be contributed at local intersections with Kamehameha Highway under this scenario.
- The proposed BYU Mauka residential site and Egg Farm residential alternative site are generally distant from existing roadways and residential areas. Public views of these sites would be limited to distant views from roadways, residential areas and other public areas. The La'iemalo'o alternative site would be more visible from Kamehameha Highway, and the change of this land to residential development from its existing agricultural condition could have an adverse effect on public views.
- The proposed residential site and the two alternative residential sites are similar in terms of their population, employment, housing, and government revenues.

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During the past few years of planning, there has been some preference voiced for locating new housing within reasonable proximity to the existing core of the La'ie community. La'iemalo'o is furthest from the existing community of the three sites.

- Water supply is less complicated and costly for the proposed BYU Mauka site than for the two alternative sites, due to its proximity to the existing water distribution and storage system. The development of sewers to serve the three areas would be roughly similar, with slightly greater requirements for the Egg Farm and La'iemalo'o alternative sites. Drainage improvements would be much more significant for the La'iemalo'o alternative site as compared to the other sites. Electrical supply improvements would be roughly equivalent for the proposed site and both alternatives. Roadway development would be substantial for both the Egg Farm alternative and proposed BYU Mauka sites, and minimal for the La'iemalo'o alternative site, due to its proximity to Kamehameha Highway.
- Due to infrastructure and development costs, the proposed BYU Mauka site and Egg Farm alternative site are the most expensive to develop at approximately \$22.2 million and \$18.5 million, respectively. The La'iemalo'o alternative site's infrastructure and development cost would be approximately \$14.8 million. New loop road development costs for the proposed BYU Mauka site cause it to be the most expensive of the three sites.

Summary of Unresolved Issues

1. **Access Roadway to Proposed BYUH Mauka Residential Area:** There are several different ways to provide access to this site. Each has its merits and will be analyzed in greater detail prior to subsequent stages of planning.
2. **Housing Prices:** The application and EIS address the intended market for the housing and the types of programs that will be used to make it feasible to build the housing at the intended price ranges. Specific programs which define the housing product and expected sales/rent prices have not been developed, but will be provided for review prior to the approval of zoning.
3. **Relief of Overcrowding:** The requested Residential and Low Density Apartment areas are proposed to meet specific public policy objectives to provide affordable housing on Oa'hu. Additionally, the new homes are intended to relieve the currently overcrowded housing conditions in La'ie. The specific housing programs and strategy for achieving this goal has not been developed, but will be provide for review prior to the approval of zoning.
4. **Permanent Method of Effluent Disposal:** It is tentatively proposed that the tertiary treated effluent from the La'ie Wastewater Treatment Facility be re-used for irrigation of agricultural lands. However, plans for this disposal method have not been finalized and approved. This will be pursued by the applicant under the direction of the State Department of Health.

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5. **Ownership of Water and Sewer Systems:** Water and sewer infrastructure for the requested new development areas in La'ie will be designed to meet City and County standards. However, dedication of water and sewer infrastructure is not possible as long as these improvements are connected to privately owned and operated systems. Plans for the improvement of the existing water and wastewater systems in Laie have not yet been prepared. The issue of if and when ownership of the new water and sewer improvements will be transferred to the City is unresolved until such time as these plans are completed and the City agrees to accept dedication of the entire system.

Relationship to Existing Policies and Plans

This EIS includes a detailed discussion of how the proposed project is generally consistent with most existing State and County policies and plans for the area. Specific measures are being taken to assure consistency between the proposed land uses and these policies and plans. Plans and policies considered in this evaluation were:

1. Hawai'i State Plan: Objectives and Policies and Priority Guidelines
2. Hawai'i State Functional Plans
3. City and County of Honolulu General Plan
4. City and County of Honolulu Ko'olauloa Development Plan
5. Hawai'i Coastal Zone Management Program
6. City and County of Honolulu Special Management Area

An extensive discussion of the project as compared to these policies and plans is contained in Section 6.

Required Permits and Approvals

Several "discretionary" permits and approvals will be required to implement the proposed project. These are as listed below with their related agencies.

1. State Land Use District Boundary Amendments
Agency: State Land Use Commission (15 acres or greater)
City & County Planning Commission (less than 15 acres)
2. City and County of Honolulu General Plan/DP Land Use Map Amendments
Agency: City and County Department of General Planning/
Planning Commission/City Council/Mayor
3. Zoning District Changes
Agency: City and County Department of Land Utilization/Planning
Commission/ City Council/Mayor
4. Plan Review Use (BYUH)
Agency: City and County Department of Land Utilization/City Council
5. Conditional Use Permit for Wastewater Treatment Facilities

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Agency: City and County Department of Land Utilization

6. Special Management Area (SMA) Use Permit
Agency: City and County Department of Land Utilization/City Council
7. Numerous other permits and approvals will be required from the State and the County. These actions are generally ministerial in nature; however, each is important in the overall success of the individual projects.

Some of the permits at the State level include:

- Department of Health Wastewater reclamation facility
- Department of Transportation Entrance(s) onto Kamehameha Highway

City and County of Honolulu approvals include:

- Department of General Planning Subdivision and plan approvals
- Department of Water Supply Water source and distribution system
- Department of Public Works Building and grading permits

SECTION 1 - Introduction

SECTION 1 - Introduction

LA'IE DEVELOPMENT PLAN AMENDMENTS
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1.0. INTRODUCTION

This section presents background information on the requested Ko'olauloa Development Plan Land Use Map Amendments (DP Amendments) which are the subject of this Environmental Impact Statement (EIS), including location, site characteristics, project history, ownership, present use, and the purpose of this EIS.

1.1 LOCATION

The study area is located in La'ie, on the Island of O'ahu. The La'ie community is located at the northern end of O'ahu on the gently sloping coastal plain between the shore and the windward side of the Ko'olau Mountains. Offshore are several small islets and scattered coral reefs. La'ie is approximately 60 to 70 minutes travel time by car from Honolulu. Figure 1 shows the study area in relationship to the island of O'ahu.

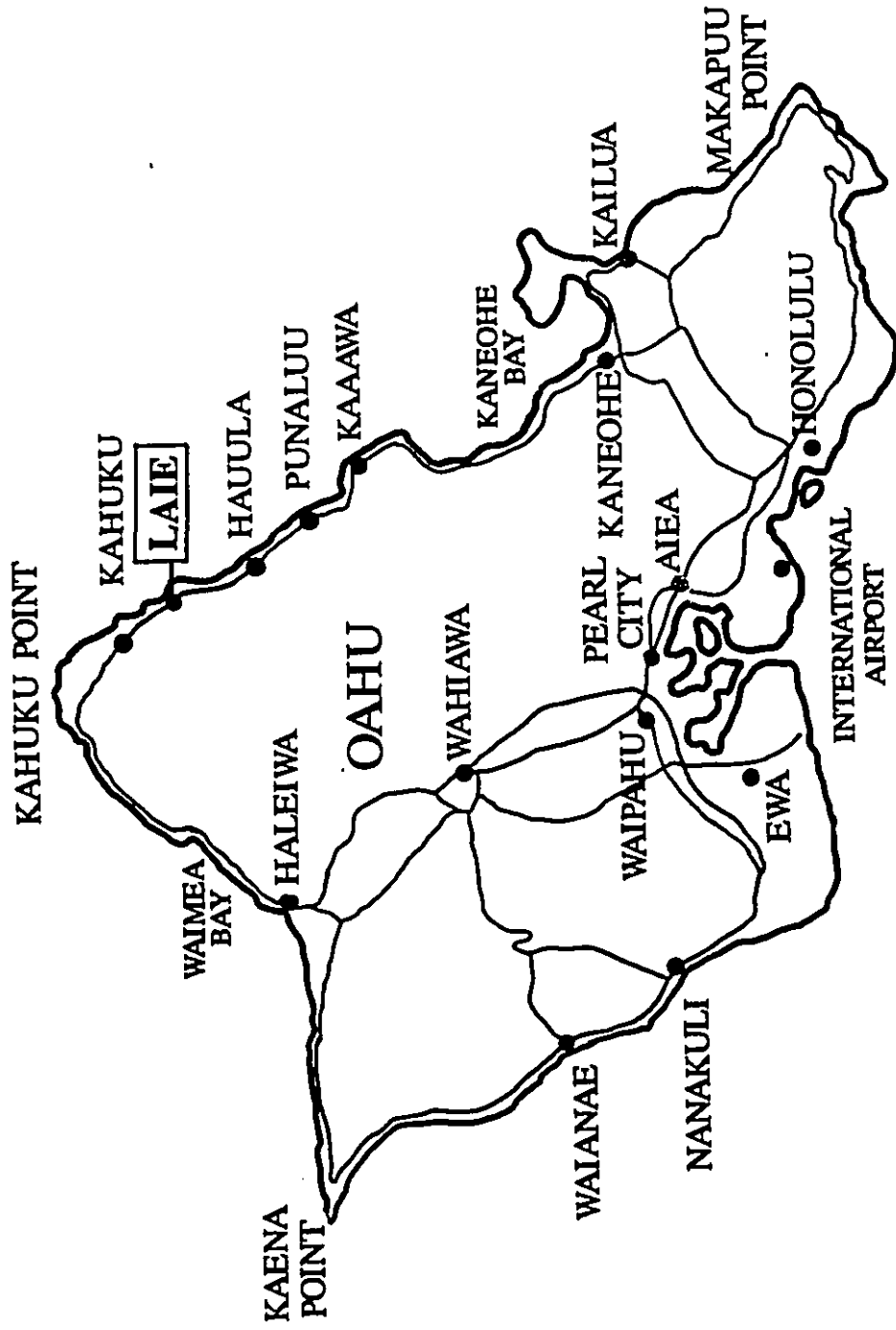
1.2 AREA DESCRIPTION

Most of the existing community is at an elevation of 6 to 12 feet, situated on former beach and coral deposits that were formed when the sea was at a relatively higher level. Inland from La'ie, the mountains rise steeply to an elevation of 2,200 feet. The slopes of the mountains are dissected by numerous deep stream valleys, several of which contain perennial flow along much of their length (e.g. Kaipapau, Kahawainui, Malaekahana).

La'ie has a healthy complement of natural resources, from clean sand beaches to mountain watersheds. Sandy beaches are found along much of the coast between Hau'ula and Kahuku, divided by rocky headlands and points. Although much of the shoreline is difficult to reach due to private residences, there are several popular public and open private beaches.

The Kahuku community is located approximately one mile to the north of La'ie and maintains a strong association to its history as the site of a sugar mill and plantation headquarters. Regional services, such as a police station, hospital and high school remain, despite a relatively small current population. The old mill, a prized symbol of the town's origin, was renovated during the 1980's and is the current site of a shopping center which caters mainly to tourists. Shrimp and prawn are "farmed" along the highway in aquaculture ponds.

Hau'ula, a predominantly Hawai'ian Homesteads community, is located immediately south of La'ie. Public amenities include a small shopping center, a satellite City Hall, and a fire station. Housing tends to be fairly dense.



LOCATION MAP
LA'IE DEVELOPMENT PLAN AMENDMENTS

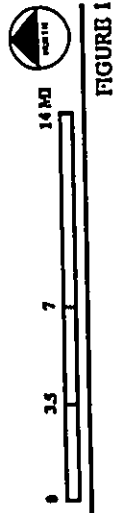


FIGURE 1

LA'IE DEVELOPMENT PLAN AMENDMENTS
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13 STUDY AREA HISTORY

1.3.1 La'ie Master Plan

Since the Spring of 1987, Zions Securities Corporation has pursued the preparation and community approval of a Master Plan for La'ie. The general purpose of the Master Plan is to provide direction for an orderly and coordinated response to development-related issues now confronting La'ie which reflects as well as possible the collective wishes of the people who will be affected. Specifically, the Master Plan attempts to:

1. Identify suitable areas for the provision of new homes which will meet La'ie's existing and future housing needs.
2. Investigate alternatives for providing new housing at prices that La'ie residents will be able to afford.
3. Provide sufficient land to allow for the future expansion of the Brigham Young University-Hawai'i Campus, Polynesian Cultural Center, and Hawai'i Temple, and/or to buffer these activities from nearby, potentially incompatible uses.
4. Determine what new support facilities (e.g. expanded parks and recreational facilities, a community center, more shops, a light industrial area) will be needed to both better serve the existing community and provide for new development, and identify suitable areas for locating them.
5. Identify major water, sewer, street and drainage improvements which will be needed to support new development, and estimate their approximate costs.
6. Estimate the overall costs of improvements to the existing infrastructure systems in La'ie (i.e. roadways, drainage, sewer, water) which will have to be made in order to, at a minimum, upgrade these facilities to acceptable standards, and possibly to also turn them over to the City and County for maintenance purposes.

While the Master Plan has not been formally adopted by either the La'ie community or the applicant, it would be inaccurate to characterize this as a situation where nothing has been decided. The issue which has held up its adoption has been achieving a consensus on a site for the new housing. The La'ie community generally supported the draft of the Master Plan which was completed in December 1987. This draft designated the BYU Mauka site (page 24) for the new housing. However, the applicant at that time had misgivings about utilizing this site, as opposed to either the alternative Egg Farm or La'iemalo'o sites (page 25).

This led to the preparation of the April 1990 draft of the Master Plan (Appendix A). This draft designated the Egg Farm site for the new housing. However, community review failed to result in a strong base of support for this area as the most appropriate site for the housing.

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Subsequent discussions with the La'ie Community Association resulted in an agreement by the applicant to prepare a thorough assessment of the potential benefits and impacts of all three sites which had been under consideration for the housing. The intent was to utilize this analysis as a basis for the community and the applicant to reach final agreement on the most appropriate site. This has been achieved with the reaffirmation by the community of its strong preference for the BYU Mauka site, and the approval by the applicant of the selection of this site. The Final EIS reflects this decision by designating the BYU Mauka site as the proposed new residential area.

There has been general community/applicant agreement on the other land use issues covered in the La'ie Master Plan since the initial draft was prepared in 1987. The main task that remains to "finalize" the Master Plan -- i.e., to put it in a form which is suitable for formal adoption by the applicant and community organizations in La'ie -- is to update its various sections to reflect current conditions and plans. In particular, the discussions of methods for providing affordable housing and improving infrastructure in the existing community will be updated to focus more on what specifically will be required to achieve these goals in La'ie. This effort will be initiated shortly, with the objective of completing it by the end of 1992.

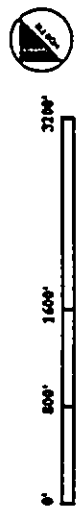
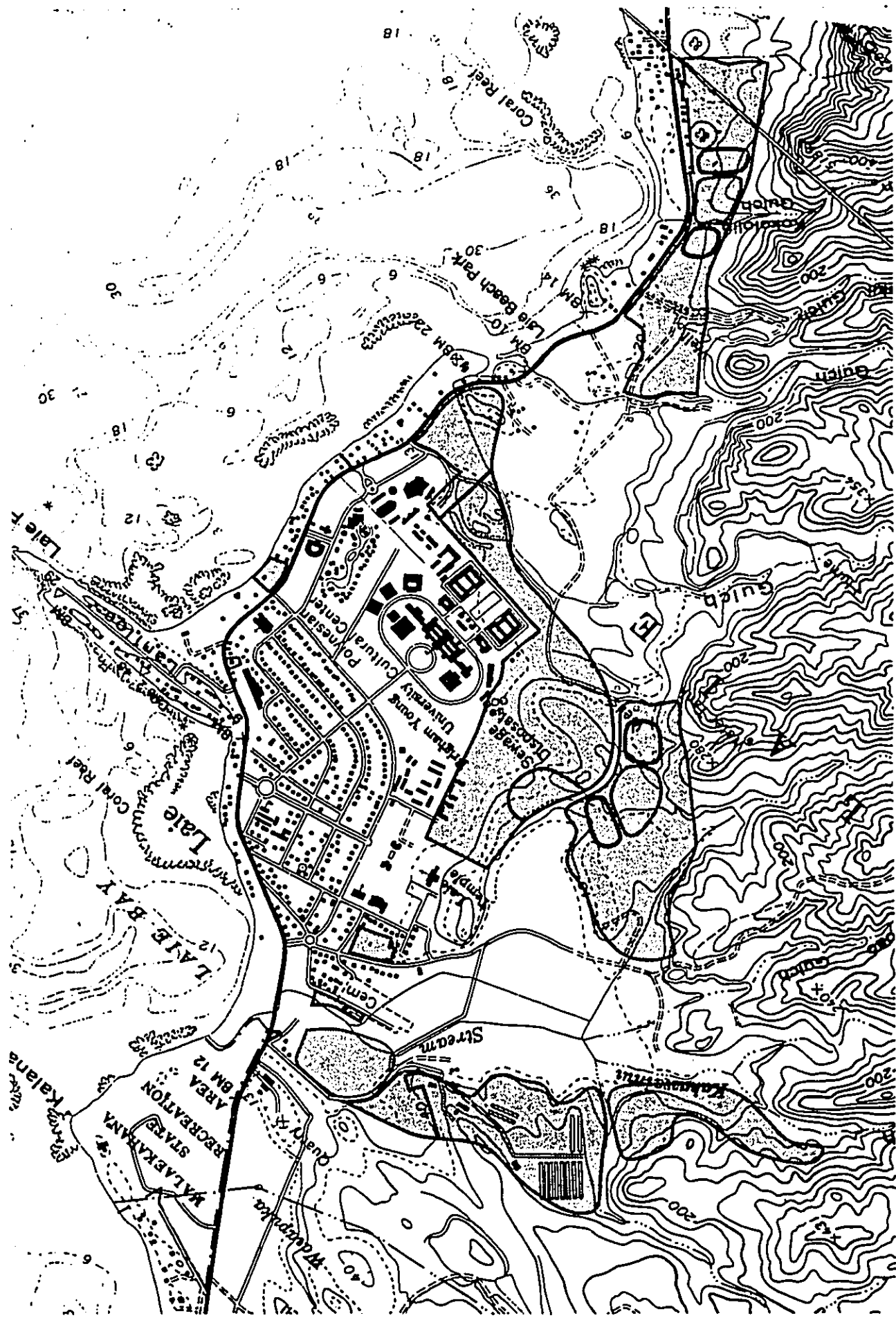
Following completion of the EIS process, community meetings will resume to discuss the various elements of the Draft Master Plan. The purpose of this effort will be to finalize the Master Plan in a form that is jointly supported by both the owner and the residents of La'ie. The information provided in the various technical studies in the EIS should be instrumental in finalizing the Master Plan.

1.3.2 Development Plan Amendment Request Areas

A DP Amendment application has been submitted for the purpose of making those changes to the Ko'olauloa Development Plan Land Use Map which are required to reflect the desired future land use pattern for La'ie, as reflected in the draft Master Plan. Specific areas requested for amendment should be viewed in the context of the overall land use pattern provided in the Master Plan.

While several proposed new land uses in La'ie do not require DP, zoning or other forms of discretionary approval on the part of the City and County of Honolulu, there are twelve requested amendment sites which are covered by the application. The requested DP Amendments comprise a total of 201 acres.

The application includes a proposal for a new residential neighborhood. The Draft EIS examined the environmental impacts of three alternative sites to determine the most appropriate location for the proposed residential area, as well as single-site proposals for other types of land uses. The "study area" refers to the requested DP Amendments collectively, including one proposed residential site and two alternative residential sites. The study area is approximately 361 acres, in total, and generally described by the shaded areas in Figure 2.



STUDY AREA BOUNDARY MAP
 LA'IE DEVELOPMENT PLAN AMENDMENTS

FIGURE 2

LA'IE DEVELOPMENT PLAN AMENDMENTS
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The Development Plan Amendment areas involve urban, agricultural, and undeveloped areas of La'ie. Certain of the requested DP Amendments represent in-fill type land uses, located within an already developed area of the community. The proposed and alternative residential areas, however, are located on lands which are currently either vacant or in agricultural use, given that there are no areas in the existing La'ie community which would be appropriate for major redevelopment.

Although the various DP amendments have been requested, no specific projects are planned for any of the sites at this time. The request is for a policy decision on whether or not the proposed types of uses should be permitted in the proposed locations. The primary concern leading to the submittal of this application, as well as to the preparation of the La'ie Master Plan, is to permit the construction of additional affordable housing to order to meet the tremendous pent-up demand for housing in La'ie. As this is not a speculative venture, approval of these amendments is considered necessary before it would be reasonable to invest the resources required for more detailed project planning, engineering and architecture.

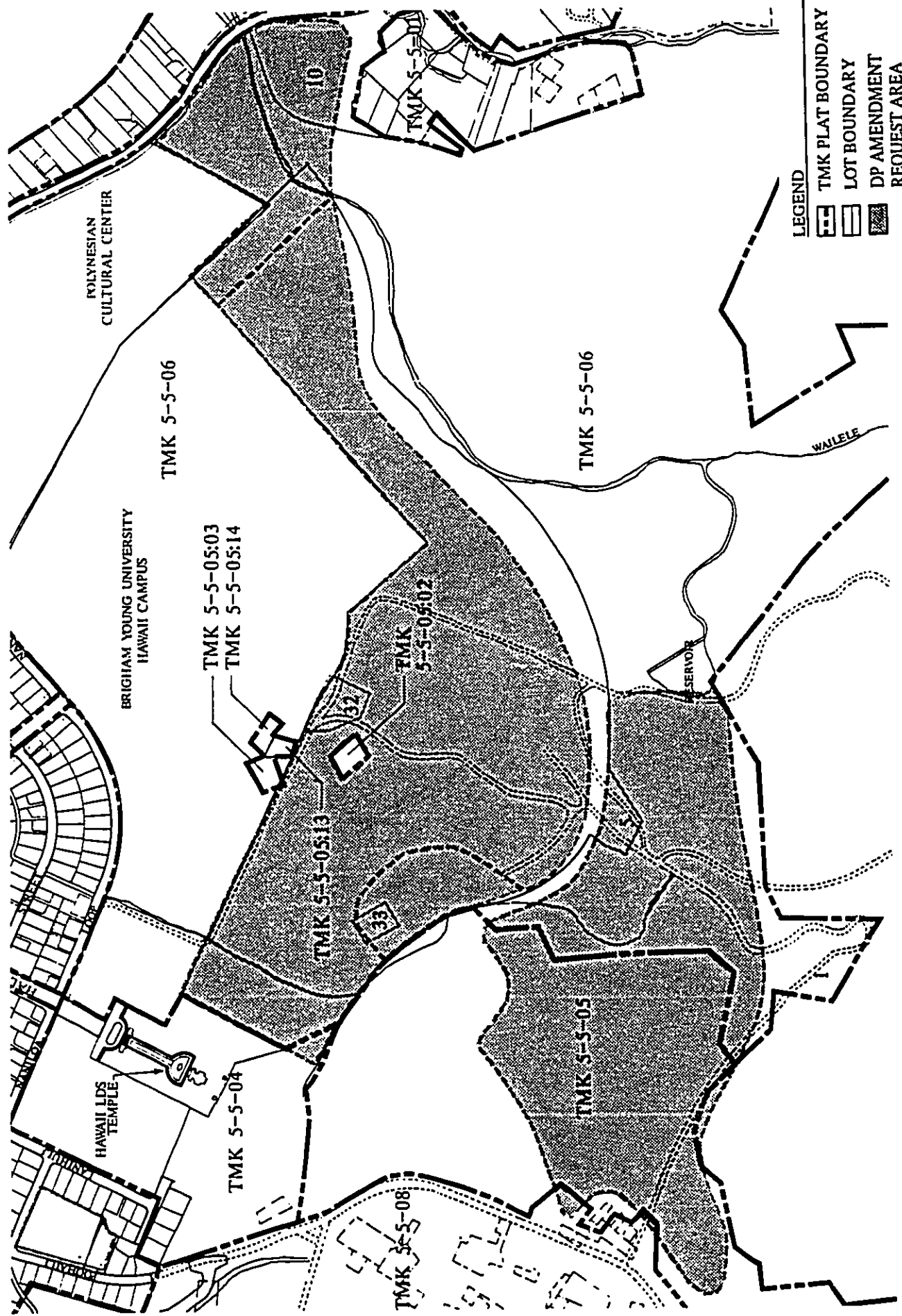
1.4 OWNERSHIP AND PRESENT USE

1.4.1 Ownership

The requested DP Amendment areas are owned by Property Reserve, Inc. The Tax Map Key numbers for the requested DP Amendment areas are summarized below and located in Figures 3 and 4.

The Tax Map Key designations for the Study Area properties are:

<u>DP AMENDMENT AREA</u>	<u>TAX MAP KEY</u>
BYU Mauka Proposed Residential Area	5-5-05: Por. 23; 5-5-06: Por. 1; 5-5-07: Por. 1
BYU Expansion Area	5-5-06: Por. 5, 32
Poohaili St. Park	5-5-17: 5, 6
PCC Expansion Area	5-5-06: Por. 1, Por. 5, Por. 10, Por. 30
Corner Commercial	5-5-09: 12
Shopping Center Commercial	5-5-14: 7, Por. 24
Resort Area	5-5-02: 10, 11, 20
Industrial Areas:	
Near Cemetery	5-5-05: Por. 18
Reconfiguration	5-5-05: Por. 18



AFFECTED PARCELS - MAUKA PORTION
 LA'IE DEVELOPMENT PLAN AMENDMENTS

FIGURE 4

LA'IE DEVELOPMENT PLAN AMENDMENTS
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**Wastewater Reclamation
Facility**

5-5-06: Por. 5, 33

New Street Right of Way

5-5-04: Por. 3, Por. 7; 5-5-05: Por. 23; 5-5-06: Por. 1,
Por. 5, Por. 10; 5-5-08: Por. 1

The study area included two alternative residential sites which are not a part of the requested DP Amendments but were evaluated as alternatives in the EIS. Two parcels not owned by Property Reserve, Inc., (TMK 5-5-01:12 and 5-5-05:1) were included in the study of these two alternative residential areas, as shown on Figures 5 and 6. These parcels are essentially located "inside" larger parcels owned by Property Reserve, Inc. In both instances, the surrounding Property Reserve parcels were under consideration for redesignation as Residential on the DP Land Use Map. This is consistent with the current land use of the affected parcels owned by others.

There is one parcel within the existing and proposed BYUH expansion area which is not owned by Property Reserve, Inc. and is not a part of the requested DP Amendments. The parcel location is shown on Figure 7.

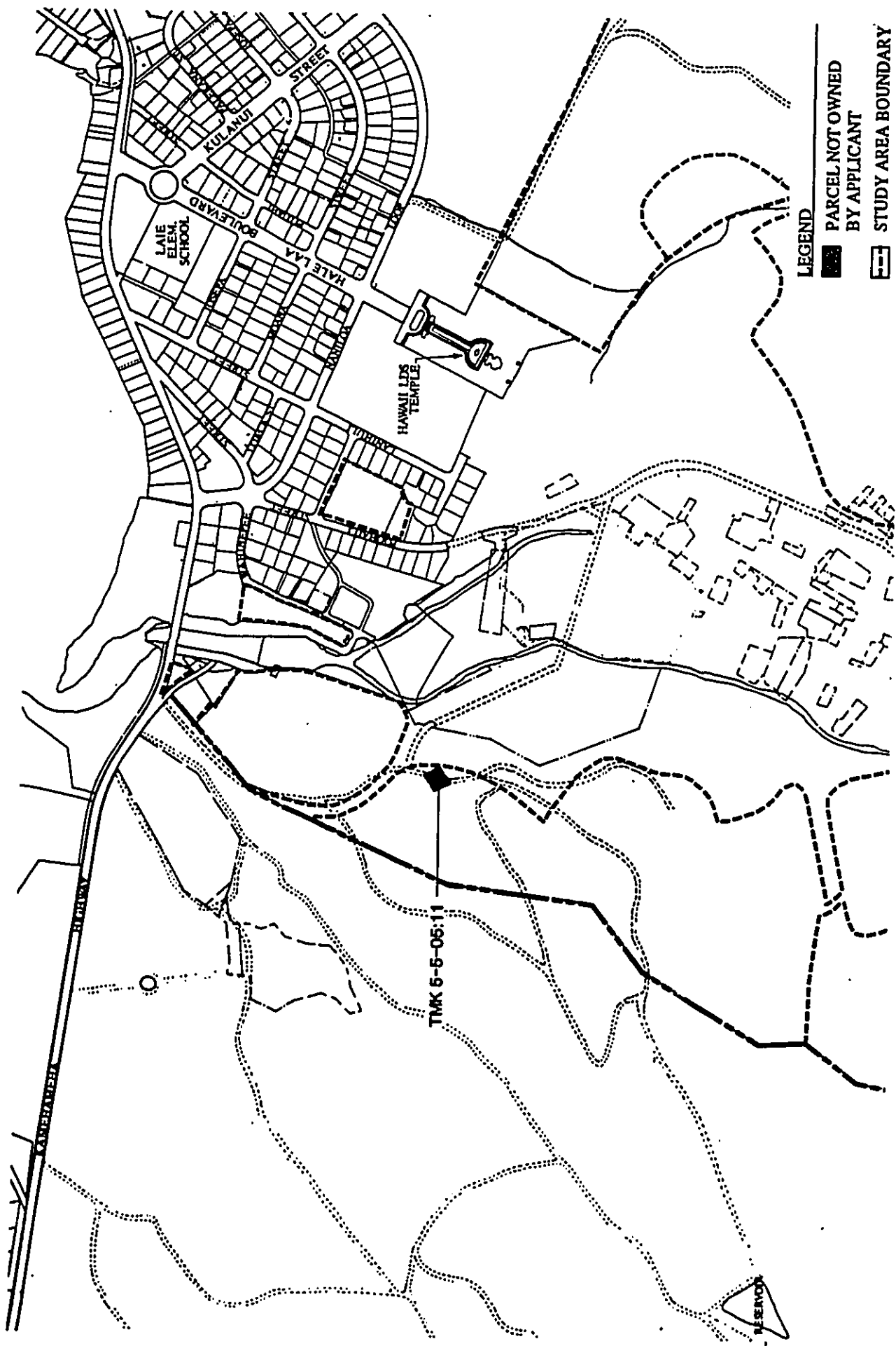
1.4.2 Present Use

The properties which are the subject of the DP Amendments are generally discontinuous parcels of land throughout La'ie, as shown in Figure 8. Certain properties lie within the developed, urban portion of the existing community; the larger properties are located adjacent and outside of the existing developed area. With only a few exceptions, these larger parcels are currently undeveloped or used for agricultural purposes.

Proposed BYU Mauka Residential Area: Approximately 32 acres of the proposed BYU Mauka site is currently used for small scale farming. There are two houses on the property which are occupied by Zions Securities personnel. The entire area included within the DP Amendment request is owned by Property Reserve.

Alternative Residential Sites: There are two alternative residential sites considered in this study (Figure 9). For purposes of reference in this report, the northerly-most alternative residential site is referred to as the "Egg Farm" site, since a major portion of the property is currently leased to Cackle Fresh Egg Farm. The southerly-most alternative residential site is referred to as the "La'iemalo'o" site, as it is bordered on one side by La'iemalo'o (also known as Koloa) Stream.

Approximately 12 acres of the Egg Farm alternative residential site is used for an egg farm operation; and approximately 25 acres is used for growing fruits and vegetables. There are two caretaker residences within the Egg Farm's lease area and one 0.25 acre (*kuleana*) parcel not owned by Property Reserve (TMK 5-5-05:11). The remainder is vacant.

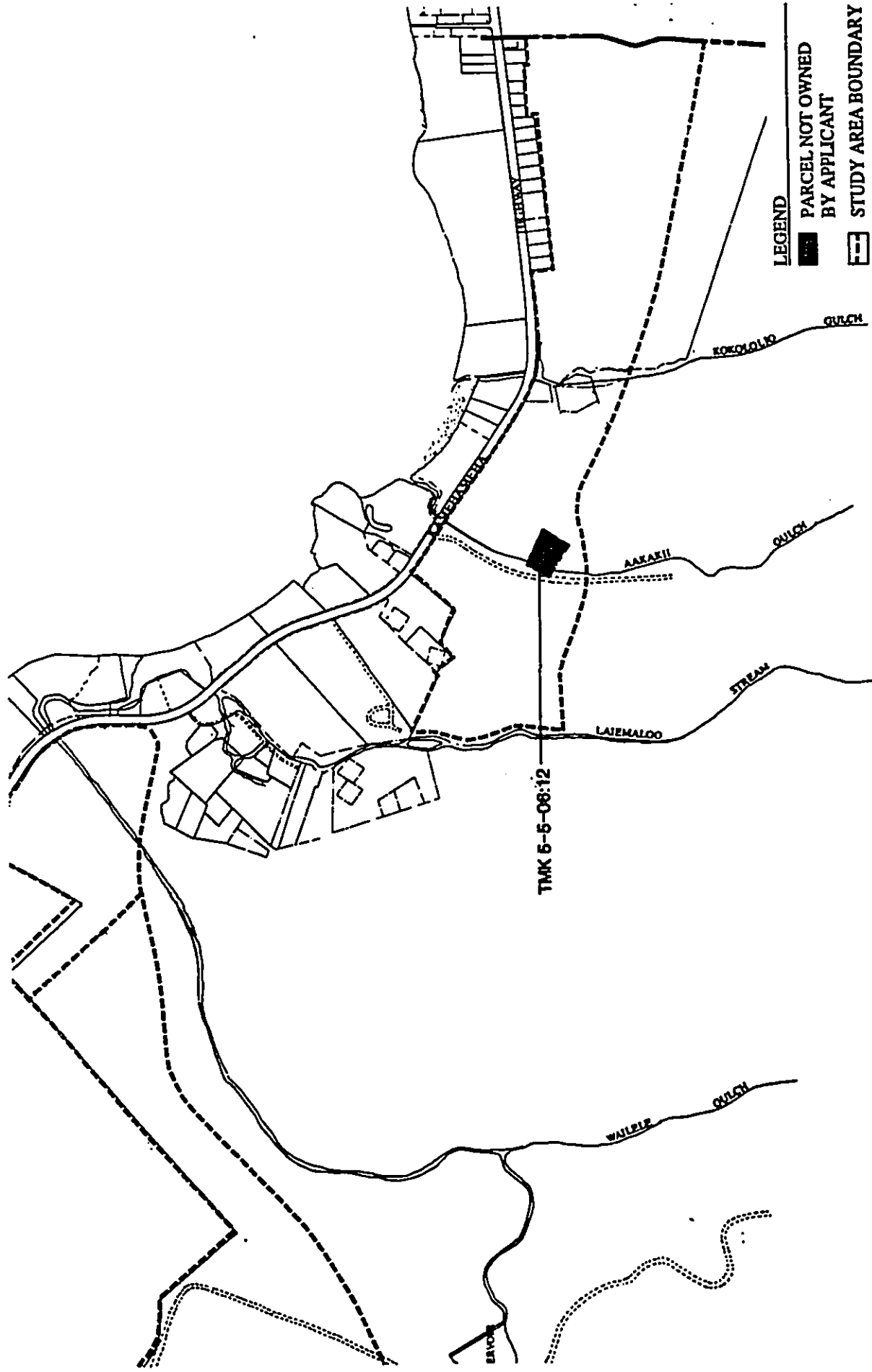


LEGEND

- ▣ PARCEL NOT OWNED BY APPLICANT
- - - STUDY AREA BOUNDARY

**PARCELS NOT OWNED BY APPLICANT - EGG FARM AREA
LA'IE DEVELOPMENT PLAN AMENDMENTS**

NOT TO SCALE
FIGURE 5

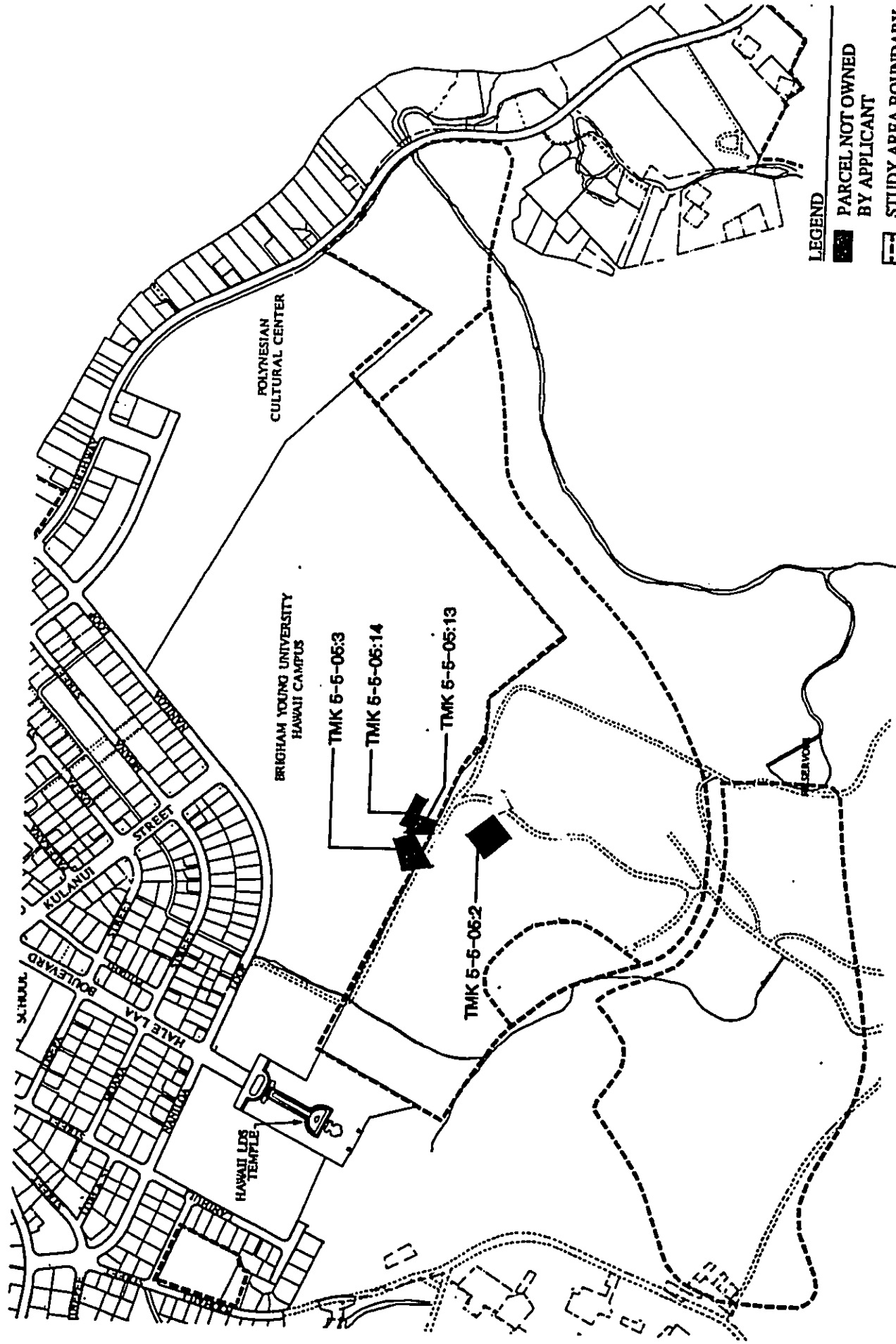


LEGEND
 ■ PARCEL NOT OWNED BY APPLICANT
 - - - STUDY AREA BOUNDARY

TMK 5-5-08:12

PARCELS NOT OWNED BY APPLICANT - LA'IE MALOO AREA
 LA'IE DEVELOPMENT PLAN AMENDMENTS

NOT TO SCALE
 FIGURE 6

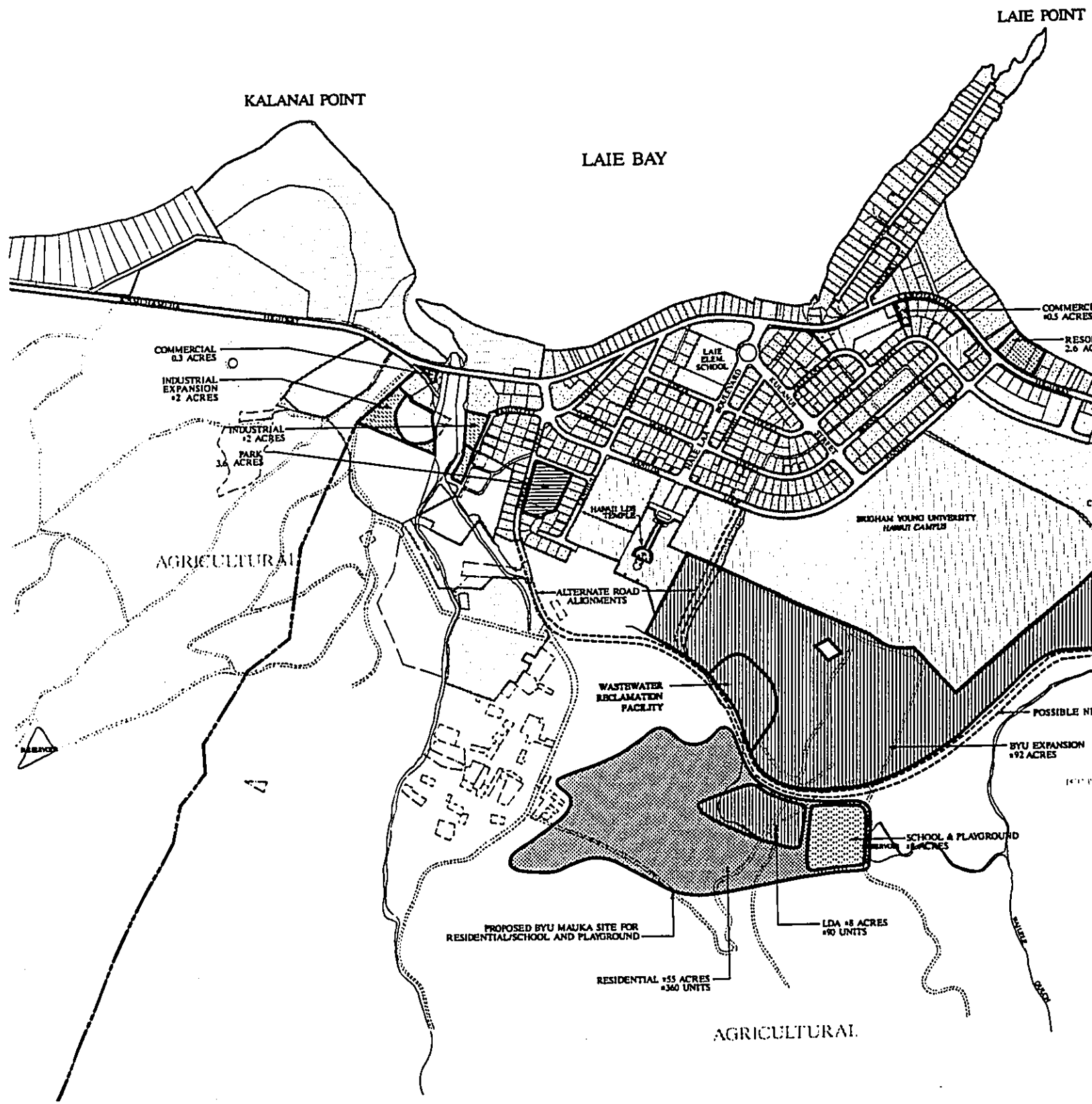


LEGEND
 ■ PARCEL NOT OWNED BY APPLICANT
 - - - STUDY AREA BOUNDARY

PARCELS NOT OWNED BY APPLICANT - BYUH AREA
 LA'IE DEVELOPMENT PLAN AMENDMENTS

NOT TO SCALE

FIGURE 7



DP AMENDMENT REQUEST AREAS
LA'IE DEVELOPMENT PLAN AMENDMENTS

LAIE POINT

LEGEND

	EXISTING DP	DP REQUEST AREAS
RESIDENTIAL	[Pattern: sparse dots]	[Pattern: dense grid]
LOW DENSITY APARTMENT (LDA)	[Pattern: sparse dots]	[Pattern: medium grid]
RESORT	[Pattern: sparse dots]	[Pattern: horizontal lines]
COMMERCIAL	[Pattern: sparse dots]	[Pattern: vertical lines]
INDUSTRIAL	[Pattern: sparse dots]	[Pattern: diagonal lines /]
PUBLIC AND QUASI-PUBLIC	[Pattern: sparse dots]	[Pattern: diagonal lines \]
PARKS & RECREATION	[Pattern: sparse dots]	[Pattern: horizontal lines]
PRESERVATION	[Pattern: sparse dots]	[Pattern: horizontal lines]

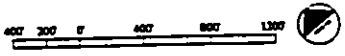
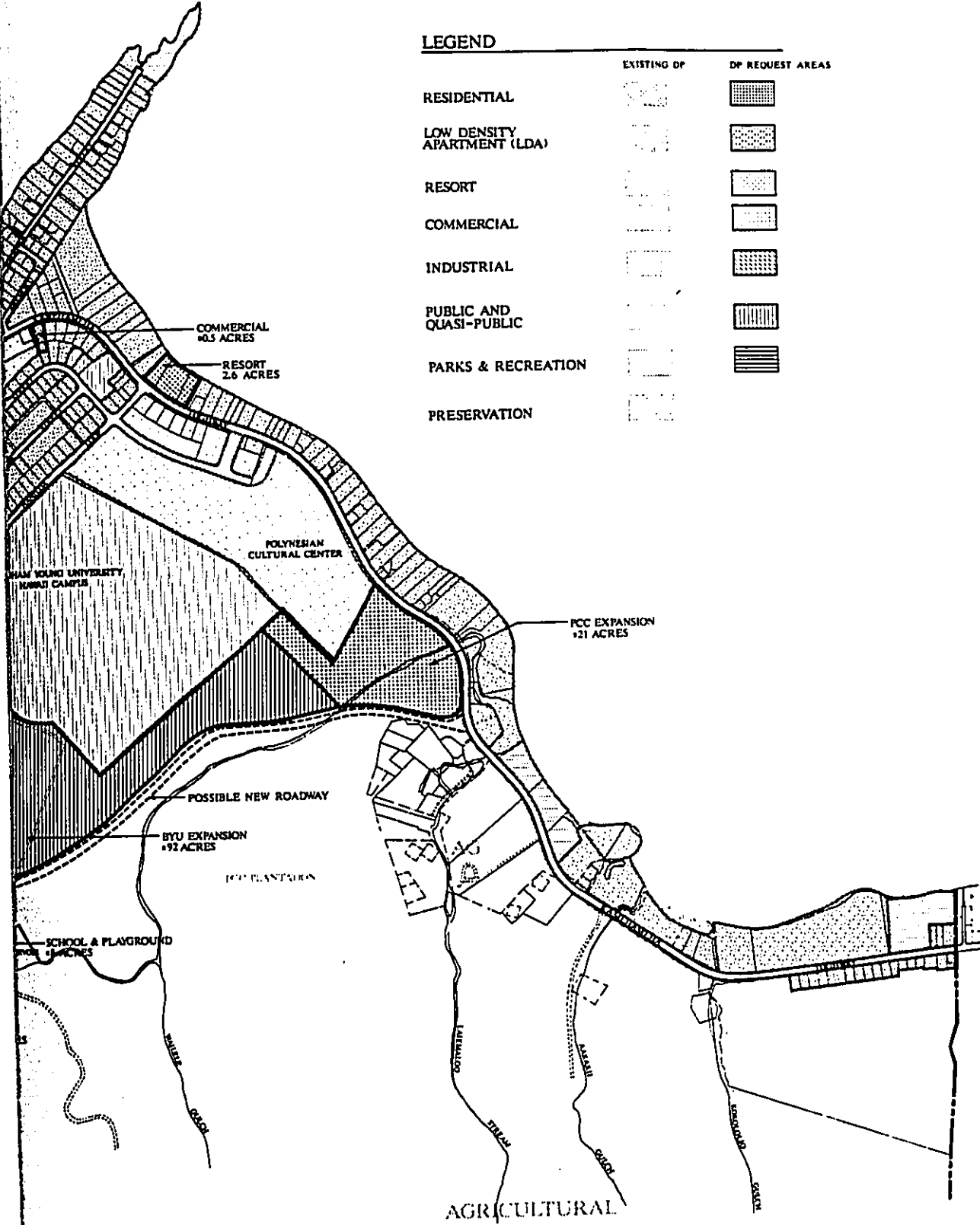
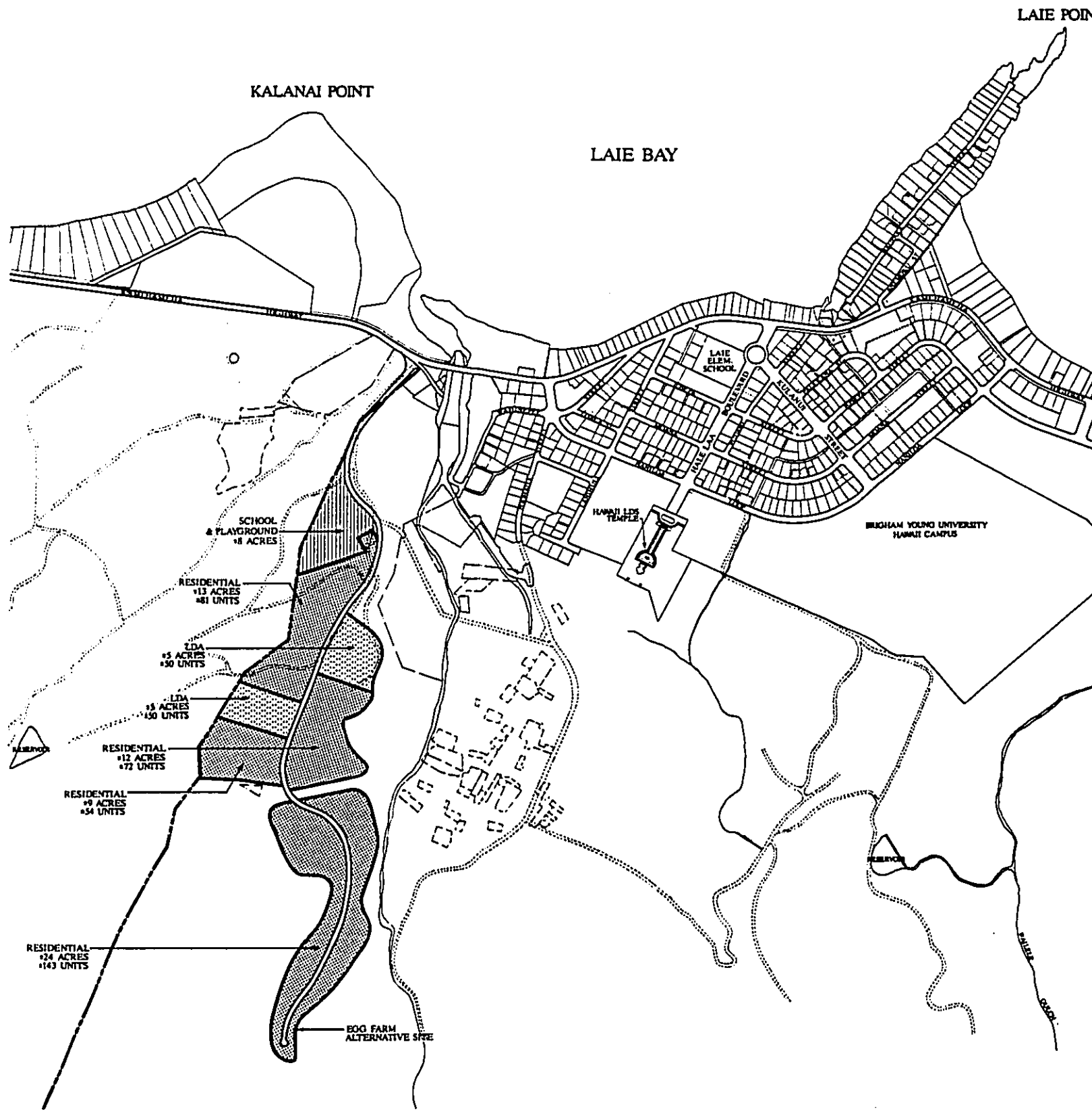


FIGURE 8



ALTERNATIVE RESIDENTIAL SITES
LA'IE DEVELOPMENT PLAN AMENDMENTS

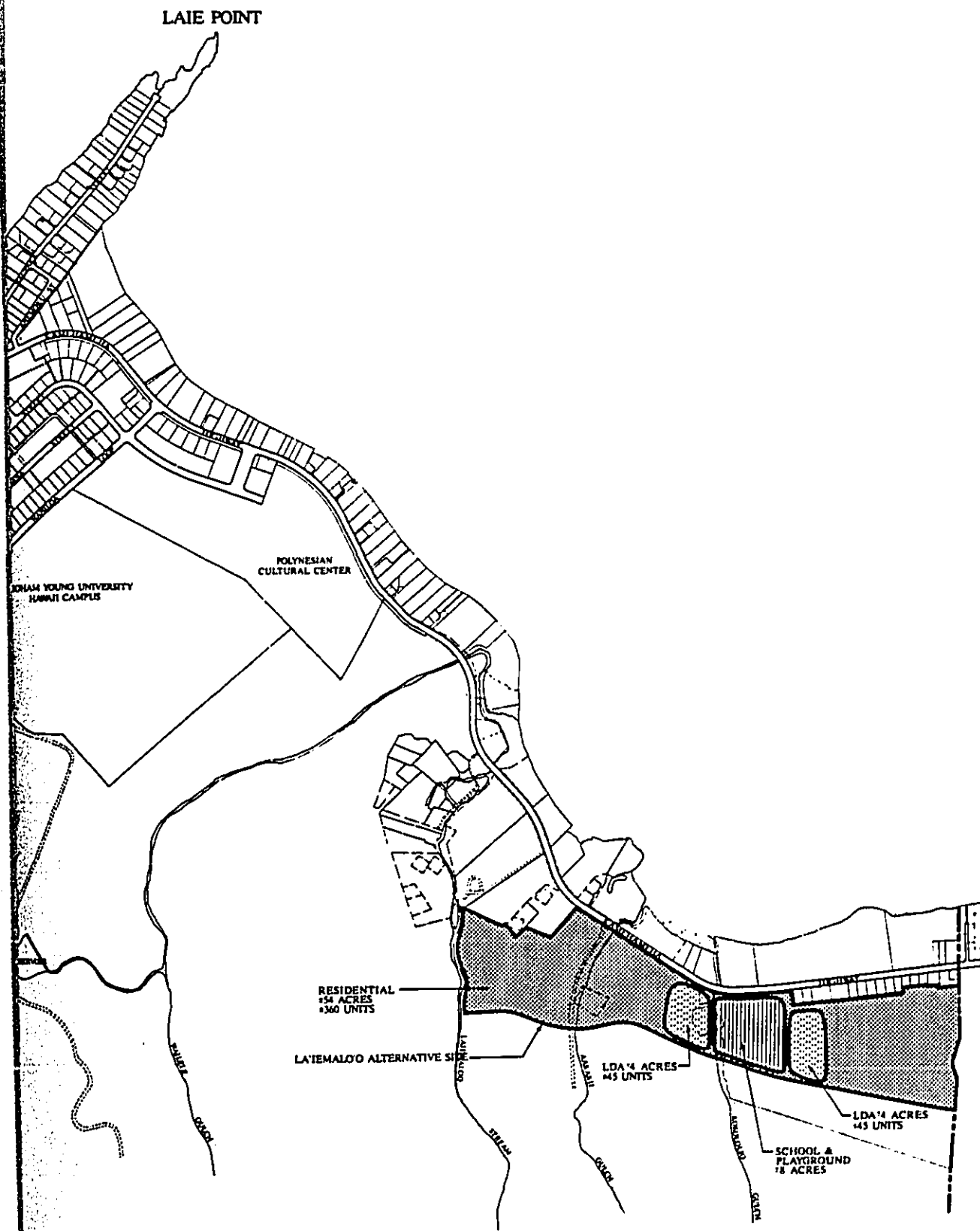


FIGURE 9

LA'IE DEVELOPMENT PLAN AMENDMENTS
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Approximately 24 acres of the La'iemalo'o alternative site is used for small scale farming. The remainder is vacant. There is one *kuleana* parcel (TMK 5-5-01:12) not owned by Property Reserve included in this alternative residential area which has a residence on it. A shed located within an area which is currently leased for farming appears to be occupied at least part-time.

BYUH Expansion Area. Approximately 19 acres of this site is used for small scale farming. There is a gravel quarry in the center of the site, nearing termination, but currently in operation. A rugby field and baseball field are in the expansion area immediately behind existing campus buildings. There is one *kuleana* parcel (TMK 5-5-05:2) (Figure 7) surrounded by (but not a part of) the amendment area, one of which has a residence on it.

Po'ohaili Street Park. The 3.6 acre parcel is improved and utilized as a park, including a ball field and outdoor basketball court.

PCC Expansion Area. Most of the area is a plumeria tree grove. A small structure on this site near the highway may be occupied, at least part-time. A portion of the site is jointly used by the University and PCC for maintenance operations and related parking.

Corner Commercial. There is one structure on this parcel, occupied by a small outlet for the nearby Egg Farm and a surf shop.

Shopping Center Commercial. There are two residences on this site, but only one is occupied.

Resort Area. The site is mostly vacant. There are two houses and seven studio apartments on the site which were built by the prior owner. The dwelling units are all month-to-month rentals. There is a tennis court in the center of the site.

Industrial Area (near Egg Farm road). This site is vacant.

Industrial Area (near cemetery). There are two buildings on this site which primarily house Zions Securities maintenance operations. One of the buildings is currently leased.

STP Expansion. The boundary of this site has been recently fenced. Required maintenance activities are underway to bring the present facility into compliance with State regulations.

1.5 POTENTIAL RESIDENTIAL DISPLACEMENT

In several instances, implementation of the proposed DP Amendment land uses will eventually displace some residents who are currently leasing property from Zions Securities Corporation. In most cases, the leases are on a month to month basis or will soon expire. The affected parcels on which persons are currently residing are listed below.

LA'IE DEVELOPMENT PLAN AMENDMENTS
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Proposed BYU Mauka Residential Area. Two houses are located on the hill above the aquaculture ponds occupied by employees of the aquaculture operation.

Egg Farm Alternative Residential Area. There are two caretaker residences occupied by employees of the Cackle Fresh Egg Farm.

La'iemalo'o Alternative Residential Area. One structure in this area appears to be occupied as a full or part time residence.

La'ie Shopping Center. The expanded parking area proposed for the La'ie Shopping Center will displace two residences, one of which is currently vacant.

Resort Amenities Area. There are two residential structures on this site.

16 PURPOSE AND CONTENTS OF THE ENVIRONMENTAL IMPACT STATEMENT

This EIS has been prepared to identify and evaluate the existing conditions and potential impacts of the requested DP Amendments on the environment. An EIS is required as part of an application to amend the current use designations shown on a Development Plan Land Use Map.

Included in this EIS is an Executive Summary which summarizes the entire document. Section 1 is the Introduction which presents background on the proposed DP Amendments and the purpose and contents of this document. Section 2 contains a detailed project description, including ownership and present use of the various sites within the study area, construction activities, market demand, timetable and costs.

Section 3 includes a discussion of existing State and City and County land use and zoning designations for the project site. Changes in land use and zoning classification are also discussed in this section, along with other approvals required to implement the proposed land uses.

Section 4 includes the description of existing environmental conditions, anticipated environmental impacts and recommended mitigation measures. All environmental factors are considered in this assessment, such as soils, water quality and use, ecology, traffic, archaeological resources, views, noise, and community services, along with other factors. Mitigative measures are recommended to minimize potential adverse impacts generated by the project.

Section 5 is a presentation of alternatives to the proposed actions, including the proposed residential area and two different residential site alternatives, and a no project alternative. Section 6 includes a discussion of the relationship of the requested DP Amendments to existing policies and plans for the area. A summary of unresolved issues is included in Section 7.

LA'IE DEVELOPMENT PLAN AMENDMENTS
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Section 8 is a list of references used in preparing the report. Section 9 contains copies of all written comments received concerning the Environmental Assessment and Draft EIS and corresponding responses. A list of the preparers of this report follows Section 9.

Section 10 includes copies of technical reports prepared by consultants for the study area. Specific technical reports have been prepared to evaluate drainage, water supply, botany, terrestrial vertebrates, freshwater biology, archaeology, traffic, infrastructure, (water, sewerage and drainage) economic and fiscal concerns, and demographics. Information contained in these reports has been highlighted in the applicable sections of Section 4.

SECTION 2 - Project Description

2.0 PROJECT DESCRIPTION

This section presents a discussion of the requested Development Plan (DP) Amendments. Market demand for the proposed land uses is described in this section, along with the development objectives of the requested Amendments.

2.1 PURPOSE OF THE DEVELOPMENT PLAN AMENDMENTS

Zions Securities Corporation has pursued the preparation and community approval of a Master Plan for La'ie since 1987. The general purpose of the Master Plan is to provide an orderly and coordinated response to development related issues now confronting La'ie which reflects as well as possible the collective wishes of the people who will be affected. The application for Development Plan Amendments was submitted for the purpose of making those changes to the Ko'olauloa Development Plan (DP) Land Use Map which are required to reflect the desired future land use pattern for La'ie, as reflected in the Master Plan (Table 1).

Later in the year, community meetings will resume to discuss the various elements of the Draft Master Plan. It is hoped that the Master Plan will be finalized in a form that is jointly supported by both the owner and the residents of La'ie. The technical studies provided in the EIS should be instrumental in finalizing the Master Plan.

Twelve amendments to the Ko'olauloa DP Land Use Map are requested, as shown in Figure 8 and summarized in Table 1. The total study area and scope of the EIS is approximately 361 acres. The total DP request area is approximately 201 acres.

The DP Amendments are requested as part of a larger master planning process for Property Reserve's La'ie properties. The Draft La'ie Master Plan proposes infrastructure improvements to both existing and proposed areas of development; however, the EIS only addresses the infrastructure requirements of the proposed DP Amendments. In support of the proposed land uses, facilities that will be constructed include: access and circulation roadways, a wastewater collection, treatment, and disposal system, a potable and fire protection system, and other utilities systems. A brief description of each requested DP Amendment and associated infrastructure facilities is presented below.

2.1.1 Laie Master Plan: Elements which Require DP Amendment

The application for approval of the requested DP Amendments represents the first step in implementing those portions of the Laie Master Plan which require government land use approvals and permits. This section describes each of the requested DP Amendments.

LAIE DEVELOPMENT PLAN AMENDMENTS
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TABLE 1

REQUESTED DEVELOPMENT PLAN AMENDMENTS FOR LAIE
City and County of Honolulu 1992 Annual Amendment Review

PROPOSED USE	ACRES	EXISTING DP DESIGNATION	PROPOSED DP DESIGNATION
BYU Mauka Residential Area			
Residential/Chapel	± 55	Agricultural	Residential
Low Density Apartment	± 8	Agricultural	Low Density Apt.
School/Playground	± 8	Agricultural	Public Facility
	±71		
BYU Expansion Area	± 92	Agricultural	Public Facility
STP Expansion	± 6	Agricultural	Public Facility
Po'ohaili Street Park	3.6	Residential	Parks and Rec.
PCC Expansion	± 21	Agricultural	Commercial
Corner Commercial	0.3	Agricultural	Commercial
Laie Shopping Center Parking	0.5	Residential	Commercial
Resort Amenities	2.6	Residential	Resort
Industrial (near Egg Farm road)	± 2	Agricultural	Industrial
Industrial (near cemetery)	± 2	Portions Ag/ Public	Industrial
Total DP Request Area	201 acres		

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A. Residential and Low Density Apartments

There is one site proposed for redesignation as Residential and Low Density Apartments, referenced as "Proposed BYU-Mauka Residential Site" on Figure 8 and throughout the EIS. Approximately 55 acres is proposed to be redesignated as Residential and 8 acres as Low-Density Apartments for the development of ±450 new dwelling units. Approximately two acres will be reserved within the proposed Residential area for a local church site. An additional ±8 acres are planned for an elementary school and playground adjacent to the residential area. The estimated density of the Residential area is between six and seven dwelling units per acre; the Low Density Apartment area is estimated between 10 and 11 units per acre.

The target market for at least 60 percent of these new homes will be La'ie residents who are currently living in overcrowded housing conditions and have expressed an interest in owning or renting an affordable home in La'ie. A variety of approaches will be necessary in order to feasibly provide housing that will be affordable to the families living in overcrowded conditions in La'ie. These include government programs which help reduce the costs of construction and financing new housing, and private efforts such as self-help or owner-built housing. A study was prepared for the applicant in 1987 which describes the various options, many of which will have to be used in combination with each other in La'ie to achieve these housing goals. This study is included in the EIS as Appendix B.

Two alternative sites were considered for residential land uses in the EIS. These areas are referenced throughout the EIS as the "Egg Farm Alternative Residential Site" and the "La'iemalo'o Alternative Residential Site", as discussed in Section 1.0.

B. Elementary School and Playground Site

Approximately 8.0 acres are proposed for redesignation as Public Facility for an elementary school and playground site adjoining the proposed residential area. A significant number of existing La'ie residents are expected to relocate from overcrowded homes to the new affordable housing. The resultant new student population is expected to be less than standard student generation factors may indicate. In any event, the existing La'ie elementary school is currently at capacity, with enrollment close to 1,000 students. The proposed 8.0-acre site, which includes a playground area, will expand available school facilities in La'ie to the benefit of the existing community and surrounding area as well as the proposed affordable housing area.

A deep hole or lava tube underlies the Egg Farm residential alternative's school site near its border with the existing unimproved roadway. This site was leased for many years to the City and County of Honolulu for sewage disposal purposes. The lease was discontinued in 1990 and the hole was sealed.

C. Brigham Young University - Hawai'i (BYUH) Expansion

Approximately 92 acres are proposed for redesignation as Public Facility for the BYUH campus. This area has been a part of the University property for many years. The

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purpose of designating it for future BYUH use is to reserve an area which will allow the University to expand in an orderly and efficient manner, should expansion ever be planned, and to sufficiently buffer the University from other uses to avoid any adverse impacts. While there are no plans to increase enrollment, the University intends to utilize a portion of the expansion area in the near term to construct additional married student housing, an auxiliary services building, and outdoor recreation and sports facilities for student use.

Expansion of the University is permitted under the current DP Agricultural designation and AG-1/Restricted Agricultural District zoning, upon approval of a Plan Review Use (PRU) permit. In other words, the requirements for City and County approval of plans for new University facilities in the expansion area are the same whether the area is designated Agricultural or Public Facility on the DP Land Use Map. Demarcation of a suitable expansion area is nevertheless important because it informs the public of the ownership and possible future use of the area, and it determines the *makai* boundary of the residential area alternative which is located adjacent to the University.

Approximately 30 percent of the expansion area is vacant land, and approximately 20 percent is used for small scale farming. There is a gravel quarry in the center of the site, nearing termination, but currently in operation. An existing rugby field and baseball field are in the portion of the expansion area immediately behind existing campus buildings.

There are several parcels within the existing BYUH campus, one of which lies within the proposed BYUH expansion area, which are not owned by Property Reserve, Inc. These parcels are not a part of the requested DP Amendments. The parcel locations are shown in Figure 7.

D. Polynesian Cultural Center (PCC) Expansion

Approximately 21 acres are proposed for the Commercial designation, to permit expansion of the Polynesian Cultural Center. The expansion is intended to allow development of future cultural exhibits and parking. This area is located along Kamehameha Highway, between the existing PCC facilities and the privately owned La'iemalo'o lots. As with BYUH, these areas should enable PCC to expand in an orderly and efficient manner, and be sufficiently buffered from other uses to avoid any adverse impacts. Approximately 21 acres are currently leased to PCC as part of its ±155-acre plantation area. There is a structure within this area that appears to be occupied at least part time.

E. Light Industrial Area

Two sites, ±2 acres each, are proposed for the Industrial designation. At the two-acre site located between Wahinepee Street and the Kahawainui Flood Control Channel, approximately one-half of the area has been historically utilized for warehousing purposes; the other one-half is currently vacant. The other ±2-acre site is located on the Kahuku-side of the Kahawainui Flood Control Channel, along the Egg Farm access road. The boundaries of this proposed industrial site are primarily defined by the Kahawainui

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Stream and the Kahawainui Stream Flood Control Project floodplain, as identified by the U.S. Army Engineers. The proposed ±2 acres would effectively expand the ±3 acres of land currently designated Industrial on the City & County DP Map to create a ±5-acre site for light industrial uses. The site is presently undeveloped.

In the late 1960's, this site was utilized by the City and County of Honolulu as a land fill. Subsequently, vegetation has grown over the vacant site. For a short period of time, cars were parked and abandoned at a small, cleared area of the ±2-acre site; the majority of the vehicles have since been removed.

F. Po'ohaili Street Park

A redesignation of 3.6 acres from Residential to Parks and Recreation is proposed over two parcels on Po'ohaili Street. The parcels are currently improved with turf and hardscape for outdoor recreation uses such as softball, baseball and basketball. The park has good lighting and is actively used during the afternoon and evening hours.

G. Wastewater Reclamation Facility Upgrade and Expansion

The redesignation of approximately six acres from Agriculture to Public is proposed to reflect the proposed boundary of the La'ie Wastewater Reclamation Facility (LWRF) expansion area. Access to the site is through the existing BYUH campus; the site is located on the *mauka* side of the existing campus, above a wetland area.

Structural improvements to eliminate effluent discharge into the adjacent marsh are complete. A La'ie Wastewater Facilities Plan (LWFP)/Draft EIS is under preparation which proposes expansion of the wastewater reclamation facility to accommodate anticipated growth in La'ie up to the year 2010. The new, tertiary-level treatment plant will utilize an advanced technology treatment process to produce high quality effluent and composted sludge for re-use. Consistent with State policy, the LWFP proposes re-use of treated wastewater effluent and sludge for agricultural irrigation and compost purposes. Close coordination with the State Department of Health and City and County Board of Water Supply will ensure that these conservation practices are carried out safely. Expansion of the existing facility will be coordinated to precede and be available as needed for the development proposed by the DP Amendments.

H. Resort Amenities

There are ±4 acres along Kamehameha Highway, next to the existing Laniloa Lodge, which have been zoned Resort for approximately 20 years. This secondary-resort site is directly across the highway from the 2.6 acre parcel which is proposed to be designated Resort, for hotel-related leisure amenities such as a pool, beach accessories and landscaping. Utilization of this parcel is intended to improve the quality and viability of the currently approved resort-designated land, by providing a visual corridor and pedestrian access to the nearby beach as well as a place for ocean-related activities.

Uses permitted under Resort designation are generally more intrusive than those permitted under the Residential designation. However, it is intended that the allowable

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uses for this particular site would be limited through a unilateral agreement. This agreement would limit the uses to activities which are less intrusive than what is permitted for this site under the existing residential designation.

The unilateral agreement would stipulate the types of activities which could be established under the new designation, such as swimming pool, tennis courts, restrooms, changing areas, showers, equipment storage, lifeguard facilities and a snack bar. The snack bar would be small in size and character, and clearly accessory to the beach support facilities. There are no plans for a stand-alone restaurant or other significant commercial use of this parcel. The unilateral agreement will specifically prohibit the placement of new lodging units, restaurant, and other significant commercial use. The agreement will be legally binding in perpetuity, which is carried forward with the land should its ownership be transferred at some future date. Because of the legal restrictions placed on the allowed uses, it would not be possible to develop other more intensive uses.

The applicant is committed to including a public beach access pathway as part of the plan for this resort accessory facilities site. A pedestrian corridor will be included to improve public access to the beach in this area. There is no intention of developing public or resort parking on this site.

I Egg Farm Corner and La'ie Shopping Center: Commercial

The 0.3-acre site at the corner of Kamehameha Highway and Wahinepee Street is proposed for the Commercial designation, to make conforming the long-established, ongoing commercial operations. This area is referred to as the "corner commercial" site in later sections of this report. There is one structure on this parcel, occupied by a small outlet for the nearby Egg Farm and a surf shop.

The 0.5-acre site adjacent to the existing shopping center is proposed for the Commercial designation to expand the parking area. Additional parking is needed to accommodate the existing and future tenants of the center. There are two residences on this site which are currently leased; one will soon be vacated.

Located adjacent to Kamehameha Highway, both the corner commercial and shopping center sites have direct visual and vehicular access to the highway.

2.1.2 Infrastructure and Utilities for the DP Amendments

Infrastructure and utilities are proposed to service the land uses associated with the requested DP Amendments, as described in the following section.

A. Access and Circulation Roadways

Kamehameha Highway is a two lane, two way arterial highway that provides regional access to the study area. The highway is paved, 22-foot wide, with unpaved shoulders in some locations. The two proposed commercial areas, the resort area, PCC Expansion,

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and the La'iemalo'o alternative residential area are all adjacent to and take access from the highway.

A number of roadways intersect the highway providing access to various study area sites. The unpaved Egg Farm road is the most northerly intersection in the study area and currently provides access to the existing Cackle Fresh egg farm and two known *kuleana* or land claim parcels. Naniloa Loop has two junctions with Kamehameha Highway, providing access to the existing La'ie residential area and La'ie Elementary School. Hale La'a Boulevard is a divided roadway that provides access to the Mormon Temple and the surrounding residential area. The Polynesian Cultural Center has three access driveways leading to the main parking lot. The main access driveway (center) has provisions for exclusive left and right turn lanes on Kamehameha Highway in the north-bound and south-bound directions. None of these intersections with Kamehameha Highway are signalized.

A circulation roadway system is planned to provide access to and throughout each of the proposed residential areas. An extensive new loop road may be constructed for the proposed BYU Mauka residential area.

B. Wastewater Collection, Treatment and Disposal

Wastewater will be generated by the proposed residences, school, PCC and BYUH expansion areas and the industrial areas. A Wastewater Management Plan for the study area has been prepared by Aqua/Waste Companies (January 1992). Information from this report is included here and in Section 4.17.2. The complete report is included as Appendix C.

A wastewater collection system will be installed primarily along the existing and proposed circulation roadway system, and will be connected to all buildings where wastewater will be generated. The proposed land uses will require a gravity collection system, pump station, and force main to connect to the upgraded collection system.

The La'ie Wastewater Facilities Plan (LWFP)/Draft EIS is currently being prepared by consultants to Zions Securities Corporation. The design assumptions account for wastewater generated by: present demand; new service to existing un-sewered portions of La'ie; stormwater infiltration; and future growth of the La'ie community. Future growth is addressed following a "moderate" growth scenario for the year 2010. The LWFP considers the potential approval of all land uses proposed by the requested DP Amendments. The LWFP offers several alternative treatment plan schemes, with a recommendation that the existing wastewater reclamation facility be expanded and upgraded to meet the existing and future demands for wastewater treatment.

Given the considerable amount of agricultural land in the area, the LWFP proposes re-use of treated effluent water for agricultural irrigation. Sewage sludge from the La'ie wastewater treatment process is planned to be composted with green waste collected from the community, as a viable method of re-use. The LWFP will be reviewed by the State Department of Health (DOH) and the County Board of Water Supply (BWS) to ensure that the system design and monitoring mechanisms are acceptable.

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Improvements to La'ie's wastewater treatment and disposal facilities are underway to eliminate effluent discharge into the adjacent marsh. The improvements are being made under directions from the State DOH. During an interim period, tertiary treated effluent will be dispersed by a subsurface drainfield located *makai* of the Underground Injection Control (UIC) line. Long-term plans include recycling a portion of the treated effluent for agricultural irrigation uses. Monitoring wells are in place and background water quality measurements have been completed. This sub-surface drainfield disposal is proposed to be utilized as an emergency or back-up system once the long-term effluent disposal system is in operation.

C. Potable Water System

The La'ie community water system is owned and operated by Zions Securities Corporation. This system is not connected to the County Board of Water Supply (BWS) although BWS has evaluated the system for possible operation in the future. A water supply report has been prepared by Aqua/Waste Companies (January 1992) enclosed as Appendix D. Information from this report is included here and in Section 4.17.1.

The La'ie potable water system is supplied by two well stations which draw groundwater from an artesian aquifer. Current water consumption is estimated at 1.5 million gallons per day (mgd), including, residential, institutional, and commercial use. The pumped water supply is stored in a 2.0 million gallon steel tank reservoir, located *mauka* of the BYU-Hawai'i campus at an elevation of approximately 230 feet.

The land uses proposed for all of the DP Request areas will require an additional water source capable of delivering an approximately 300,000 gpd (or about 0.30 mgd) to meet potable water needs. Based upon available information, as discussed in Section 4.5, the underlying artesian aquifer has adequate capacity to satisfy the added demand proposed with the DP Amendments.

D. Drainage Facilities

Of the ±201 acres requested for DP Amendment, approximately 112 acres will be developed within the same drainage area that contains the existing developed residential areas of La'ie. The remaining DP Amendment areas (±108 acres) are outside this central drainage area. Each of the newly developed areas proposed will have proper drainage controls established on site, or will complete off-site drainage system improvements to accommodate additional runoff. Control of runoff from the development areas will be achieved through the construction of storm drainage facilities, swales, detention basins and dry wells within the new development areas. A drainage report has been prepared by Aqua/Waste Companies (January 1992), enclosed as Appendix F. Information from this report is included in Section 4.17.4.

Flooding conditions in the existing developed areas of La'ie, however, will not be improved by the new development projects. Additional community-wide drainage system improvements would be required to alleviate the currently poor drainage conditions in some areas.

E. Solid Waste Disposal

Debris generated during construction will either be utilized on-site or trucked off-site. Solid waste generated by the proposed development projects (during and after construction) will be collected by a private collection company and disposed of at the nearest City and County sanitary landfill. It is estimated that an additional 3.0 to 4.0 tons per day of refuse may be generated by the various components of this project upon completion. This will place a small additional demand on City and County waste disposal facilities.

F. Other Utilities

Electricity, communication and cable television conduits will be installed along the proposed access and circulation roadways. Planning for the provision of electrical supply to the new development areas will be coordinated with HECO engineers.

2.2 CONSTRUCTION ACTIVITIES

Construction activities at each of the projects proposed in the DP Amendments will involve vegetation clearing, grading (cut and fill), excavation, construction of buildings and roadways, and landscaping. A brief description of the extent of each construction activity follows. An estimated construction phasing schedule is also provided.

A. Vegetation Clearing and Grubbing

Selective vegetation clearing will occur to create buildable areas for the construction of the land uses described in Section 2.3.1. Within the ±201-acre area to be occupied by the project uses, some sections will be completely cleared, while other sections will be selectively cleared with portions retained as buffers and natural area transition zones.

B. Grading (Cut and Fill)

Site grading will be required in many cases to accommodate the construction of the proposed land uses described in Section 2.1. Earthwork on-site will grade the land to allow for structures and roadways to be constructed. Most, if not all, excavated materials will be retained on-site to minimize the quantity of earthwork materials that will be transported off-site.

C. Excavations

Excavations for roadways, building foundations, storm water detention, water storage reservoirs, piping, and utility trenches will be required to implement some of the land uses proposed with the DP Amendments. Utility installations will mainly occur along the access/circulation roadway system. Additional excavation work may be necessary along Kamehameha Highway to connect proposed utilities to the existing distribution systems. Material excavated for the trenches and foundations is expected to be reused on-site.

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D. Construction of Roadways

Roadway development will require clearing, grading, road bed construction, drainage facilities installation, paving, lighting and other safety provisions.

E. Construction Phasing

The DP Amendments are primarily a reflection of long-term land use plans for the La'ie community. Implementation of the plan is expected to evolve over a long-term period within each of the DP Amendment areas. The most concentrated construction effort will occur with the implementation of the proposed housing area. For the DP Amendments as a whole, construction activities will be distributed over an estimated 12-year growth period.

2.3 MARKET DEMAND

A community-wide public opinion survey was conducted in 1987 at the suggestion of La'ie community leaders. Its purpose was to find out what residents feel are future needs in the community. A scientifically-selected random sample of 225 households, or about 30 percent of La'ie's occupied full-time residential units, was used in order to ensure that the results would accurately reflect residents' values and preferences. The estimated sampling error is no more than ± 5 percent.

The survey indicated that La'ie residents support new development in the community, provided it will be of benefit to them. Developments which people favored included affordable homes, more shopping facilities, a small light industrial area, active recreational facilities, and a community center with programs for teens and senior citizens.

Interviews with the heads of BYUH and PCC indicated that there will be a long-term need for additional land for each facility which should be provided for in the Master Plan. Recent interviews with BYUH administrators indicate that there are several projects which are needed within the next two to six years and which would best be located in the proposed expansion area.

In the case of the Hawai'i Latter-Day-Saint (LDS or Mormon) Temple, both the community and the Temple President have indicated that it will be important to avoid locating uses nearby which would visually or in other ways detract from the setting of the temple.

An interview with the principal of the La'ie Elementary School indicated that the school is filled to capacity. Any major new housing construction in La'ie will generate the need for a new elementary school.

Altogether, about 104 acres will be required to accommodate the new housing and related uses desired by the community. Provisions for possible future expansion of BYUH and PCC, and for the protection of the Hawai'i Temple, will require at least

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another 110 acres. The Master Plan and requested DP Amendments are reflective of the needs expressed through this survey process.

The public problem or need for each of the requested DP amendments, as determined through the 1987 survey, and through interviews held both at that time and more recently with community leaders and BYUH and PCC administrators, is summarized briefly below.

Housing: La'ie households are much more crowded than is the case for O'ahu as a whole. More than 36 percent of the existing residences in La'ie were found in the survey to be occupied by multiple households. One or more of these "extra" families (a total of about 50 percent of all La'ie households) indicated that they would move out if homes were available at prices they could afford.

The application for Residential and Low Density Apartment designations proposes a new residential area of ±63 acres in order to provide an area where the applicant and the community can pursue the development of reasonably priced housing to meet the pent-up demand in La'ie. Approximately two acres will be reserved within the proposed residential area for a local church site.

School Facilities: Enrollment at the existing La'ie Elementary School is close to 1,000 students, and at capacity. This compares to a generally preferred elementary school enrollment of 500 to 600 students. Fourteen portable classrooms are currently located on the site, and space for outdoor activities is very limited. Since there is no additional room on the school site for further expansion, any significant new housing development in La'ie will almost certainly generate the need for additional school facilities. The proposed residential area includes an 8-acre site for the construction of a new elementary school.

Parks and Recreational Facilities: Items with the highest priority ratings were those oriented to youth and/or active recreation: teen recreation center, community park with sports fields, and community swimming pool. There is a less perceived need for additional passive, nature-oriented recreational experiences and facilities.

Two parcels on Po'ohaili Street parcel are currently used as a park for outdoor recreation uses such as baseball and basketball. The application requests a redesignation from Residential to Parks and Recreation, consistent with current use and community needs.

Resort/Beach Support Facilities: The ±4-acre area between the Laniloa Lodge and Naniloa Loop has long been planned and zoned for expansion of the lodge into a larger hotel. This designation is retained on the Land Use Plan in recognition of the benefits that an improved hotel operation can offer. Specifically, it will provide more suitable accommodations for PCC visitors who wish to stay overnight or longer in La'ie, as well as for those from out of town who are participating in Church and University-related functions. It will also provide additional job opportunities for La'ie residents.

To enhance the attractiveness of the hotel and help to ensure its long-term operational success, it is proposed that the 2.6-acre applicant-owned oceanfront property located

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across Kamehameha Highway from the existing Resort-designated site be used to provide amenities and recreational facilities for hotel guests. Uses on the site would be limited to leisure, recreational, and similar amenities normally associated with a resort hotel. No lodging units would be provided. Some of the facilities would also be available for use by La'ie residents, and a public access-way to the beach would be provided. It is intended that the allowable uses for this site would be limited through a unilateral agreement.

Brigham Young University - Hawai'i Campus (BYUH/Auxiliary Services): Approximately 92 acres are proposed for designation on the DP Land Use Map as part of the BYU-Hawai'i Campus. The purpose of reserving this area for future BYUH use is to enable the University to expand in an orderly and efficient manner, and to be sufficiently buffered from other existing and future uses. This designation would be consistent with the fact that the property owner has already reserved the land for the University's use. While there are no plans to increase enrollment, the University needs part of this area in the near future to construct additional married student housing, an auxiliary services building, and outdoor recreation and sports facilities for student use.

Polynesian Cultural Center (PCC) Expansion: The addition of approximately 21 acres to the Commercial designated portion of the PCC site is proposed in order to allow for the future expansion of cultural exhibits and parking. This area is located along Kamehameha Highway, between the existing PCC facilities and the privately owned La'iemalo'o lots. As with BYUH, these areas should enable the PCC to expand in an orderly and efficient manner, and be sufficiently buffered from other uses to avoid any adverse impacts.

Light Industrial Areas: According to the 1987 survey, a majority of La'ie residents would like to see a light industrial area in La'ie. It is desired so that space would be available for such uses as an auto repair shop, local crafts or dance studios, and possibly a small home improvement center. The area would also provide a location for locally-run small businesses and for needed community services that do not have to be located in a retail shopping center.

24 DEVELOPMENT TIMETABLE

An estimated schedule for development anticipates that all approvals will be in place to allow some construction to commence in 1994, to be phased over the subsequent 10-year period, as follows:

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- | | | |
|-----|---------------------------------|------------------|
| 1. | Residential Area/450 units | 1994 to 1998 |
| 2. | BYUH Expansion | 1993 to 2000 |
| 3. | Po'ohaili Street Park | (C&C Dedication) |
| 4. | PCC Expansion | 1995 to 2004 |
| 5. | Corner Commercial | (Existing Store) |
| 6. | Shopping Center Commercial | 1994 to 1997 |
| 7. | Resort Area | 2000 to 2001 |
| 8. | Industrial (near Egg Farm road) | 1994 to 1998 |
| 9. | Industrial (near cemetery) | 1994 to 1998 |
| 10. | STP Upgrade/Expansion (Phase 1) | 1991 to 1994 |

2.5 APPROXIMATE INFRASTRUCTURE COSTS

The total estimated construction cost for infrastructure improvements required to support implementation of the proposed DP amendments is approximately \$25 to 35 million. A comparison of the estimated infrastructure costs for the proposed residential area and two alternatives is included in Section 5.0. As no specific project plans have been prepared, estimates of the costs for building additional housing, and other proposed development uses are not available.

SECTION 3 - Land Use and Zoning Controls

3.0 LAND USE AND ZONING CONTROLS

This section includes a description of the existing State and City and County land use and zoning designations for the project area. Changes in land use classification and zoning required to implement the proposed actions are described, as well as other required approvals. A list of permits and approvals required to implement the various proposed projects included in the DP Amendments is included in Table 2.

3.1 STATE OF HAWAII

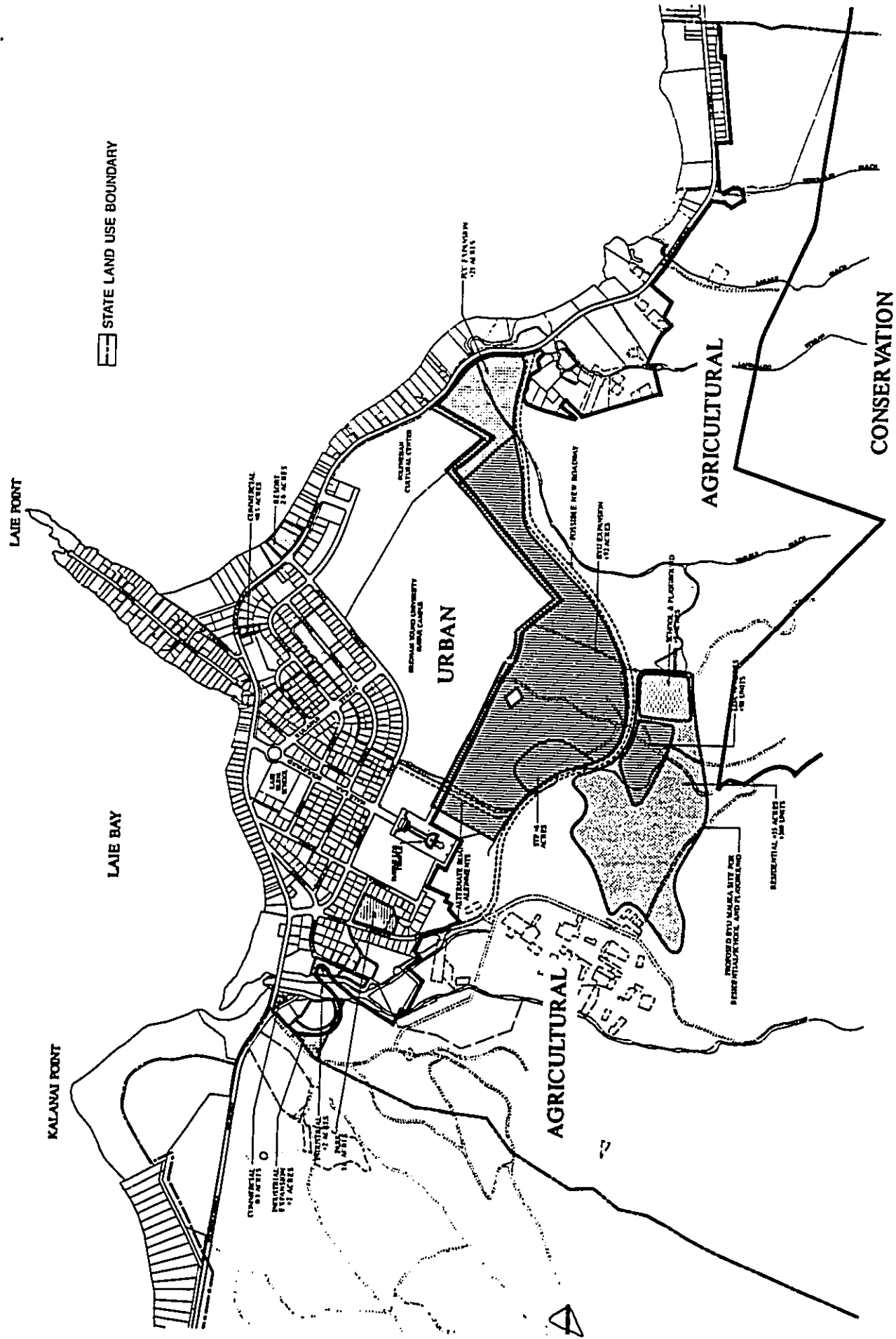
3.1.1 State Land Use District

As shown in Figure 10 and Table 2, many of the sites addressed in this application are within the State Land Use Agricultural District. The proposed BYUH mauka residential site and the two residential alternatives are designated as Agricultural, as are sites for the BYUH Expansion, PCC Expansion and Wastewater Reclamation Facility. The remainder of the sites are in the State Land Use Urban District, with the exception of the two Industrial sites, which contain both Urban District and Agriculture District lands. The City and County of Honolulu is the authority for establishing these land use designations, and is the decision-making body for requested amendments to the Land Use District Boundary.

3.1.2 State Land Use Boundary Amendment

Figure 10 illustrates the relationship of the DP Amendment areas and the State Land Use Boundaries. Table 2 includes a listing of the proposed State Land Use designation required for the proposed use of the various sites in this application. Development of the proposed residential area would require an amendment to the Land Use District Boundary to change it from Agriculture to Urban. Following amendment of the City and County Development Plan Land Use Map, Amendment of the State Land Use District Boundary will be requested for the residential area. This change would accommodate the proposed residential development, along with its associated sites for a school and church. The PCC Expansion area and portions of the two Industrial areas would also require a boundary amendment from Agricultural to Urban District. A majority portion of the proposed Industrial areas are already designated as Urban by the State; a boundary amendment would be required for a portion of each of the two industrial sites.

The Wastewater Reclamation Facility will not require amendment of the Land Use District Boundary; however, a State Special Use Permit must be obtained for this use in the State Agricultural District. Other sites which are currently within the Urban District, such as the commercial areas, proposed park area, a portion of each of the industrial areas, and the resort area will not require boundary amendments.



STATE LAND USE BOUNDARIES
LA'IE DEVELOPMENT PLAN AMENDMENTS



FIGURE 10

LA'IE DEVELOPMENT PLAN AMENDMENTS
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TABLE 2

GOVERNMENT APPROVALS

AMENDMENT AREA	EXISTING STATE LAND USE	PROPOSED STATE LAND USE	EXISTING DP DESIGNATION	PROPOSED DP DESIGNATION	EXISTING CITY & CO. ZONING	PROPOSED CITY & CO. ZONING
BYU Mauka Residential/School (±71 ac.)	Agriculture	Urban	Agriculture	Resid. (±55 ac.) LDA (±8 ac.)	AG-1 (±55 ac.) AG-1 (±8 ac.)	R-5 (±55 ac.) A-1 (±8 ac.)
BYUH Expansion Area (±92 ac.)	Agriculture	Urban	Agriculture	Public Facility	AG-1	No Change
Po'ohali Street Park (3.6 ac.)	Urban	No Change	Residential	Parks & Rec.	P-2/R-5	P-2
PCC Expansion Area (±21 ac.)	Agriculture	Urban	Agriculture	Commercial	AG-1/AG-2	B-2
Corner Commercial (0.3 ac.)	Urban	No Change	Agriculture	Commercial	AG-2	B-1
Shopping Center Commercial (0.5 ac.)	Urban	No Change	Residential	Commercial	R-5	B-1
Resort Area (2.6 ac.)	Urban	No Change	Residential	Resort	R-5	Resort
Industrial (±2 ac.) (Egg Farm Road)	Agric. (±2 ac.)	Urban	Agric. (±2 ac.)	Industrial	AG-1	I-1
Industrial (±2 ac.) (near cemetery)	Agric. (±1 ac.) Urban (±1 ac.)	Urban No Change	Ag.(±1 ac.)/Public & Quasi-Public (±1 ac.)	Industrial Industrial	AG-1 AG-1	I-1 I-1
Wastewater Reclamation Facility (±6 ac.)	Agriculture	No Change	Agriculture	Public Facility	AG-1	No Change

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All of the proposed Land Use District Boundary amendments are subject to approval by the State Land Use Commission, unless they involve parcels less than 15 acres, which are subject to approval by the City and County of Honolulu City Council and Mayor.

3.1.3 State Special Use Permit

A Special Use Permit will be required for development of the wastewater reclamation facilities in the State Agricultural District. The City and County of Honolulu Planning Commission is the decision-making body for approval of this permit.

3.2 CITY AND COUNTY OF HONOLULU

3.2.1 General Plan

The objectives and policies of the City and County of Honolulu General Plan set forth comprehensive statements concerning the needs of the people of O'ahu and the functions of government. Section 6.0 of this EIS includes an assessment of the conformity of the proposed DP Amendments to the applicable goals and objectives of the City and County General Plan.

Among the Population goals and objectives, the General Plan includes year 2010 population goals. The 2010 population goal for the Ko'olaupia District is to have between 1.3 percent and 1.4 percent of the island of O'ahu population. The current population already exceeds the upper range of the the area's portion of the projected 2010 population, without the proposed affordable housing planned to be developed in La'ie. Thus, the proposed addition of 0.1 percent to the current Ko'olaupia population as a result of the La'ie housing will slightly increase the area's inconsistency with this policy. However, the general plan does not establish priorities among it's goals and objectives. Section 6.0 of the EIS demonstrates that the application is, on balance, consistent with City and County and State planning goals and objectives.

3.2.2 Development Plan Land Use Map

Current Designations: Table 2 indicates the present Development Plan (DP) Land Use Map designation for each of the subject sites in the DP Amendment application. Most of the proposed sites are currently designated as Agricultural, except for existing Residential designation of the Po'ohaili Street Park, the Shopping Center Commercial and Resort sites. The proposed residential area and both the alternative residential areas are designated Agricultural. Approximately 3.0 acre of the proposed ±2-acre Industrial site is currently designated Industrial on the DP Land Use Map; the proposal is essentially an enlargement of the current designation. Approximately one-half of the proposed ±2 acre Industrial site (near cemetery) is currently designated Public Facility. The boundary for the adjacent cemetery (Public Facility) is not accurately depicted on the current Land Use Map and would be corrected with the proposed redesignation.

Proposed Amendment: An application to amend the Ko'olaupia Development Plan (DP) Land Use Map has been submitted as the first application for governmental review of this project. This EIS has been prepared in order to meet the DP Amendment

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application requirements. Table 2 shows the sites within La'ie for which amendments to the DP Land Use Map are requested. These project sites include:

- Proposed BYUH Mauka residential area which will require amendment from Agricultural to Residential (± 58 ac.), Low Density Apartment (± 5.5 ac.) and Public Facilities (± 8 ac.).
- The BYUH Expansion Area (± 92 ac.) and Wastewater Reclamation Facility (± 6 ac.) will require amendment from Agricultural to Public Facility to allow for expansion of the University support facilities and wastewater facilities.
- The Po'ohaili Street Park (3.6 ac.) will require amendment from Residential to Parks & Recreation.
- The PCC Expansion Area (± 21 ac.) and Corner Commercial site (0.3 ac) will require amendment from Agricultural to Commercial.
- The Shopping Center Commercial site (0.5 ac.) will require amendment from Residential to Commercial.
- The Resort Area (2.6 ac.) will require amendment from Residential to Resort to allow for leisure and recreation amenities.
- Portions of the two Industrial sites will require amendment from Agricultural (± 3 ac.) and Public Facilities (± 1 ac.) to Industrial.

3.2.3 Zoning

Existing Zoning District: The 12 sites currently being considered in this application are mostly zoned for agriculture (AG-1, AG-2), as shown in Table 2. Zoning for all sites is agricultural except the Po'ohaili Street Park (Preservation P-2/Residential R-5), Shopping Center Commercial (R-5) and Resort Area (R-5).

The AG-1 Restricted Agricultural District zoning designation generally includes lands classified as "Prime" or "Unique" under the Agricultural Lands of Importance to the State of Hawai'i (ALISH) system. The AG-2 General Agricultural District contains lands generally classified under ALISH as "Other" or "Unclassified". The AG-2 designation recognizes that the overall feasibility of agriculture on these lands is limited either due to topographic variations, marginal soils and/or separated agricultural soil sections.

The R-5 Residential District allows for residential development of lot areas no smaller than 5,000 square feet. The P-2 Preservation District is a designation given to preservation lands such as parks and golf courses.

Proposed District Changes: Proposed changes in City and County of Honolulu zoning district are summarized in Table 2. The proposed zoning changes that would be pursued following approval of the DP Amendment request for each are summarized below.

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Residential (R-5): Approximately 55 acres of the proposed residential/school area would require a zoning district change to R-5 Residential District from AG-1 Restricted Agricultural District to develop single-family homes.

Apartment (A-1): Approximately 8 acres of the preferred residential/school area would require a zoning district change to A-1 Apartment District from AG-1 Restricted Agricultural District to develop low density apartment buildings.

School (AG-2): Approximately 8 acres of the proposed residential/school area would require a zoning district change to AG-2, General Agricultural District, to permit the proposed school facilities.

Preservation (P-2): A 0.6 acre portion of the Po'ohaili Street Park site (3.6 ac.) would require a zoning district change from R-5 Residential District to P-2 Preservation District to allow for park expansion and facilities development.

Business (B-2): The PCC Expansion Area (± 21 ac.) would require a zoning district change from AG-1/AG-2 Agricultural Districts to B-2 Community Business District to allow its proposed commercial support activities.

Business (B-1): The Corner Commercial site (0.3 ac.)(AG-2 General Agricultural District) and Shopping Center Commercial site (0.5 ac.)(R-5 Residential District) would require zoning district changes to B-1 Neighborhood Business District for their proposed commercial uses.

Resort: The proposed resort support area (2.6 ac.) would require a zoning district change from R-5 Residential District to Resort District to enable development of beach support facilities for Laniloa Lodge.

Industrial (I-1): The two Industrial sites (± 2 acres each) would require zoning district change from AG-1 Restricted Agricultural District to I-1 Limited Industrial District.

BYUH Expansion Area: No zoning district change would be required for this area (± 92 ac.) because it is a permitted use within the AG-1 Restricted Agricultural District if a Plan Review Use (PRU) approval is obtained.

All of the proposed changes in zoning are subject to approval by the City Council. The review process involves public hearings before both the Planning Commission and City Council.

3.2.4 Plan Review Use (PRU)

Expansion of BYUH is permitted under the current DP Agricultural designation and AG-1/Restricted Agricultural Zoning, upon approval of a Plan Review Use (PRU) permit. The PRU approval involves review by the Department of Land Utilization and requires approval from the City Council.

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3.3 OTHER REQUIRED APPROVALS

3.3.1 Conditional Use Permit (CUP) for Wastewater Treatment Facilities

To construct and operate the new wastewater treatment facilities to serve La'ie, a Conditional Use Permit must be obtained from the City and County Department of Land Utilization. The wastewater treatment facility is classified as a "Type-B" utility, which requires a "Type-1" Conditional Use Permit.

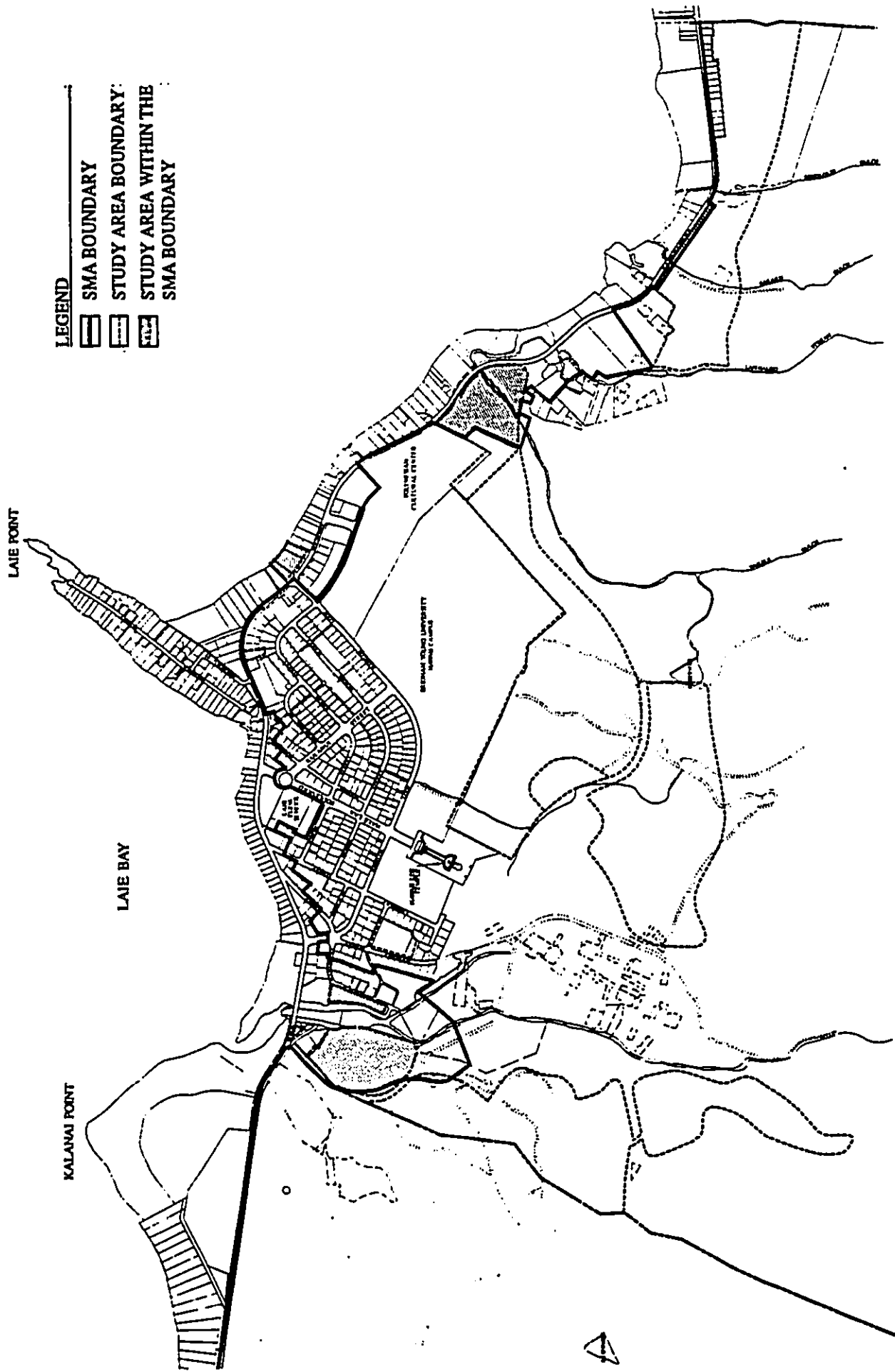
3.3.2 City and County Special Management Area

A Special Management Area (SMA) boundary generally extends along Kamehameha Highway in La'ie, as shown in Figure 11. Approximately 23 acres of the proposed DP Amendment areas are within the SMA. The only DP Amendment request areas which are located completely or partially in the SMA are the Resort Area, a portion of the PCC Expansion, both industrial sites, and the Corner Commercial site. An SMA Use Permit must be obtained to allow for the construction of facilities at these sites.

The City Council is the approving authority for these permits. The Director of Land Utilization must hold public hearings as part of the Department's review of these applications.

3.3.5 Ministerial

Other approvals will be required to implement the proposed action, including: Wastewater Treatment System Approval (State Department of Health, City Department of Public Works), Grading Permit (City Department of Public Works), Building Permit (City Building Department) and Roadway Entrance Approval (State Department of Transportation). These are generally classified as "ministerial" review and approval processes as opposed to the previously described approvals, which are more "discretionary" in nature and do not normally include public input.

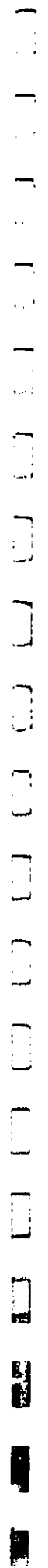


- LEGEND**
- SMA BOUNDARY
 - - - STUDY AREA BOUNDARY
 - ▨ STUDY AREA WITHIN THE SMA BOUNDARY



FIGURE 11

**SPECIAL MANAGEMENT AREA
LA'IE DEVELOPMENT PLAN AMENDMENTS**



**SECTION 4 - Description of Environmental Setting
Anticipated Impacts and Mitigative Measures**

4.0 DESCRIPTION OF ENVIRONMENTAL SETTING, ANTICIPATED IMPACTS AND MITIGATIVE MEASURES

This section presents background information on the existing human and natural environment. Utilizing this background, the development area is evaluated as to the potential for it to generate significant environmental impacts. Impact discussions are divided into short-term construction-related impacts, and long-term operations-related impacts.

Mitigative measures have also been recommended to minimize the potential impact of the project construction and operation. Technical consultant reports have been prepared to supplement the impact assessment. Findings from these reports are summarized herein; the complete texts are enclosed as Appendices A through M.

4.1 CLIMATE

A. Existing Conditions

La'ie has a nearly constant exposure to the northeast trade winds. Being the windward side of the island, the mountain crests receive as much as 200 inches of rainfall annually, while the coastal areas receive an average of 50 inches annually. The mean maximum (early afternoon) temperature along the coast near Kahuku and La'ie ranges from the mid 70's (degrees Fahrenheit) in the winter months, to the low 80's in the summer and fall. Mean minimum (night time) temperatures range from the low 60's in the winter to the low 70's in the summer.

The average annual rainfall recorded at BYUH Farms is 58.4 inches (data from 1967 to 1982). Precipitation in La'ie has a definite season. October through April is the "winter" season, with rainfall ranging from approximately four to eight inches per month. "Summer" season is May through September, when rainfall averages range from approximately three to four inches per month.

The La'ie area is subject to both trade winds and Kona storms. Average wind velocity is ten to fifteen miles per hour, with the prevailing wind directions being northeasterly and easterly. Salt spray affects La'ie, as it does most of the windward coast, during periods of high surf and strong trade winds. Tall ironwoods along this coast tend to cut out much of this salt spray before it penetrates inland.

Cloud cover is an indication of the amount of sunshine an area receives. On this particular area of the island, slightly less than one-third of the days per month are clear, about a third are partly cloudy, and a little more than a third of the days are cloudy.

The average relative humidity approximates 75 percent on the northern coast of O'ahu, trending slightly lower in the summer and higher in the winter.

B. Anticipated Impacts and Mitigative Measures

The proposed project will have no affect on climatic conditions and no mitigative measures are required.

4.2 TOPOGRAPHY

A. Existing Conditions

Elevations within the La'ie community and adjacent agricultural lands range from sea level along La'ie Bay's shoreline to roughly 120 feet above mean sea level at the mauka side of the existing agricultural cultivation areas (Figure 12). The urbanized portion of La'ie contains slopes ranging from 0 to 10 percent. Upslope agricultural lands contain both gently sloped lands and lands with 10 to 30 percent slopes. Active agricultural lands are generally characterized by slopes of less than 10 percent.

In general, all of the parcels requested for DP Amendments are developable sites of predominantly gradual to moderate slopes. Small sections of steep slopes are found on certain sites. Slope conditions of the proposed residential site and two alternative residential areas are discussed below.

Proposed BYU Mauka Residential Area. The BYU Mauka area is characterized by primarily gradual and moderate sloping land with only small pockets of steeply sloping terrain covering less than five percent of the site.

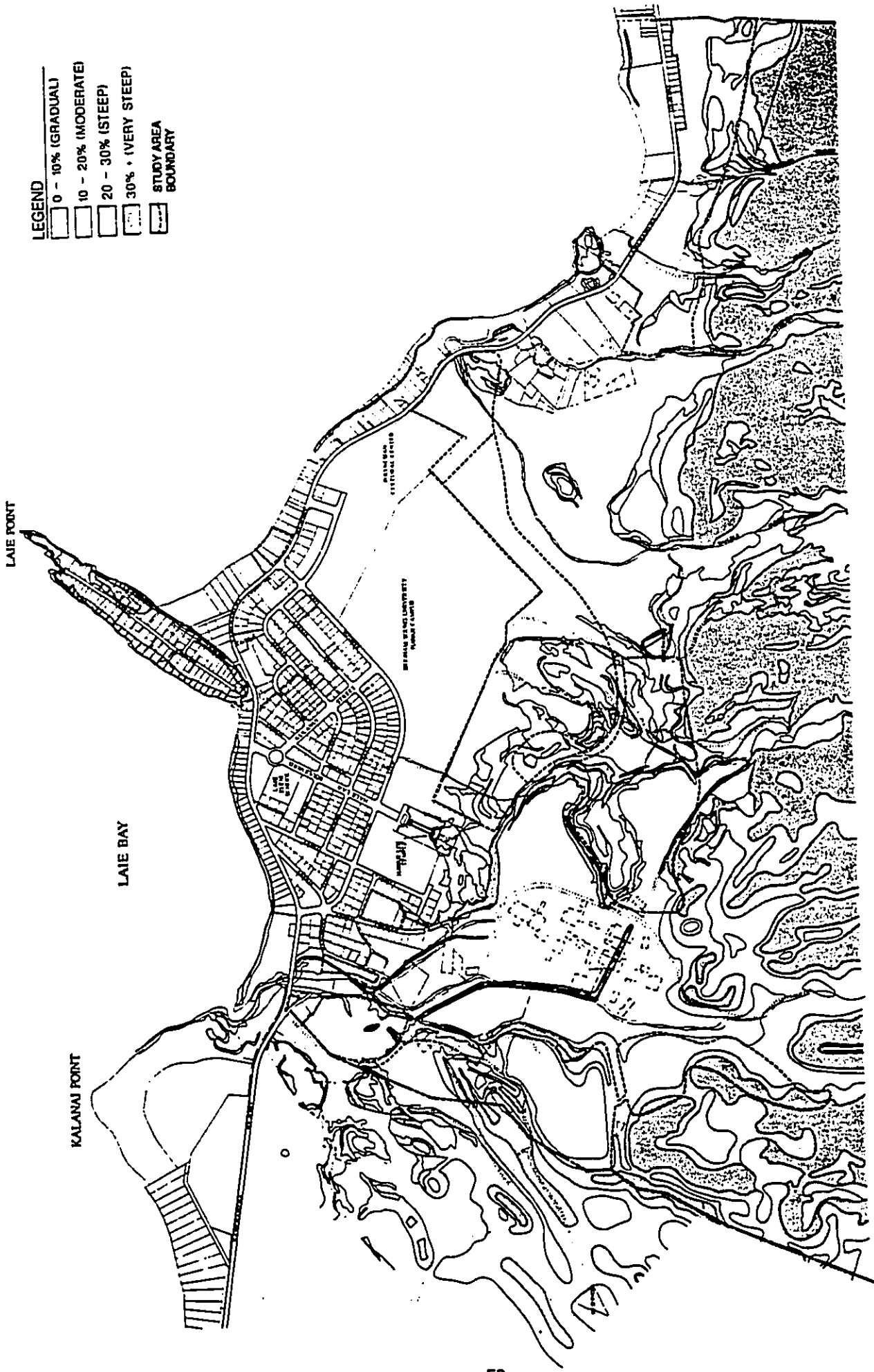
Egg Farm Alternative Residential Area. This area has primarily gently sloping lands, with some pockets of moderate and steep lands on approximately 20 percent of the site.

La'iemalo'o Alternative Residential Area. This area is has primarily gently sloping lands.

In summary, these three sites consist primarily of gradual to moderate sloping lands (0 to 20 percent). Roughly ten percent of each site includes some steep slopes (20 percent or greater). All other study area sites have predominantly gradual slopes of less than ten percent.

B. Anticipated Impacts

Some significant changes in topography will be required to construct portions of the proposed land uses. Development of the building sites, roadways and other infrastructure will require grading to establish level building surfaces. Cut material from grading and excavation will mostly be retained on each project site. Cut and fill will be balanced in the grading plan for each project to minimize the need to import fill or to export excavated material.



- LEGEND**
- 0 - 10% (GRADUAL)
 - 10 - 20% (MODERATE)
 - 20 - 30% (STEEP)
 - 30% + (VERY STEEP)
 - STUDY AREA BOUNDARY



FIGURE 12

**SLOPE ANALYSIS
LA'IE DEVELOPMENT PLAN AMENDMENTS**

C. Mitigative Measures

Several mitigative measures, as listed below, will be implemented to minimize impacts on topography.

Project Design: The various projects proposed by the DP Amendments will be planned to avoid changes in topography as much as possible. The site's natural slopes and features will be respected, as feasible, to minimize grading requirements.

Grading Ordinance Compliance: Grading operations will be conducted in a manner which will ensure full compliance with dust and erosion control and other requirements of the City and County Grading Ordinance. Grading permits must be obtained from the City and County to modify the topography at each project site. Detailed grading plans for projects at these sites will be reviewed and approved in this process.

4.3 SOILS

A. Existing Conditions

Soil types or classifications for the study area are based on soil surveys by the USDA Soil Conservation Service (SCS, 1972), shown in Figure 13. SCS crop capability groups, the University of Hawai'i Land Study Bureau (LSB) classifications, and the Agricultural Lands of Importance to the State of Hawai'i (ALISH) designations are used to show the agricultural viability of the land considering its soils. These three agricultural classification systems are discussed in this section.

4.3.1 Soil Types

There are twenty SCS soil types found within the study area (Figure 13) and each type is briefly described below.

Beaches (BS) consist mainly of light-colored sands derived from coral and seashells.

Coral outcrop (CR) consists of coral or cemented calcareous sand. Vegetation is sparse.

Haleiwa silty clay (HeA) occurs on level to gently sloped large areas on alluvial fans or as long, narrow areas in drainage-ways. The soil is neutral to slightly acid. Permeability is moderate, runoff is very slow, and the erosion hazard is slight. The soil is suitable for building foundations.

Jaucas sand (JaC) is found on slopes up to about 15 percent. The soil is neutral to moderately alkaline, permeability is rapid, and runoff is very slow to slow. Water erosion hazard is slight.

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Kaena stony clay (KaeC) occurs on alluvial fans and is underlain by highly weathered gravel. It is slightly acid to neutral. Permeability is slow. Runoff is slow to medium, and the erosion hazard is slight to moderate. Shrink-swell potential is very high, and in some places the soil is affected by seepage. This soil has limited suitability for building foundations.

Kaloko clay (KfB) occurs in slight depressions on the coastal plain. Its surface layer is a very dark gray clay and the soil is slightly acid to neutral throughout the stratum. Permeability is slow, runoff is ponded to very slow, and the erosion hazard is none to slight.

Kawaihapi clay loam (KIA) occupies smooth slopes and has a stony and gravelly substratum. The soil is neutral, permeability is moderate, runoff is slow, and the erosion hazard is no more than slight. The soil is suitable for building foundations.

Kawaihapi silty clay (KIB) soil has slow runoff and the erosion hazard is slight. It is a suitable soil for building foundations.

Keaau clay (KmA) is mildly alkaline in the surface layer and subsoil and moderately alkaline in the substratum. The water table is at a depth of 1.5 to 3 feet. Permeability is slow, runoff is slow, and the erosion hazard is no more than slight. The shrink-swell potential is high and this soil has limited suitability for building foundations.

Lahaina silty clays (LaB and LaC) sometimes contain fragments of coral, stones, gravel and sand. These soils are medium acid in the surface layer and slightly acid to medium acid in the subsoil. Permeability is moderate, runoff is slow, and the erosion hazard is slight to moderate. These soils are suitable for building foundations if slopes are not excessive.

Mokuleia loam (Ms) occurs in nearly level areas. The surface layer is neutral, while the underlying material is moderately alkaline. Permeability is moderate in the surface layer and rapid in the subsoil. Runoff is very slow, and the erosion hazard is no more than slight. The soil is suitable for building foundations but a potential limiting factor is poor drainage.

Paumalu silty clays (PeC, PeD, PeF) are well-drained soils that have developed in old alluvium and colluvium derived from basic igneous rock. Their substratum is highly weathered gravel. The soils are very strongly acid in the surface layer and strongly acid to medium acid in the subsoil. This soil series is found on slopes of three to 70 percent. Depending on the steepness of slope, permeability is moderately rapid, runoff is slow to rapid, and erosion hazard is slight to severe. These soils are suitable for building foundations.

Paumalu-Badland complex (PZ) consists of 40 to 80 percent Paumalu soils, with the remainder being nearly barren land that has remained after the Paumalu soils were removed by wind and water erosion. The slopes range from 10 to 70 percent. In the badlands, runoff is rapid, and the erosion hazard is very severe.

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Rock Land (rRK) is made up of areas where exposed rock covers 25 to 90 percent of the surface. In many areas, the soil material associated with the rock outcrops is very sticky and very plastic, and has a high shrink-swell potential, making buildings on steep slopes susceptible to sliding.

Waiialua silty clay (WkA) is found on smooth coastal plains. It is neutral in the surface layer and slightly acid in the subsoil. Permeability is moderate, runoff is slow, and the erosion hazard is no more than slight.

Waiialua very stony silty clay (WmD) is found on twelve to 20 percent slopes and stones cover as much as three percent of its surface. Runoff is medium, and the erosion hazard is moderate.

Waikane silty clay (WpB) is a well-drained soil found on alluvial fans and terraces. On slopes of three to eight percent, the runoff is slow and the erosion hazard is slight.

4.3.2 Study Area Soils Distribution

The predominant soils of the larger DP Amendment areas are summarized below.

Proposed BYU Mauka Residential Area. Lahaina silty clay, Paumalu silty clay, and Haleiwa silty clay soils almost completely cover the site.

Egg Farm Alternative Residential Area. The predominant soils in this area are Lahaina silty clay, Paumalu silty clay, and Coral Outcrop.

La'iemalo'o Alternative Residential Area. Present in approximately equal amounts on the site are Kaena stony clay, Kawaihapai clay loam, and Keaau clay soils.

BYU Expansion. Most of this area is covered by Lahaina silty clay soils and Coral Outcrop.

PCC Expansion. Coral outcrop is the predominant soil on this site.

Industrial (near Egg Farm Road). Lahaina silty clay is predominant on this site. Kaloko clay is found just *mauka* of the site and within the study area.

4.3.3 Soils Agricultural Capability Classifications

ALISH Classifications (Agricultural Lands of Importance to the State of Hawai'i) of the Hawai'i State Department of Agriculture for the various DP Amendment areas are shown on Figure 14 and summarized in Table 3.

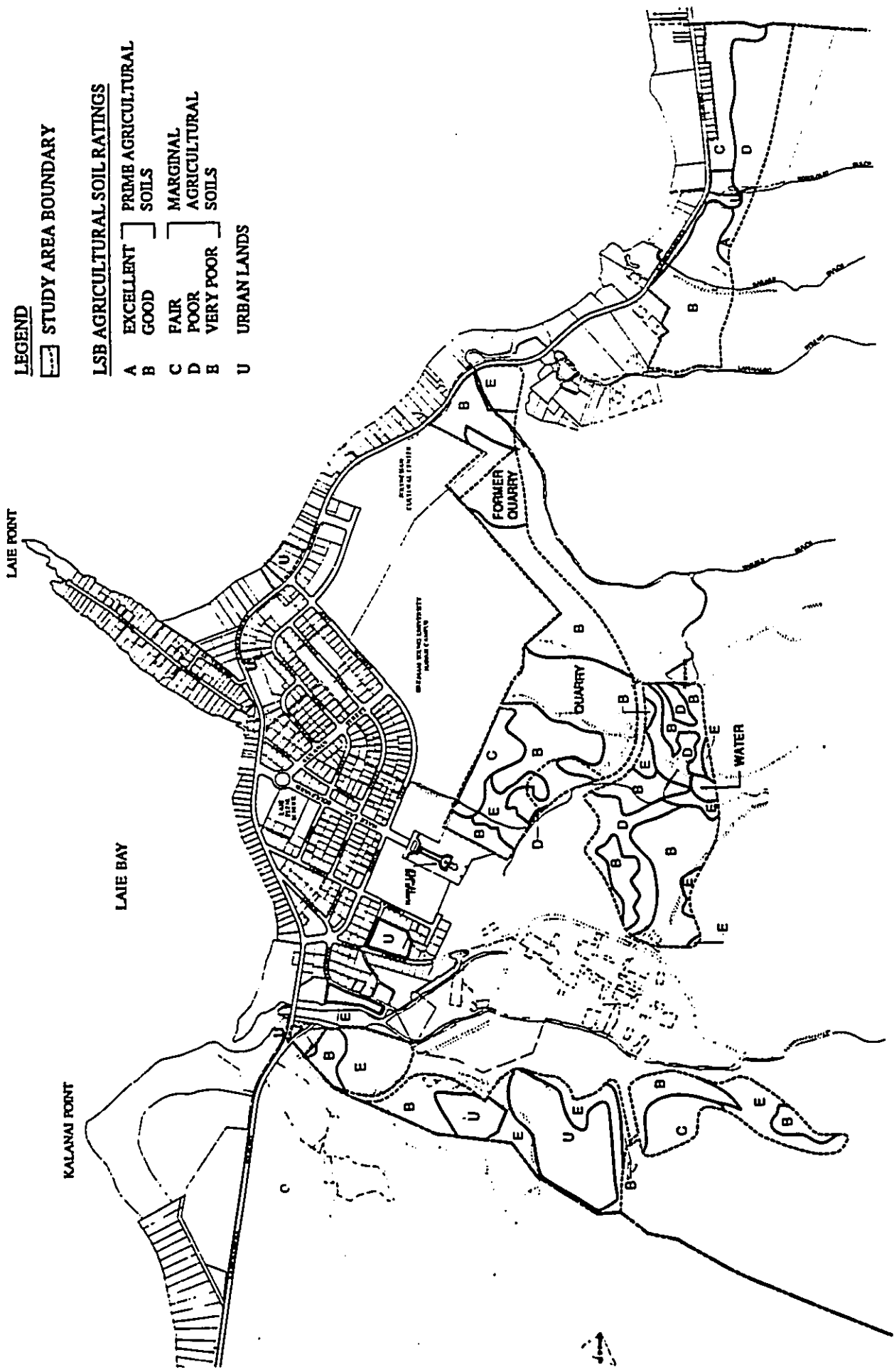
The Land Study Bureau (LSB) classifies soils by overall crop productivity rating. Designations range from A, the highest rating, to E. These designations are shown on Figure 15 for the study area and summarized in Table 4.

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TABLE 3
ALISH SOILS CLASSIFICATION AND DISTRIBUTION
(measured in acres)

DP AMENDMENT AREA	PRIME AGRICULTURE LANDS	OTHER IMPORTANT AGRICULTURAL LANDS	UNCLASSIFIED LANDS
1. Proposed BYU-Mauka Residential Site (±71 ac.)	50	15	6
2. Egg Farm Alternative Residential Site (±76 ac.)	40	18	18
3. La'iemalo'o Alternative Residential Site (±70 ac.)	15	48	7
4. BYUH Expansion (±92 ac.)	42	2	48
5. PCC Expansion (±21 ac.)	5	8	8
6. Industrial Expansion (±2 ac.) (near Egg Farm)	-	2	
7. Industrial (±2 ac.) (near cemetery)	-	-	2
8. Resort Amenities (2.6 ac.)	-	-	2.6
9. La'ie Shopping Center Parking (0.5 ac.)	-	-	0.5
10. Corner Commercial (0.3 ac.)	-	-	0.3
11. Po'ohaili Street Park (3.6 ac.)	-	-	3.6
12. STP Expansion (±6 ac.)	5	-	1

Source: Hawai'i State Department of Agriculture, 1977



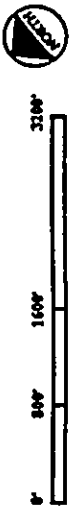
LEGEND

STUDY AREA BOUNDARY

LSB AGRICULTURAL SOIL RATINGS

- | | | |
|---|-------------|-----------------------------|
| A | EXCELLENT | PRIME AGRICULTURAL SOILS |
| B | GOOD | |
| C | FAIR | MARGINAL AGRICULTURAL SOILS |
| D | POOR | |
| E | VERY POOR | |
| U | URBAN LANDS | |

Source: University of Hawaii Land Study Bureau, 1972



**LSB CLASSIFICATIONS
LA'IE DEVELOPMENT PLAN AMENDMENTS**

FIGURE 15

LAIE DEVELOPMENT PLAN AMENDMENTS
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TABLE 4
LSB SOILS CLASSIFICATION AND DISTRIBUTION
(measured in acres)

DP AMENDMENT AREA	EXCELLENT AND GOOD ('A' AND 'B' LANDS)	FAIR ('C' LANDS)	POOR AND VERY POOR ('D' AND 'E' LANDS)	OTHER LANDS*
1. Proposed BYU-Mauka Residential Site (±71 ac.)	43	—	28	—
2. Egg Farm Alternative Residential Site (±76 ac.)	20	8	20	28
3. La'iemalo'o Alternative Residential Site (±70 ac.)	33	13	19	5
4. BYUH Expansion (±92 ac.)	42	8	35	7
5. PCC Expansion (±21 ac.)	10	—	5	6
6. Industrial Expansion (±2 ac.) (near Egg Farm)	2	—	—	—
7. Industrial (±2 ac.) (near cemetery)	—	—	2	—
8. Resort Amenities (2.6 ac.)	—	—	—	26
9. La'ie Shopping Center Parking (0.5 ac.)	—	—	—	05
10. Corner Commercial (0.3 ac.)	—	—	—	03
11. Po'ohaili Street Park (3.6 ac.)	—	—	—	36
12. STP Expansion (±6 ac.)	35	—	25	—

*Urban /Quarry

Source: University of Hawaii Land Study Bureau, 1972

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The SCS capability groups which rate the soils' suitability and limitations for most kinds of crops have been applied to the DP Amendment areas (Table 5). Class I and Class II soils, rated "Excellent", have minimal limitations that restrict their agricultural use. Class III soils, rated "Moderate", have severe limitations that reduce the choice of plants and/or require special conservation practices. Class IV through Class VIII soils, rated "Poor", have very severe limitations for agriculture that are often impractical to remove or make the soils generally unsuited to cultivation. The SCS designations, Class IV through Class VIII, are similar to the LSB rated D and E categories.

Comparing the proposed BYU Mauka residential area and the two alternative residential areas, BYU Mauka has the greatest amount of ALISH rated prime agriculture lands (70 percent) while the La'iemalo'o alternative site has the lowest amount (21 percent). The proposed BYU Mauka site also has the greatest amount of LSB soils rated "A" and "B" (61 percent) and the Egg Farm alternative site has the smallest amount (26 percent).

B. Anticipated Impacts

Preparation of the proposed development sites for construction will involve clearing and grading operations. Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation and expose the soils to erosional forces. Precipitation events will also cause the erosion of soils over disturbed areas of the land.

Existing erosion areas on moderate to steeply sloped terrain will be planted with ground cover vegetation to minimize soil erosion. Erosion control measures implemented within each developed area will result in a beneficial environmental effect, as compared to existing conditions.

C. Mitigative Measures

The impact of construction activities on soils at each DP Amendment area will be mitigated by the measures described below.

Construction Erosion Control: Construction activities at each site will follow strict erosion control measures specified in the following:

- a. City and County of Honolulu's Grading, Grubbing and Stockpiling Ordinance No. 3968, (1972);
- b. DPW's Soil Erosion Standards and Guidelines, (1975);
- c. The State Department of Health's Water Quality Standards, Chapter 37-A, Public Health Regulations, (1968).
- d. The SCS's Erosion and Sediment Control Guide for Hawai'i, (1968).

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TABLE 5
SCS SOILS CLASSIFICATION AND DISTRIBUTION
(measured in acres)

DP AMENDMENT AREA	EXCELLENT (CLASS I - II LANDS)	MODERATE (CLASS III LANDS)	POOR (CLASS IV - VIII LANDS)
1. Proposed BYU-Mauka Residential Site (±71 ac.)	38	28	5
2. Egg Farm Alternative Residential Site (±76 ac.)	44	17	15
3. La'iemalo'o Alternative Residential Site (±70 ac.)	67	-	3
4. BYUH Expansion (±92 ac.)	58	32	2
5. PCC Expansion (±21 ac.)	17	3	1
6. Industrial Expansion (±2 ac.) (near Egg Farm)	2	-	-
7. Industrial (±2 ac.) (near cemetery)	-	-	2
8. Resort Amenities (2.6 ac.)	-	-	26
9. La'ie Shopping Center Parking (0.5 ac.)	-	-	0.5
10. Corner Commercial (0.3 ac.)	-	-	0.3
11. Po'ohaili Street Park (3.6 ac.)	-	-	3.6
12. STP Expansion (±6 ac.)	-	25	3.5

Source: U.S. Department of Agriculture, 1974

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- e. The State Department of Health's Hawai'i's Nonpoint Source Water Pollution Management Plan, Section II, Best Management Practices, (1990.)

Prior to issuance of a grading permit, the applicant shall submit an erosion control plan for approval by the City and County of Honolulu, Department of Public Works. This plan shall include applicable measures as specified in the regulations cited above. Such erosion control measures may include, but are not limited to, the use of cut-off ditches, temporary ground cover and detention ponds.

Watering and Landscaping: A watering program will be implemented to minimize soil loss through fugitive dust particulate emission levels from construction sites. Other control measures include good housekeeping on the job-sites, and pavement or landscaping of bare soil areas as quickly as possible.

Landscaping and Long Term Erosion Control: Landscaping will generally return the soil retention value of the removed vegetation. The BYUH, PCC, STP and Industrial development areas will implement landscaping plans to establish control over erosion-prone slopes, while residents of individual lots in the new housing areas will be encouraged to use plant materials and ground covers that help control erosion.

4.4 AGRICULTURE

The following section includes a discussion of the existing agricultural uses of the study area and its potential for further agricultural use. Potential impacts of the requested DP Amendments on agriculture and adjacent farm lands are evaluated herein, along with mitigative measures to minimize potential effects on agriculture.

A. Existing Conditions

Approximately 660 acres of land owned by the applicant has sufficiently gentle slopes to be potentially suitable for agricultural production in La'ie. Based on interviews with Zions Securities and review of an aerial photo (2/16/89 Air Survey Hawai'i) of the study area, it was determined that some active agricultural production and other agricultural-related uses occur within the study area. These uses are summarized below.

Proposed BYU Mauka Residential Area. Approximately 68 acres of the proposed BYU Mauka residential area are currently leased, of which ±32 acres are in active crop production. Crops grown include bananas, papayas, and select vegetables.

Egg Farm Alternative Residential Area. Approximately 67 acres of this ±76-acre site is currently leased. Approximately ±18 acres are being used for non-crop agricultural-related use, and active crop production occurs on ±25 acres. The Cackle Fresh Egg Farm, located on the north side of Kahawainui Stream, actively utilizes ±12 acres for an egg farm operation that houses ±200,000 hens and two caretaker residences. Six acres are leased for a horse ranch. Active crop production occurs on approximately nine acres of land sub-leased by the Cackle Fresh Egg Farm to Laotian farmers. The farmers cultivate vegetables, including Japanese cucumbers and string beans. *Mauka* of the Egg Farm is

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the remaining ±49 acres of this alternative residential area. Approximately 16 acres are in active crop production while the remaining ±33 acres are currently unutilized.

La'iemalo'o Alternative Residential Area. Approximately 27 acres of the La'iemalo'o alternative residential area is currently leased. Active crop production occurs on ±24 acres, and includes coconuts, bananas, papayas, and cucumbers, as well as grass-covered lands previously cultivated which now appear fallow.

BYUH Expansion. Approximately 19 acres of this area, adjacent to the quarry, is used to grow bananas and papayas.

PCC Expansion. About seven acres of the PCC Expansion area is in banana, papaya, and tapioca cultivation.

Other Areas. There is no active agricultural production on the remaining requested Development Plan Amendment areas.

The applicant has historically utilized much of its property for diversified agricultural production, and has plans to continue these activities. In order to assure that agricultural use continues to proceed in an orderly manner and within the limits of applicable laws, the property owner will be creating a farming organization for its La'ie properties. Employee-farmers, rather than tenant-farmers, would continue to grow a variety of fruits and vegetables on lands suitable for cultivation.

B. Anticipated Impacts

The requested DP Amendments propose redesignation of Agricultural land for other land uses. The impact to agricultural production for each area is summarized below.

Proposed BYU Mauka Residential Area. Residential development in this area would result in the removal of agricultural potential for ±71 acres of land, ±32 acres of which are currently utilized for active crop production. Prime agricultural soils are most common on the BYU Mauka site, and its use for residential development would cause a greater reduction of prime agricultural land than on either of the two residential site alternatives.

Egg Farm Alternative Residential Area. Conversion of this area to residential use would remove ±76 acres from potential agricultural use, including displacement of ±25 acres of land currently utilized for active crop production and ±18 acres in non-crop agricultural-related uses. If the proposed BYU Mauka site is not approved in favor of this alternative for residential development, displacement of the Cackle Fresh Egg Farm operation would be a significant issue.

La'iemalo'o Alternative Residential Area. Conversion of this area to residential use would remove ±70 acres from potential agricultural use, including displacement of ±24 acres of land currently utilized for active crop production. Of the two alternative residential areas, the La'iemalo'o site has the smaller area of prime agricultural soils.

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BYUH Expansion. Expansion of BYUH will remove ±92 acres of land from potential agricultural use, including ±19 acres in active crop production. Over one-half of the BYU Expansion area is rated fair to very poor for crop productivity potential (LSB "C", "D" and "E" designations).

PCC Expansion. Approximately twenty-one acres of land will be removed from potential agricultural use by the PCC Expansion, including ±7 acres in active crop production. Over one-half of this area has LSB rated "D" or "E" soils.

Other Areas. There is no active agricultural production on the remaining requested Development Plan Amendment areas.

The combined DP Amendments propose redesignation of approximately 193 acres of Agricultural land. Approximately thirty percent of this land is currently in active crop production, including lands which appear to be fallow. Approximately 465 acres owned by the applicant in La'ie would remain available for continued agricultural uses and expansion of agriculture if the DP amendments were adopted. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. No loss in crop production is expected to result from the requested DP Amendments.

On a State-wide level, the proposed projects are not expected to adversely affect the growth of diversified agriculture. This is because production of diversified crops such as those grown in La'ie and elsewhere on O'ahu has been steadily shifting from O'ahu to the Neighbor Islands, due to lower costs of production. This trend stems, in part, from the declining economic viability of the sugar industry on the Neighbor Islands (Scott, 1988). An extensive amount of prime agricultural land and water has been freed from sugar and pineapple production because of past plantation closings and reductions in operations, with most of this land and water remaining available for diversified agriculture activities.

Given the outlook for low sugar prices, it is possible that additional lands will be made available on O'ahu, as well as on the Neighbor Islands, for diversified agriculture. Those sugar operations which are forced to close would make their lands available for profitable replacement crops, to the extent that such crops are available.

Another reason supporting the conclusion that there will be a minimal impact to agriculture is the relatively large amount of available, unutilized agricultural land, which is growing in supply. This supply greatly exceeds the amount of land required to achieve a realistic level of food and animal-feed self-sufficiency and increased food exports (Decision Analysts Hawai'i, 1989).

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C Mitigative Measures

Continued Diversified Agriculture: The applicant proposes continued use of much of its property in La'ie for diversified agricultural production. Employee farmers will continue to grow a variety of fruits and vegetables on lands best suited for cultivation.

Conservation Measures in Support of Agriculture: The applicant will pursue approval of a Wastewater Facility Plan which proposes re-use of treated effluent water for agricultural irrigation. Sewage sludge from the La'ie wastewater treatment process may be composted with green waste collected from the community, as a viable method of re-use.

4.5 GROUNDWATER RESOURCES

This section includes a discussion of the existing aquifers which underlie the site, the potential for deriving water supply from the aquifers, and the anticipated impacts that could result from the proposed land uses. Reports on wastewater facilities and water supply facilities prepared by Aqua/Waste Engineers (January 1992) are included in Appendices C and D. A summary report on groundwater and sustainable yield has been prepared by Water Resource Associates (February 1992), and is included in Appendix E. Information from these reports is included in this section. Mitigative measures have also been recommended to minimize effects on groundwater.

Potable Water Source: La'ie is situated on the northerly-most stretch of the windward coast of Oahu between Hau'ula and Kahuku communities. Available information indicates that La'ie (including the entire study area) is underlied by two aquifers. A shallow water table, roughly two to three feet above mean sea level, is situated along the La'ie coastline. The principal coastal aquifer is characterized by fresh water that floats on sea water. The top of the primary basal aquifer ranges from approximately 100 to 150 feet below mean sea level. This aquifer is re-charged by groundwater that is originally caught and held by natural volcanic dikes along the Ko'olau Mountains (La'ie Wastewater Facilities Plan (LWFP)/Draft EIS, in preparation).

A summary of available information concerning La'ie's groundwater resources and current water usage is included in Appendix E. A U.S. Geological Survey - Water Supply Paper identifies the potential groundwater development in four sub-areas between Hau'ula and Waimea (Takasaki and Valenciano, 1969). Of the four subareas, La'ie and Hau'ula were found to be the most promising areas for developing basal water. Groundwater recharge is estimated at 17 million gallons per day (mgd) in La'ie. Based on a conservative estimate that at least 50 percent of the groundwater recharge can be developed, the estimated sustainable yield would be 8.5 mgd (Aqua/Waste Engineers, February 1992).

Although a sustainable yield of 6 to 7 mgd has been arbitrarily allocated for the La'ie subarea, it is possible to calculate the sustainable yield using the steady state equation (Mink 1980) for predicting the behavior of a basal aquifer. Water Resource Associates (February 1992) (Appendix E) has calculated a sustainable yield for the La'ie subarea of 10

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mgd. Thus, the sustainable yield may eventually prove to be substantially more than 7 mgd, especially if existing wells which are too deep are modified, replaced or abandoned, and future withdrawals in the aquifer are carefully monitored.

Drinking water for La'ie residents and businesses is currently being derived from the Temple well, the Egg Farm well, and the three Campus wells. Available data suggests that the Temple and Campus wells presently provide a combined average pumping rate of over 1,000 gallons per minute. The Egg Farm well provides approximately 35-50 gallons per minute to the egg farm area and its associated residences. Current water consumption is estimated at 1.5 mgd which includes residential, commercial, and institutional uses.

Current Wastewater Disposal Practices: Interim disposal of effluent from the La'ie Wastewater Reclamation Facility (LWRF) is proposed to utilize a recently installed subsurface drainfield makai of the Underground Injection Control (UIC) line above the basalt cap on the potable artesian aquifer. This drainfield will be put into operation following requisite State Department of Health approvals. Prior to entering the drainfield, the wastewater will receive a tertiary level of treatment, followed by ultraviolet disinfection. The drainfield is designed such that the treated wastewater effluent that is percolated into the ground by the drainfield is expected to exceed the quality of the tertiary filtered and ultraviolet disinfected water that will be delivered to it. This new infiltration field will allow the tertiary treated/ultraviolet disinfected wastewater to gravity-flow back into the ground, where it will be naturally absorbed. The infiltration field has been purposefully located makai of the Board of Water Supply's Underground Injection Control (UIC) line and downstream from La'ie's drinking water supply, even though the treated effluent water is expected to exceed drinking water quality after field filtration. Zions Securities has installed twelve groundwater monitoring wells in and around the La'ie community to obtain background water quality measurements as well as data from the infiltration field. Semi-monthly sampling data from these wells will be provided to the State Department of Health to document the performance of the infiltration field.

The Laie Wastewater Facilities Plan (LWFP)/Draft EIS proposes further study for using a portion of the effluent for nearby agricultural irrigation. The subsurface drainfield has been designed to accommodate the balance of the effluent and, as a "back up" system, to accommodate 100 percent of the effluent if necessary. An assessment of the potential environmental impacts of the expanded facility is currently being initiated by Zions Securities Corporation and will be presented in a separate EIS. This document will address groundwater quality and other environmental impacts and be submitted to the State Department of Health as the lead agency.

B. Anticipated Impacts

The potential for the new proposed development areas to affect groundwater involves possible long-term impacts on both the quality and quantity of the resource. Extraction of groundwater for potable and irrigation uses will affect the quantity of the remaining groundwater source for this area. Considerations for groundwater quality involve

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potable irrigation water use, disposal of treated wastewater effluent and potential hazardous materials spills at the proposed industrial areas. Each of these potential impacts are discussed below.

Because the groundwater aquifer discharges into the nearshore ocean, potential impacts to groundwater quality must also be considered relative to the coastal marine environment, which are discussed in Section 4.10.

Potable Water Use Impacts: The proposed development plans will require an expansion of the existing water system regardless of the alternative housing scheme chosen. An additional source capable of delivering 300,000 gpd will be needed to adequately meet the combined needs of the requested DP Amendments. Given pumping rates from the existing well sources, an additional two well source locations would be required. Of the two new wells, one would sit idle as a stand-by system.

Based upon available information, it appears that the La'ie area aquifers have available capacity to accommodate the requested DP Amendments. Estimated total potable water consumption for La'ie with the proposed DP Amendments is less than 2.0 mgd. When combined with the existing irrigation water demand of 2.4 mgd, new projected water demand will be 4.4 mgd, or 63 percent of the conservative estimate of total sustainable yield (7.0 mgd). In addition to the water needs of Zions Securities Corporation, BWS has drilled two wells in the La'ie subarea and plans to develop each well with a pump capacity of 1.0 mgd. Drawdown effects on the aquifer, such as increased salinity, are not expected since water use is not expected to attain or exceed the sustainable yield of the aquifer.

Existing and proposed water supply and distribution infrastructure facilities are discussed in Section 4.17.1, and in Appendix D.

Disposal of Treated Effluent: Long-term plans for the upgraded and expanded wastewater reclamation facility include the disposal of effluent water via a sub-surface drainfield makai of the UIC line. Disposal of a portion of the treated effluent may also be accomplished through recycling for agricultural irrigation, as appropriate under direction from DOH. Tertiary treatment and ultraviolet disinfection processes will create an effluent that is planned to exceed the State water quality standards for effluent discharge. Tertiary treated effluent directed to the sub-surface drainfield (interim disposal) will enter yet another phase of filtration. Infiltration by gravity, as opposed to injection by pressure, will allow the water to be absorbed naturally into the ground. In the proposed long-term disposal method, part of the tertiary treated effluent will be re-used for agricultural irrigation, which will allow for natural uptake of nutrients in the treated effluent.

Environmental Safeguards: Lease provisions with future tenants of the proposed light industrial areas will require compliance with all government requirements, including those pertaining to environmental protection and clean-up, to ensure protection of groundwater resources.

C. Mitigative Measures

Several mitigative measures are recommended to minimize the adverse effects of the DP Amendments on the quantity and quality of groundwater resources.

Land Application of Treated Wastewater Effluent: As described earlier, part of the treated wastewater effluent will be disposed under the direction of DOH through dilution with irrigation water and application to agricultural land. Effluent re-use for agricultural irrigation will allow for natural uptake of nutrients in the treated effluent.

Conservation: To preserve potable water resources, plans to re-use a portion of the tertiary treated effluent in La'ie for agricultural irrigation purposes will be pursued, under direction from DOH. The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize water conservation devices, such as flow restrictors, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and water conservation are mutually supportive.

Well Development: Plans for water well development must be reviewed and approved by the State Commission on Water Resource Management, prior to implementation.

Lease Provisions: Lease provisions with future tenants will require proper storage, management and disposal of potentially hazardous materials at the industrial sites and other sites using these materials, in accordance with applicable government requirements. State DOH and EPA regulations will dictate specific requirements to protect against introduction of these materials into the groundwater.

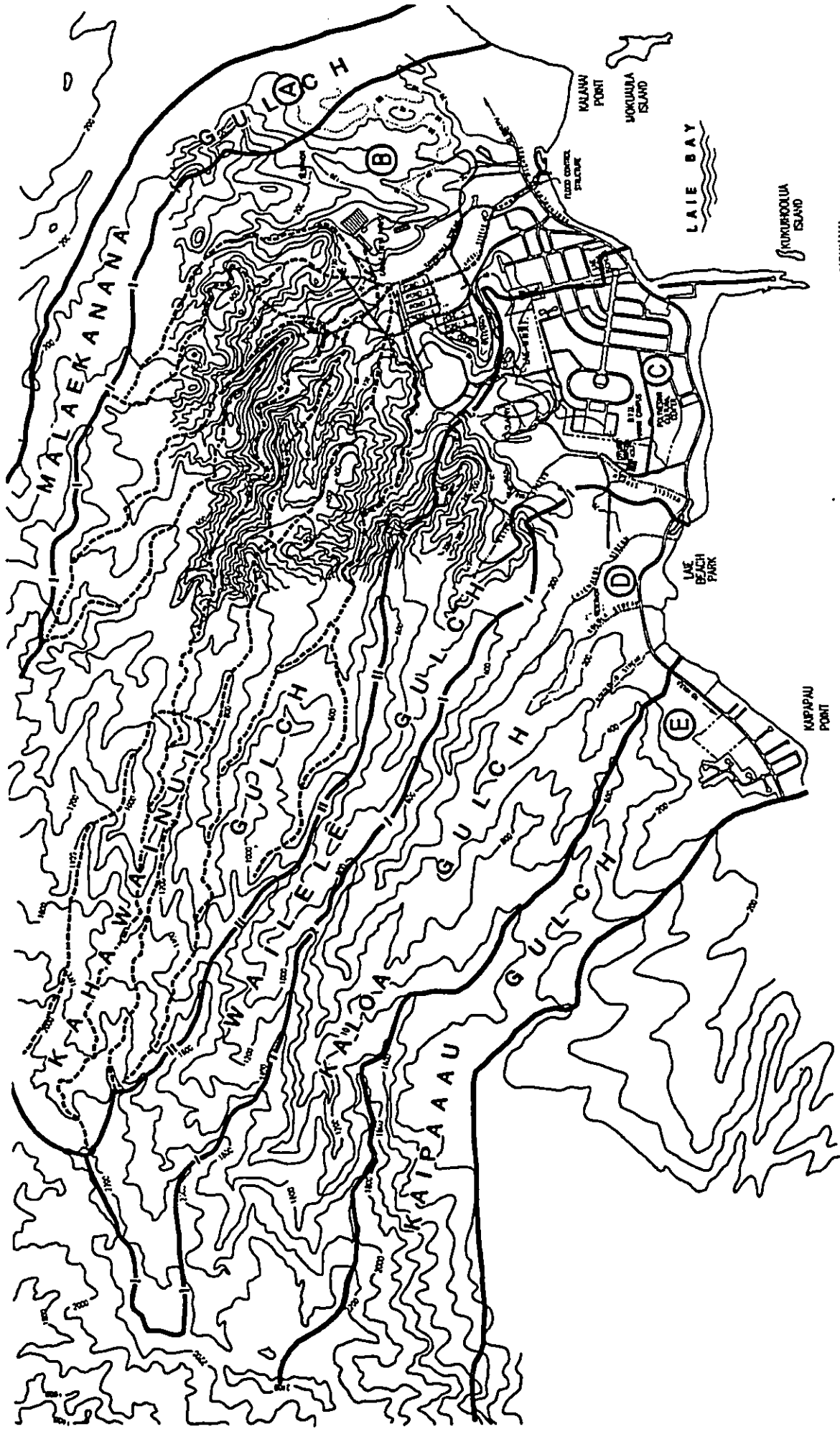
Industrial Lease Provisions: Lease provisions with future tenants of the proposed light industrial areas will require compliance with all government requirements, including those pertaining to environmental protection and clean-up.

4.6 DRAINAGE AND FLOODING

Drainage conditions within the study area and potential impacts of the requested DP Amendments on drainage were evaluated by Aqua/Waste Engineers (January 1992). Their report is included as Appendix F and also discussed in Section 2.1 and 4.17.

A. Existing Conditions

Drainage: La'ie is situated within the Kahawainui Stream watershed (Figure 16). The basin, which begins at the crest of the Ko'olau Mountains at approximately the 2,200 foot elevation, includes a network of nine gulches which ultimately discharge into Kahawainui Stream (LWFP/Draft EIS, in preparation). The urbanized area of La'ie is generally situated in a low-lying coastal area, where ponding of water occurs in streets and yards after rainfall events exceeding 100 mm.



DRAINAGE AREA

- SUB AREA (A) DA : 1,039 Acres
- SUB AREA (B) DA : 3,398 Acres
- SUB AREA (C) DA : 1,359 Acres
- SUB AREA (D) DA : 1,813 Acres
- SUB AREA (E) DA : 1,850 Acres

**KAHAWAINUI WATERSHED
LA'IE DEVELOPMENT PLAN AMENDMENTS**

Source: Laie Wastewater Facilities Plan/Draft BIS (In Preparation)



FIGURE 16

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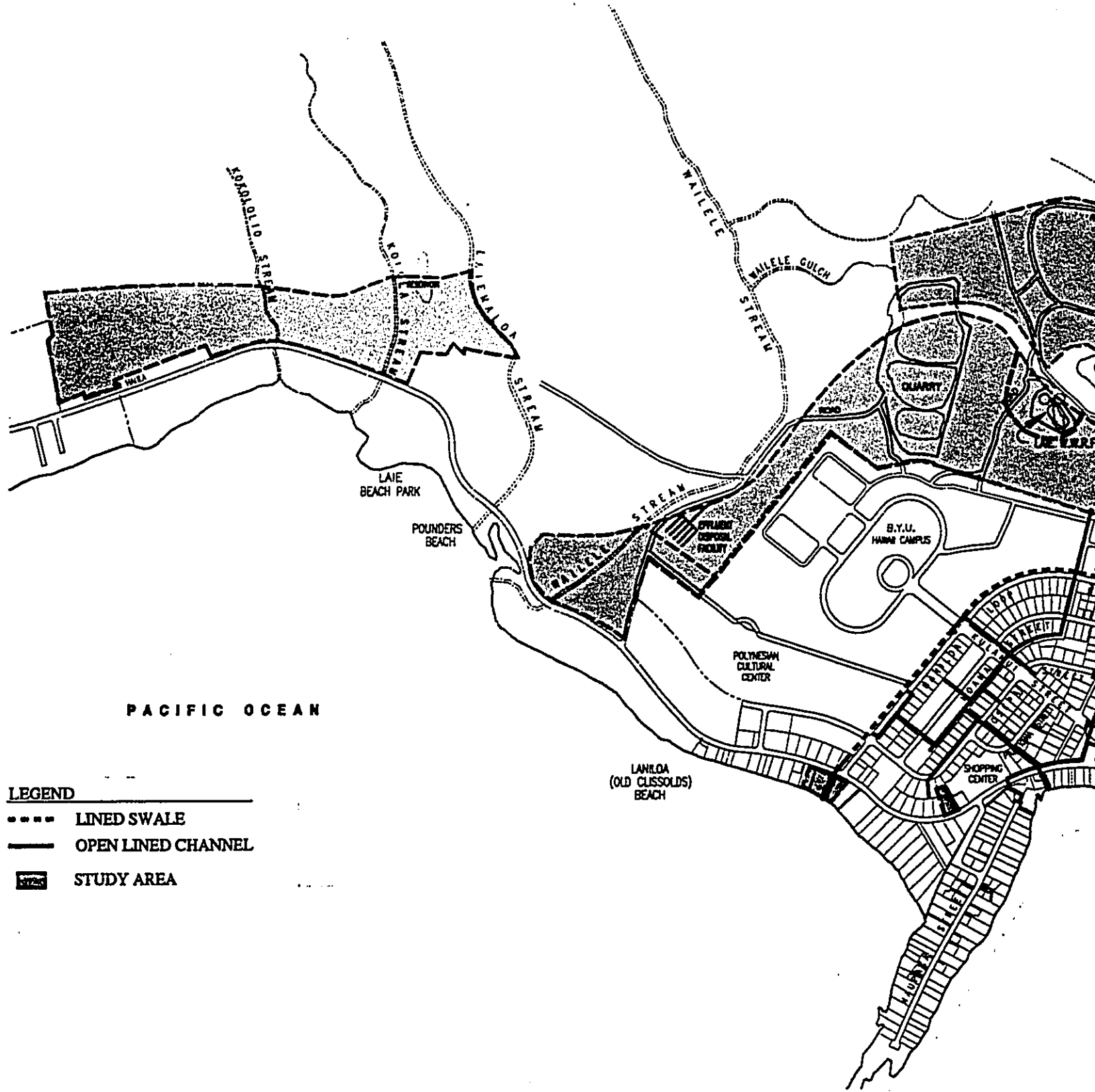
The existing community has no comprehensive drainage plan, although the construction of the Kahawainui Stream flood control channel in 1989 has helped to alleviate storm flows from overtopping former natural drainage courses along Kahawainui Stream and La'iewai Streams (Figure 17). A 15-foot wide drainage ditch flows along a portion of Naniloa Loop from a natural drainage course *mauka* and north of the Temple View Apartments. Wailele Stream also carries storm water runoff around the southern end of the community. A significant improvement was made to the Wailele Stream drainage course through the recent clearing of vegetation and debris within and along its banks.

Tsunami/Flood Hazard: Tsunami inundation of low-lying coastal areas is a natural phenomenon in Hawai'i; however, it is very infrequent. The Hawai'ian Islands are directly exposed to the major tsunami wave generating areas of the Pacific Ocean. Since 1813, over 80 tsunamis have been observed in the Hawai'ian Islands; 22 of these tsunamis generating significant onshore damage via tsunami inundation. The most devastating tsunami, which caused significant damage throughout the Hawai'ian Islands was the tsunami of April 1, 1946. This tsunami, generated from seismic activity in Alaska's eastern Aleutian Islands, caused a wave runup up to 13 feet above mean sea level (msl) at La'ie Point, and inundated the shoreline along La'ie's Old Clissold Beach between 9 and 14 feet msl (La'ie WWFP/Draft EIS, in preparation).

Historical limits of tsunami inundation in La'ie and more recent coastal engineering evaluations have led the Army Corps of Engineers to conclude that potential tsunami inundation would affect the community's shoreline area up to about 12 feet above msl (U.S. Army Corps of Engineers, 1985). In general, lands up to this elevation would include most of the La'ie shoreline makai of Kamehameha Highway except for the higher Laniloa Point residential area (La'ie WWFP/Draft EIS, in preparation).

One acre of the 2.6-acre parcel proposed for Resort designation lies within the tsunami inundation zone (Figure 18). This parcel is directly across Kamehameha Highway from a ±4-acre area which has long been planned and zoned for secondary resort purposes. The 2.6-acre parcel's intended use is to provide outdoor amenities and recreational facilities for hotel guests. Uses on the site would be limited to leisure, recreational, and similar amenities normally associated with a hotel. No new lodging units would be developed at this location.

According to the Flood Insurance Rate Map (U.S. Federal Emergency Management Agency, 1990), parts of the proposed development areas fall within the 100-year flood hazard zone (Figure 18), while the remainder of the proposed development areas are outside the 500-year flood hazard zone. The ±92-acre BYUH expansion area includes approximately 18 acres within the 100-year flood hazard zone (a one percent probability of flood occurrence in any given year) where flood depths of one to three feet occur. This includes approximately 13 acres along the existing west boundary of BYUH and five acres just outside the existing northwest corner of BYUH. Approximately 10 acres of the ±21-acre proposed PCC expansion area and the 3.6-acre proposed park site also lie within the 100-year flood hazard zone.

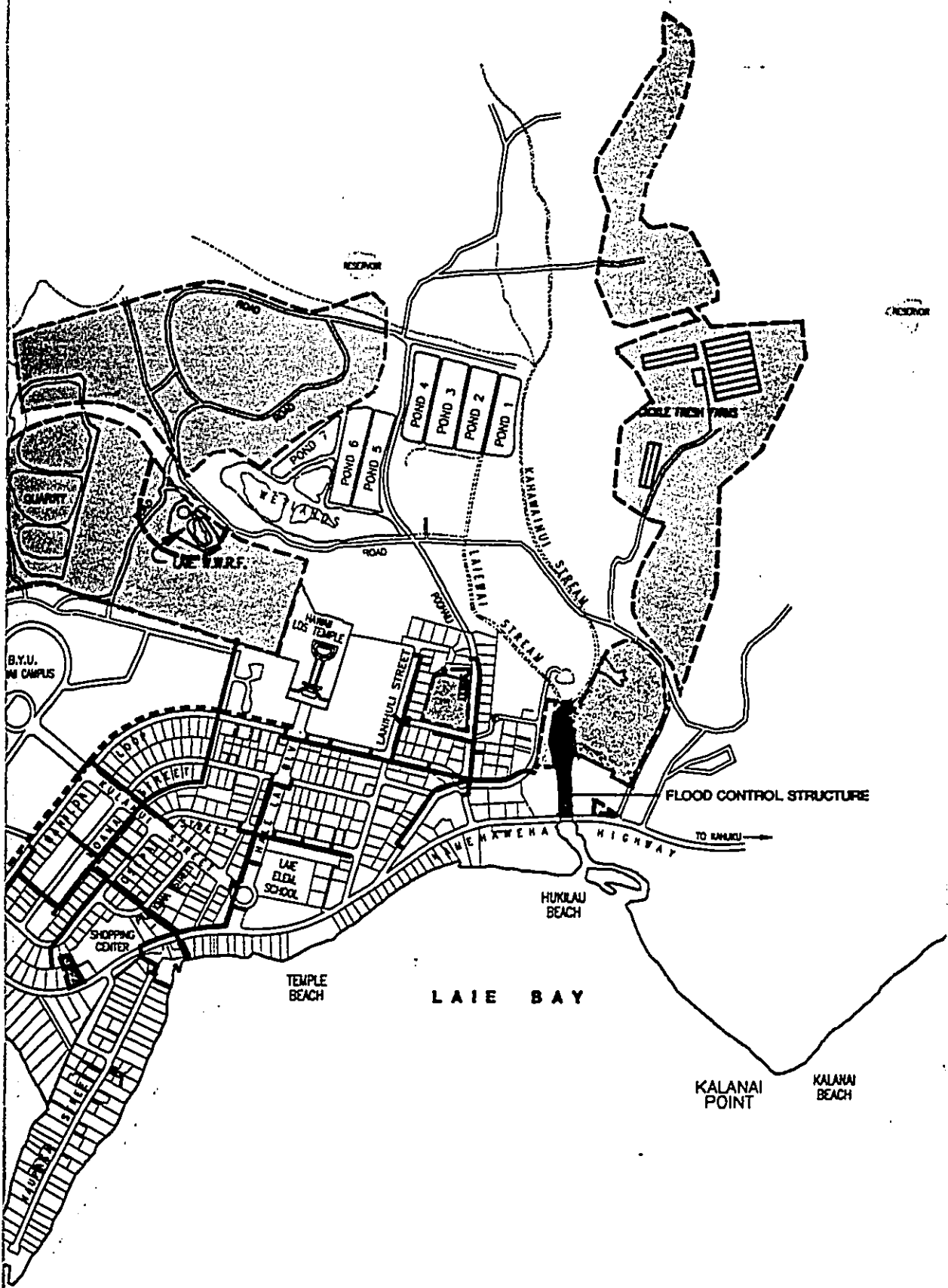


PACIFIC OCEAN

LEGEND

- LINED SWALE
- OPEN LINED CHANNEL
- STUDY AREA

**EXISTING STORMWATER DRAINAGE SYSTEM
LA'IE DEVELOPMENT PLAN AMENDMENTS**



Source: Aqua/Waste Engineers, January 17, 1992.

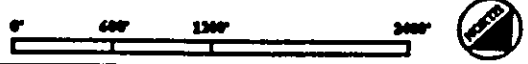
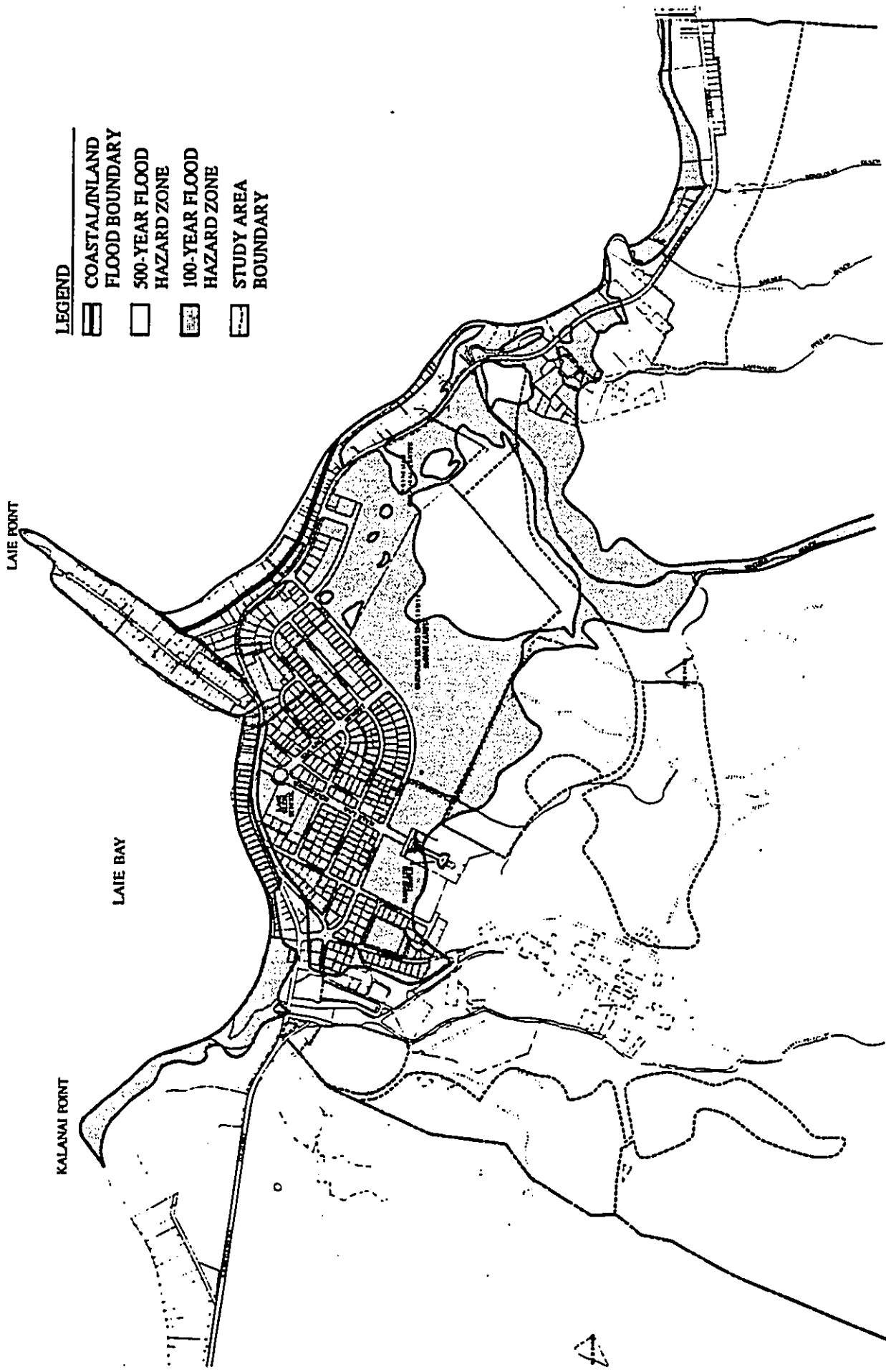


FIGURE 17



**FLOOD HAZARD
LA'IE DEVELOPMENT PLAN AMENDMENTS**

FIGURE 18

LA'IE DEVELOPMENT PLAN AMENDMENTS
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A portion of the ±16.0 acre study area for the Industrial designation on the Kahuku-side of Kahawainui Stream encroaches into the Kahawainui Stream Flood Control Project's floodplain. Structures such as those envisioned in an industrial area are not a permitted use of the floodplain (U.S. Army Engineer District, Honolulu). The DP Amendment request area for the Industrial designation has been modified to remain outside of the boundary of the Kahawainui Stream floodplain easement. The DP Amendment request area is ±2 acres which is adjacent to an existing ±3 acre undeveloped Industrial area, for a total of ±5 acres.

A recent flood occurred on March 19-20, 1991 in the town of La'ie, primarily the result of overtopping of Waialele Stream banks and sheet flowing into Laie town. Subsequently, the City and County Department of Public Works requested the U.S. Army Corps of Engineers (COE) to undertake a reconnaissance study to determine if further studies are warranted for flood control measures along Waialele Stream. Although the reconnaissance report has not been finalized, preliminary findings indicate a positive benefit-to-cost ratio for at least one improvement scenario to alleviate flooding. This analysis indicates that a detailed feasibility analysis is warranted, should the City and County wish to pursue the matter further.

B. Anticipated Impacts

Drainage patterns in the community are expected to remain similar to existing conditions. Some diversion of runoff at the proposed development areas may be necessary, and will be controlled by drainage improvements. A significant portion of the stormwater flows generated by new residential development will need to be directed to Waialele Stream. The La'iemalo'o alternative residential site contains two streams which, if this area were developed, may need to be channelized through the residential area to control flooding. The PCC expansion site may also require channelization of Waialele Stream.

The proposed development of these sites will increase the quantity of peak stormwater runoff generated to various degrees, depending on storm conditions. Changes in land surface types will be made by the construction of impervious surfaces such as roads and buildings. At higher rainfall intensities and durations, the difference between existing and developed conditions decreases, because soil saturation increases, and more runoff occurs regardless of the degree of development.

Portions of the proposed development areas are known to be subject to potential 100-year flooding. These include a park site, approximately half of the PCC expansion site, and a portion of the BYUH expansion area. Storm drainage controls will be established throughout the study area where development occurs, which will minimize flooding problems. Runoff generated by each development will be controlled on-site and released into off-site drainage collection facilities with adequate capacity. Drywells may offer a favorable opportunity for the disposal of a portion of stormwater flows in the shallow water table. Drainage infrastructure facilities are discussed in Section 4.17.

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Development of the 2.6-acre parcel proposed for resort designation as a leisure and recreational area within the tsunami inundation zone will not endanger public safety since no habitable structures will be constructed on site.

C. Mitigative Measures

Tsunami Inundation Zone: No habitable structures will be proposed within the tsunami inundation zone, specifically, within the proposed 2.6-acre resort amenities area.

Storm Water Runoff Controls: Development within the proposed DP Areas will not place an additional burden on existing drainage facilities or create a potential flood hazard for the existing properties in La'ie. Control of runoff from the DP areas will be achieved through the construction of storm drainage facilities, swales, detention basins and dry wells to accommodate storm runoff generated by the new development areas. Flooding may continue to occur in existing developed areas of La'ie (and other areas adjoining the DP areas) which will not be the result of the new projects. Runoff generated by the proposed projects must be controlled on-site or through the improvement of off-site drainage facilities.

4.7 SURFACE WATER QUALITY

A. Existing Conditions

1. Surface Water Bodies Relevant to the Requested DP Amendment Areas

Surface water bodies exist within and surrounding the study area as intermittent streams which flow during high precipitation periods and several man-made and natural open water ponds. Specific DP Amendment areas having some proximal relationship with surface water features in the area are identified in Figure 17 and listed below.

Kahawainui Stream: Kahawainui Stream is a perennial stream in its lower reaches. This is the largest stream in La'ie in terms of watershed area drainage, with nearly 3,400 acres contributing runoff to the stream. Short-term water quality sampling studies of Kahawainui Stream indicate that, aside from natural runoff, water quality in the stream is most influenced by natural runoff constituents, adjacent agricultural activities, aquacultural activities, and the Cackle Fresh Farm poultry operation. The poultry operation may contribute to elevated levels of nitrite/nitrate and fecal bacteria during both lower and higher streamflow conditions.

Wailele Stream: Wailele Stream is an intermittent stream influenced by natural runoff and adjacent agricultural activities. The stream is located to the south of BYUH, and extends *mauka* beyond the campus.

La'iewai Stream: La'iewai Stream is most influenced by adjacent aquaculture ponds and the open water wetland immediately *mauka* of the existing La'ie Wastewater

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Reclamation Facility (LWRF). The pond presently receives treated effluent from the LWRF and, following periods of heavy rain, receives sedimentation and nutrients via soil erosion from adjacent agricultural fields and unimproved vehicular trails (Laie Wastewater Facility Plan/Draft EIS, in preparation).

Kokololio Stream: This stream is an intermittent drainageway which crosses the proposed La'iemalo'o Alternative Residential site.

Prior to 1990, the monitoring of surface water quality in the La'ie area was limited to one-time samplings by the U.S. Fish and Wildlife Service (1981) and the State Department of Health (1989). The streams examined were Kahawainui, La'iewai, and Wailele. Recently, in response to a 1989 complaint concerning the discharge of sewage effluent in the wetland area *mauka* of the existing wastewater reclamation facility, more thorough water quality monitoring studies have been conducted. One short-term study conducted between May and October, 1990 examined water taken from several sampling stations located at the wastewater reclamation facility, the ponded wetland area, and along La'iewai Stream and Kahawainui Streams (La'ie Wastewater Facility Plan/Draft EIS, in preparation).

Results of these studies indicate that, aside from natural runoff, water quality in the Kahawainui Stream is most influenced by adjacent agricultural activities, aquacultural activities, and the Cackle Fresh Farm poultry operation, which may contribute to elevated levels of nitrite/nitrate and fecal bacteria during both lower and higher streamflow conditions. La'iewai Stream is most influenced by adjacent aquaculture ponds and the open water wetland immediately *mauka* of the existing LWRF. The pond presently receives treated effluent from the wastewater reclamation facility and, following periods of heavy rain, receives sedimentation and nutrients via soil erosion from adjacent agricultural fields and unimproved vehicular trails (LWRF/Draft EIS, in preparation).

B. Anticipated Impacts

Potential impacts to the intermittent streams and surface water quality on-site and off (downstream), include both short-term, construction-related effects and long-term, operation-related effects.

Modification of Intermittent Stream Channels: Development of the proposed PCC Expansion will involve some modification of stream channels on-site for construction and drainage improvements. Wailele Gulch crosses the PCC expansion area and A'akakii and Kokololio Gulches direct storm water runoff across the La'iemalo'o alternative residential site. If the La'iemalo'o alternative residential site was developed, some stream channel modification would occur.

Short-term Construction-Related Effects: Erosion and sedimentation due to construction area runoff, and possible channel modifications to improve the drainage system will have short-term effects on surface water quality. Vegetation clearing and subsequent grading for site development will expose soil areas to rainfall and storm

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water runoff. Implementation of soils management measures during construction, in accordance with County standards, will minimize erosion of soils at construction sites. Clearing of vegetation is limited to 15 acres at one time, following the County grading ordinance. Cleared areas must have the soil surface stabilized by temporary vegetation or other measures prior to the clearing of new areas.

Stream channel modifications will disturb the soil and rock lining the channel (and possibly vegetation), causing the potential for added short-term water quality impacts from suspended sediments. Short sections of the intermittent streams channels are expected to be modified by the construction, which could be completed in a relatively brief time period (four to six weeks).

Industrial Area Pollutants: Two areas on either side of the Kahawainui Flood Control Channel, totalling approximately 4 acres, are proposed for the Industrial DP designation. It is expected that typical light industrial tenants, such as automobile repair shops, will be working with oil or other materials which have special disposal requirements. It is expected that sufficient on-site control measures will be implemented such that very limited amounts of these materials will be carried off-site in drainage runoff into Kahawainui Stream, which could possibly be transported into the nearshore marine environment.

Pesticides and Fertilizer Use: Limited quantities of pesticides and fertilizers are expected to be applied, only as required, at residential yard-areas, parks and school sites. Application of pesticides and fertilizers will be controlled by maintenance staff at parks and schools. Some pesticides and fertilizers will be collected by storm runoff. Swales, drywells, and detention basins will help contain some of these chemicals.

Rainfall Runoff: During storm events, increased runoff generated by rainfall on impervious surfaces within the requested DP Amendment areas will be controlled on-site through the use of storm drain systems, swales and dry wells. The intermittent streams crossing the project area will receive storm water runoff volumes that are similar or less than existing conditions.

C. Mitigative Measures

A number of measures will be implemented within the DP areas to minimize effects on water quality in the intermittent streams and wetlands located within or nearby to the proposed development areas.

Construction Period Erosion Controls: Measures are proposed to minimize the short-term impact of soil erosion on stream water quality and suspended sediment input. Soil erosion mitigation measures recommended by the State Department of Health, City and County of Honolulu, and Soil Conservation Service are included in Section 4.2. Under the County Grading Ordinance, clearing of vegetation can only be done on 15 contiguous acres at a time. Diversion ditches will be constructed to divert overland runoff into collection/detention areas on the project site. In addition, soil stockpiling will be conducted to contain excavated earth in controllable areas prior to its use elsewhere on

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the site. Expedient revegetation of exposed areas on the site will also minimize erosion of soils.

Controlled Use of Fertilizers and Pesticides at Schools and Parks: Park and school grounds maintenance personnel should be trained in the judicious application, handling and storage of fertilizers and pesticides.

Urban Runoff Control - Best Management Practices: Following DOH guidelines, runoff from developed areas will be released through natural vegetation swales, first passing through detention basins in some locations, to reduce the concentration of chemicals through evaporation, sunlight breakdown, dilution and uptake by organic material.

4.8 VEGETATION

A detailed botanical survey of the requested DP Amendment Areas was conducted by Char & Associates (November 1991). The complete report of this survey, including a plant species list, is enclosed as Appendix G. Existing conditions within the study area are discussed in this section, along with anticipated impacts on vegetation. Mitigative measures have been proposed to minimize effects on vegetation in some areas.

A. Existing Conditions

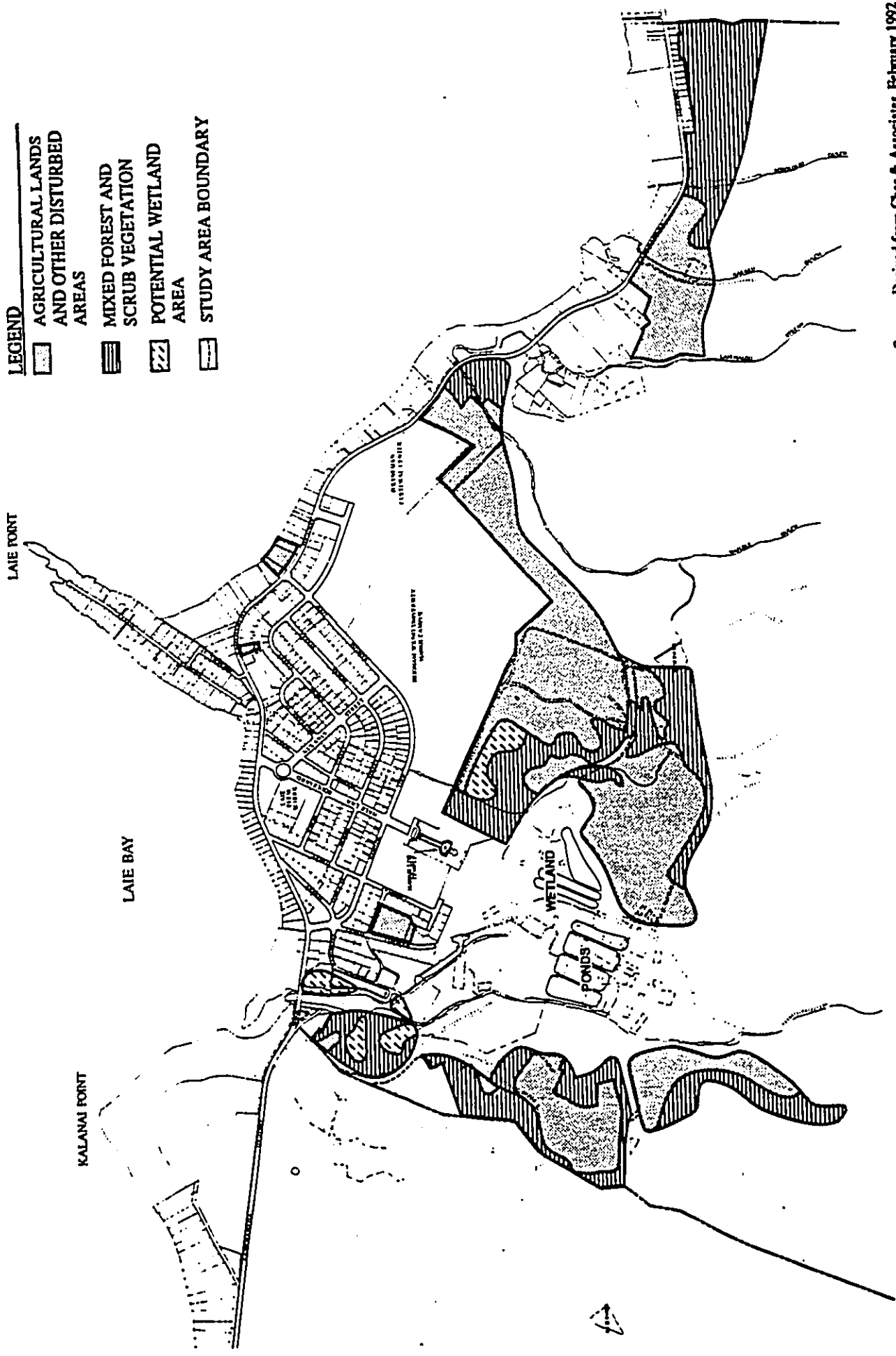
Three broad vegetation communities were identified in the study area, as shown in Figure 19. The majority of the study area is agricultural land which supports small vegetable and banana farms. Mixed forest and scrub vegetation are generally found on the uncultivated areas, steeper slopes, and rocky outcroppings. A preliminary identification of wetlands was conducted, based on the presence of hydrophytic vegetation, which is only one of the three federal criteria required for wetland designation. Vegetation types indicative of wetlands occur along Kahawainui Stream and in a low-lying area behind the BYUH married student apartment complex.

Vegetation communities are categorized according to the relative abundance of the vegetation cover type. A description of the three vegetation categories and their general distribution within the DP Amendment areas is provided below.

Agricultural Lands and Other Disturbed Areas: "Agricultural Lands and Other Disturbed Areas" is the most prevalent vegetation cover type in the entire study area. It is the primary designation for the proposed residential site, the two alternative residential sites, and the BYUH and PCC expansion areas, as well as the only vegetation type on the Po'ohaili Street park, the shopping center parking extension, and the resort amenities area. It includes farmlands and homes, the existing wastewater treatment facility, the quarry, the Cackle Fresh egg farm, roadsides, and other frequently disturbed areas, such as the actively utilized aquaculture ponds.

Vegetable farms and banana fields cover most of the agricultural lands. Crops include bittermelon, various bean and squash varieties, taro, and papaya. Small stands of citrus, avocado, and breadfruit trees are also present.

- LEGEND**
- ▨ AGRICULTURAL LANDS AND OTHER DISTURBED AREAS
 - ▨ MIXED FOREST AND SCRUB VEGETATION
 - ▨ POTENTIAL WETLAND AREA
 - ▨ STUDY AREA BOUNDARY



Source: Derived from Char & Associates, February 1992

FIGURE 19

VEGETATION COVER TYPES
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Other vegetation found on these lands include various grasses, scattered shrubs and weedy mixtures of species commonly associated with agricultural and other disturbed areas. Common weedy species include spiny amaranth (*Amaranthus spinosus*) and maile-hohono (*Ageratum houstonianum*).

Mixed Forest and Scrub Vegetation: A majority of the Egg Farm and La'iemalo'o alternative residential sites and the Industrial area (near Egg Farm road) are covered by "Mixed Forest and Scrub Vegetation". The proposed BYU Mauka residential site and the PCC Expansion area also contain areas of this vegetation type. It is found around the quarry and wastewater treatment facility, on the more steeply sloping lands of the study area, and on fallow fields in a late stage of succession.

Generally, this mixed forest and scrub association consists of several tree species with no one species dominant. Most frequently found are ironwood (*Casuarina equisetifolia*), Java plum (*Syzygium cumini*) macaranga (*Macaranga tanarius*), hau (*Hibiscus tiliaceus*), and Chinese banyan (*Ficus microcarpa*). The trees may form open to closed canopied stands and vary in height from 20 to 50 feet. On the foothills mauka of the Egg Farm, ironwood trees become extensive, while on the Hau'ula side of the project site, Java plum trees form a rather dense forest.

Between the scattered stands of mixed forest are shrubs of Christmas berry (*Schinus terebinthifolius*) and koa-haole (*Leucaena leucocephala*). In some areas, guava (*Psidium guajava*) may become a common component of the mixed scrub.

Ground cover in this vegetation type is highly variable, depending partly upon topography and density of the shrub and tree canopies. Shade-tolerant species which are found where the canopy is closed include Chinese violet (*Asystasia gangetica*) and hairy sword fern (*Nephrolepis multiflora*). On level areas with soil and an open canopy, California grass (*Brachiaria mutica*) may form a dense mat.

Wetland Areas: Freshwater wetland areas within the study area, shown in Figure 19, were preliminarily identified by the presence of vegetation types indicative of wetland areas elsewhere on O'ahu. The presence of hydrophytic vegetation is only one of the three federal criteria required for wetland designation. Wetland areas were preliminarily identified on or adjacent to the two proposed Industrial sites and within the proposed BYUH Expansion area.

Alien or introduced plants are the dominant components of the vegetation within the study area. The wetlands do not contain any plants of botanical significance (i.e. threatened and endangered plants or sensitive native plant communities).

B. Anticipated Impacts

Development of the requested DP Amendment areas will involve developing a portion of the study area into a residential community, along with some public facility, commercial, and light industrial parcels. A maximum of 201 acres of vegetation will be cleared to allow development of the proposed land uses. Each of the three existing

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general plant communities will be affected; however, it should be noted that the various species associated with each plant community are not considered to be botanically significant. The requested DP Amendments are not expected to have a significant adverse impact on botanical resources and no mitigative measures are required.

Wetland areas were preliminarily identified on or adjacent to the two proposed Industrial sites and within the proposed BYUH expansion area. The proposed two-acre Industrial area near the Egg Farm Road may impact a portion of the preliminarily identified wetland. Although the amount of wetland area affected by the proposed developments is small in comparison to the large, open potential wetland areas outside of the study area, any development within these wetland areas could affect their wildlife habitat value.

Potential wetland areas were only preliminarily identified within the study area, however, based upon the presence of hydrophytic vegetation. A complete determination of the presence of wetland within the study area requires additional information regarding the presence of hydric soils and wetland hydrology. A more accurate assessment of potential impacts to wetlands will be made following soils and hydrological studies.

C Mitigative Measures

Mitigative measures will be implemented to minimize adverse effects to vegetation in the project areas, and specifically to wetland vegetation where wetland vegetation is disturbed or eliminated.

Landscaping: Landscaping of development sites will be included with each of the specific projects. Vegetation will be established as buffers, as needed, between different land uses. Parks and schools will also be landscaped.

Wetland Delineation: A wetlands determination and delineation will be conducted for review and approval by the U.S. Army Corps of Engineers for each area defined as wetland during more detailed stages of planning for the affected DP Amendment request areas. If a project involves disturbance of wetlands, recommendations from the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service will dictate preservation and mitigation requirements.

Wetland Regulations: Any development which results in filling or modification of delineated wetland areas must be reviewed and approved by the U.S. Army Corps of Engineers, in consultation with the U.S. Fish and Wildlife Service, in compliance with existing policies concerning wetland areas.

4.9 WILDLIFE

A study of the faunal wildlife populations within the study area, including mammals, and introduced and indigenous birds, was prepared by Bruner (November 1991). The complete report is enclosed as Appendix H. Resident and migratory species were

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considered in this study. This inventory is based on field studies of the project area and research of existing information regarding the area and its habitat types. A biological stream reconnaissance of Kahawainui Stream was performed by Environmental Technologies International (January 1992). A complete report of the findings is included as Appendix I.

A. Existing Conditions

As described in Section 4.8, the study area is limited to three vegetation community types and is generally characterized by agricultural lands or other disturbed areas. There are several man-made and naturally occurring wetlands in the area, primarily located outside of the requested DP Amendment areas, with a few exceptions. These wetlands account for the field observations of water birds, and include aquaculture ponds, natural ponds, streams, and flooded grasslands.

There are several species of birds inhabiting the general area, and four are an endangered species. Because of the geographical mobility of birds, they can appear in the area at anytime.

Five native waterbirds were observed throughout the various wetlands associated with this study area. Four of these species are endangered, including the Black-necked Stilt (*Himantopus mexicanus knudseni*), Hawai'ian Duck or Koloa (*Anas wyvilliana*), American Coot (*Fulica americana alai*) and Common Moorhen (*Gallinula chloropus sandwicensis*). The only waterbird species found in the survey which is not listed as endangered is the Black-crowned Night Heron (*Nycticorax nycticorax*).

Common migratory shorebirds found in the general area include the Pacific Golden Plover and the Ruddy Turnstone, both species which forage in fields and pastures, lawns, and intertidal habitat. Migratory ducks such as Northern Pintail and Northern Shoveler are also known to occur in the La'ie wetlands, although no migratory waterfowl were found in Bruner's survey.

Introduced birds often found in the area include: the Japanese White-eye; the Zebra Dove, which is a game bird; the Spotted Dove; the Common Myna; Red-vented Bulbul; Nutmeg Mannikin; and House Finch.

Mammals located in the study area include the mongoose and feral dogs, cats and pigs. None of these mammals are an endangered species. The mongoose is known to prey on birds, their eggs and their young.

Three of the five native 'o'opu fish species were observed in the Kahawainui Stream: 'o'opu'akupa (*Eleotris sandwicensis*), 'o'opu nakea (*Awaous stamineus*) and 'o'opu naniha (*Stenogobius genivittatus*). None of these species are listed as endangered or threatened by the Federal Government. Hinana (*post larval 'o'opu*) were abundant in the stream, indicating successful recruitment.

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Introduced fish species observed throughout the stream were tilapia (*Tilapia mossambica*), mosquitofish (*Gambusia affinis*), and the green sword tail (*Xiphophorus helleri*).

Aquatic insect numbers appear to be low in Kahawainui Stream. Endemic damselfly populations (*Megalagrion*) are currently low; no species of this genus were captured or visually sighted in the area of Kahawainui Stream.

B. Anticipated Impacts

Four of the birds found in the La'ie area are endangered waterbird species. Other species found in the vicinity of the DP Amendment request areas provide pleasure for people through their song and beauty. The proposed developments are not expected to have a significant adverse effect on the area's available or critical habitat for either the common or endangered bird species.

Long ago the native vegetation of the La'ie area was extensively cleared for agricultural purposes. The existing introduced vegetation on the study area lands do not, with the exception of the wetlands, provide suitable habitat for any of Hawaii's endemic water or land birds. Disturbance to this on-site vegetation, and the subsequent development and replanting, is expected to have no significant impact on available habitat for endemic birds.

Aquaculture ponds from a wetland area immediately adjacent to one side of the preferred BYU Mauka residential area. The BYU Mauka site is notable for a slight rise in topography adjacent to the wetland, as described in Section 4.2 of the EIS (Topography). The remaining portion of the site lies behind this rise and is essentially separated from the ponds by this natural feature. Development adjacent to the aquaculture ponds would be limited given the site configuration and topography.

None of the mammals occurring in the project area is an endangered species, and none is of any concern as far as detrimental effects resulting from this project.

Changes from present levels of siltation or baseflow conditions within Kahawainui Stream may affect the endemic 'o'opu fish, although tolerances of the different species to specific water parameters are not presently well known.

C. Mitigative Measures

No significant impact is expected to occur to any wildlife species on the property; however, several measures will be implemented that will minimize effects on wildlife due to development of the DP Amendment areas. These will include minimized clearing of vegetation, and re-vegetation and landscaping planting.

Wetlands Protection: A wetlands determination and delineation will be conducted for review and approval by the U.S. Army Corps of Engineers for each area defined as potential wetland, following more detailed stages of planning. If a project involves

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disturbance of wetlands, recommendations from the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service will dictate preservation and mitigation requirements.

Proposed BYU Mauka Residential Area: Development of portions of this site which are adjacent to the aquaculture ponds will be separated from them by a buffer of trees and brush. Where necessary, the ponds will be fenced to exclude predators. Drainage systems will be designed to detain runoff from the residential area in catchment basins and route runoff through grassed swales to capture silt and degrade other urban runoff constituents prior to entering the adjacent ponds.

Stormwater Runoff/Erosion Controls: Runoff generated by the proposed land uses must be controlled on-site or through the improvement of off-site drainage facilities. Soil erosion mitigation measures such as those recommended by the State Department of Health, City and County of Honolulu, and Soil Conservation Service will be implemented to control short-term and long-term erosion within development areas.

Construction: Appropriate measures will be taken to reduce sedimentation during the construction phase of development located adjacent to wetland areas, including preventing heavy equipment from entering a "buffer" area to be adjacent to the wetland, and installation of sediment catch-basins or berms.

4.10 MARINE RESOURCES

This section includes a discussion of the existing marine environment along the shoreline of La'ie, and potential impacts to this environment which may result from development of the requested DP Amendment areas. Mitigative measures planned to minimize the potential impacts of these projects on ocean water quality are also discussed.

A. Existing Conditions

The La'ie DP Amendment request sites are generally located *makai* of Kamehameha Highway between Maleakahana State Recreation Area to the north and Kokololio Beach to the south.

Physical Conditions: This coast is characterized by a coral reef system located several hundred yards offshore at most points, with a more calm lagoon section inside the reef front. This coast generally experiences lower ocean swells with wave heights less than six feet occurring over 75 percent of the time. Medium swells (six to 12 feet) occur about 20 percent of the time, and high swells (over 12 feet) occur very infrequently (LWFP/Draft EIS, in preparation). Wave action, constant tradewind forces and coastal ocean currents all contribute to a well-mixed ocean environment along this part of the coast. Long sandy beaches are found along this coast, broken up by points and headlands. There are several small offshore islands also found along this coast.

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Natural stresses (e.g. wave scour, freshwater input) influence the nearshore ocean biotic communities along this coast. Typically, the composition of reef communities is intimately associated with the magnitude and frequency of these stresses, and any impacts caused by development are superimposed on natural environmental factors.

Water Quality: For the existing situation at La'ie, the marine communities considered are coral reefs. Potential existing alterations of these communities could consist of additions of dissolved nutrient materials, along with introduction of suspended solids from groundwater and storm water runoff. Nutrients added to the marine environment can provide the potential for indirect changes which can result in environmental degradation, by enhancing the growth of benthic algae and seaweed. This has been shown to be the cause of decreased coral growth, an example of which was Kaneohe Bay during the 1970's. Suspended sediment loading is a stress to which Hawaiian reef corals are well adapted. As long as corals are not buried by sediment, and if the sediment stress is not a permanent feature of the environment, corals are generally able to "clean" themselves to avoid coverage and slowing of growth.

Nitrate+nitrite and silica are found in the near shore waters at higher concentrations than in offshore waters. In the absence of stream flow or surface runoff, influx of groundwater in the near some portions of this shore zone is the only source of nutrient subsidy to the receiving environment. Nitrate+nitrite and silica are nutrients that are present in high concentrations in groundwater.

Relatively small enrichment of phosphorus does occur in these coastal waters as a result of groundwater infiltration. Increased levels of phosphorus either near the shoreline or in surface layers are not usually present, probably due to dilution and mixing processes.

Salinity is the best indicator of the degree of groundwater influence on near shore water chemistry. Decreases in salinity occur in the near shore zone along this coast, the result of mixing of fresh ground water with open ocean water.

Recent changes to La'ie's effluent treatment and disposal process have corrected the system overflow problems which had resulted in direct discharges of partially treated wastewater into a stream draining into the ocean off La'ie. Even with the improvements to the wastewater system, an external dissolved inorganic nitrogen source is still likely to be present within the near shore zone. The source is likely present due to leaching from residential cesspools near some portions of this shoreline, and from leaching from the interim wastewater disposal field which receives effluent from the sewerred portion of La'ie. Ocean water quality in this area is affected by man-induced alterations to the existing environment, however, these nutrient subsidies are not known to be causing negative biological impacts in the near shore zone.

Biological Community Structure: The marine environment off the coast of La'ie is characterized by seasonal intense wave activity which limits the development of reef biota to those assemblages which can withstand the impact of breaking waves. As a result, coral communities are generally limited to thin veneers. Reef fish communities (described in detail later in this section) are limited owing to the lack of habitat shelter

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and some overfishing. Such community assemblages which are pre-adapted to high stress conditions are less susceptible to alteration from additional man-induced stresses.

Because of the wave stress, physical parameters for development of extensive benthic communities must be considered sub-optimal. As a result, the area is not characterized by well-established coral communities that comprise high percentages of bottom cover in areas where wave stress is not severe. The occurrence of algae in the near shore zone is seasonal, with blooms occurring in the summer when wave stress is minimal.

Further offshore on the reef platform, the dominant benthos remains benthic algae. In this zone, however, hermatypic (reef-building) corals also occur. Because corals are essentially "permanent" features of the biotic community (in that they do not re-colonize an area seasonally), they must be able to withstand the full range of environmental stress inherent in the physical environment. Growth forms of coral are generally restricted to flat encrustations, an adaptation that favors resistance to breakage from wave stress.

Bottom coverage by corals increases with distance offshore. *Porites lobata* is the most abundant coral species, as on most Hawai'ian reefs, occurring in a variety of growth forms.

Motile benthos, such as sea urchins and sea cucumbers are generally rare off the project area. The most common urchin in this area is *Echinometra matheai*, a species that bores into calcium carbonate surfaces and occupies depressions within the reef platform.

Reef Fish Communities: The reef fish community off this area is generally characterized by a low population density and generally small body size of most individuals. This is probably a result of both scarcity of shelter in the physically stressed habitat, and the effects of some overfishing. A few species are common in the nearshore area, such as the saddleback wrasse, small convict tang and surgeonfish. The shallow near shore boulder and sand zones hold fish species that are adapted to high surge habitats. These include the Christmas wrasse and blackspot sergeant, as well as the saddleback wrasse and convict tang.

Deeper water areas on the reef platform contain a richer fauna, particularly in areas where bottom structure was dominated by large undercut grooves and depressions. Mixed-species schools of surgeonfishes are common. Some overfishing in the survey area is expected for sought-after fish groups, such as goatfishes, jacks, squirrelfishes and parrotfishes.

Endangered Species: Three species of marine animals that occur in Hawai'ian waters have been declared threatened or endangered by Federal jurisdiction. The threatened green sea turtle (*Chelonia mydas*) occurs commonly along the shoreline of the major Hawai'ian Islands and is known to feed on selected species of macroalgae. The endangered hawksbill turtle (*Eretmochelys imbricata*) is found infrequently in waters off Hawai'i. Populations of the endangered humpback whale (*Megaptera novaeangliae*) are known to spend the winter months in the Hawai'ian Islands.

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Surface Runoff Point Sources: There are a number of streams which empty into the ocean along the La'ie section of the coast. Few of these streams are perennial, however, runoff during peak precipitation periods is discharged into the ocean. These streams collect natural and urban runoff constituents such as silt, organic material, debris, trash, terrigenous bacteria and dissolved runoff constituents. These runoff constituents typically create a short-term degradation of ocean water quality, which dissipates within a few days after a storm period. The most evident effect of this runoff contribution is the temporary discoloration of nearshore water near the discharge point due to suspended clay and silt particles. The nearshore ocean biotic communities are generally adapted to these natural events.

B. Anticipated Impacts

The proposed DP Amendments will all be subject to construction period soil erosion, and will contribute some limited surface runoff constituents as urban runoff. In addition, some leaching of fertilizers and pesticides to groundwater could occur, which would ultimately enter the ocean. Each of these potential impacts are considered below.

Short-Term Construction Impacts: Erosion during construction and silt runoff presents the greatest potential for effects on the near shore ocean. Erosion and silt runoff at specific construction sites can be minimized by careful planning and management during the construction process. The effects to ocean water quality due to silt runoff will be temporary, and not substantially different than natural siltation events that occur at present. The ocean off La'ie is well-mixed and suspended sediment introduced into the ocean during the construction period will be dispersed by waves and currents. Once projects are completed, especially in former agricultural sites, the proposed projects are expected to cause a reduction in soil erosion and silt runoff.

Treated Wastewater Disposal: Operation of the expanded LWRF is planned to contribute treated sewage effluent to nearby agricultural areas for irrigation. The nitrogen content of applied treated effluent water may replace a portion of the fertilizer required for farming. Treated wastewater effluent will filter through the soil layer to ground water, probably contributing to the groundwater nitrogen concentration (although future nitrogen levels may be lower than those found with the current interim disposal process). This groundwater is eventually carried to the ocean. No degradation of ocean water quality and biotic community structure is expected to result, due to wave and current mixing in the near shore environment and natural uptake. Analysis of the potential effects of treated wastewater disposal on ocean water quality are addressed in the LWFP/Draft EIS (in preparation). No long-term adverse impacts on ocean water quality are expected to result from the proper treatment and disposal of wastewater generated by the DP Amendments projects.

Effects of New Projects Located on the Ocean: With respect to requested DP Amendments, the proposed resort amenities area is the only site located directly on the shore. The site is located adjacent to and *makai* of Kamehameha Highway, directly across the street from the future hotel site. Proposed uses on the oceanfront site would

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be limited to leisure, recreational, and similar amenities normally associated with a hotel. Lodging units would not be built on this site. This proposed use of the site will provide a corridor between the hotel and the ocean, for visual relief, access and enjoyment. No significant adverse impacts to the marine environment are expected to result from the proposed use of this area.

C. Mitigative Measures

Several general mitigative measures will be employed to minimize the effects of the requested DP Amendments on the marine environment. Detailed site-specific mitigation plans will be considered, as necessary, on an individual project-by-project basis.

Erosion Controls: Probably the greatest potential for detrimental impacts to the marine environment will arise from soil erosion and silt runoff as a result of high intensity storms (rainfall) storms occurring during the construction period. As feasible, clearing and grading activities for individual projects will be scheduled during the less rainy periods. Erosion will also be minimized by compliance with all governmental regulations and standards for installation of erosion controls during the construction period.

Tertiary Level Wastewater Treatment and Irrigation Disposal: By utilizing advanced treatment processes, wastewater effluent will be treated to a tertiary level. Irrigation disposal provides a natural additional treatment step which strips many of the nutrients in treated wastewater. The groundwater will ultimately receive the leached product of this process, where constituents become diluted and transported to the ocean. Because of the advanced treatment level, irrigation disposal process and ocean mixing processes, no adverse effect on ocean water quality is expected to result.

4.11 ARCHAEOLOGICAL AND HISTORIC RESOURCES

An investigation of archaeological and historic features was conducted on the project site by Paul H. Rosendahl, Ph.D., Inc. (PHRI) during the period December 10, 1991 to January 17, 1992. Their work included a historical literature and documents research, burial assessment, and an inventory-level survey in accordance with the standards recommended by the State Department of Land and Natural Resources-Historic Preservation Division (DLNR-HPD). Interviews with local informants were also conducted.

The archaeological inventory findings are summarized in the following discussion, and the final report is included as Appendix J. Figure 20 illustrates the relationship of the identified archaeological sites to the DP Amendment areas.

A. Existing Conditions

Archaeological and Historic Findings: Twenty three sites were identified in the archaeological survey of the study area, consisting of 121+ component features within or

LEGEND
 [Hatched Box] STUDY AREA
 [Dashed Line] BOUNDARY

LAIÉ POINT

LAIÉ BAY

KALAWAI POINT

Possible Location of Site 377,
 Pano Fijapoua

BERNARD WATSON UNIVERSITY
 LIBRARY BUILDING

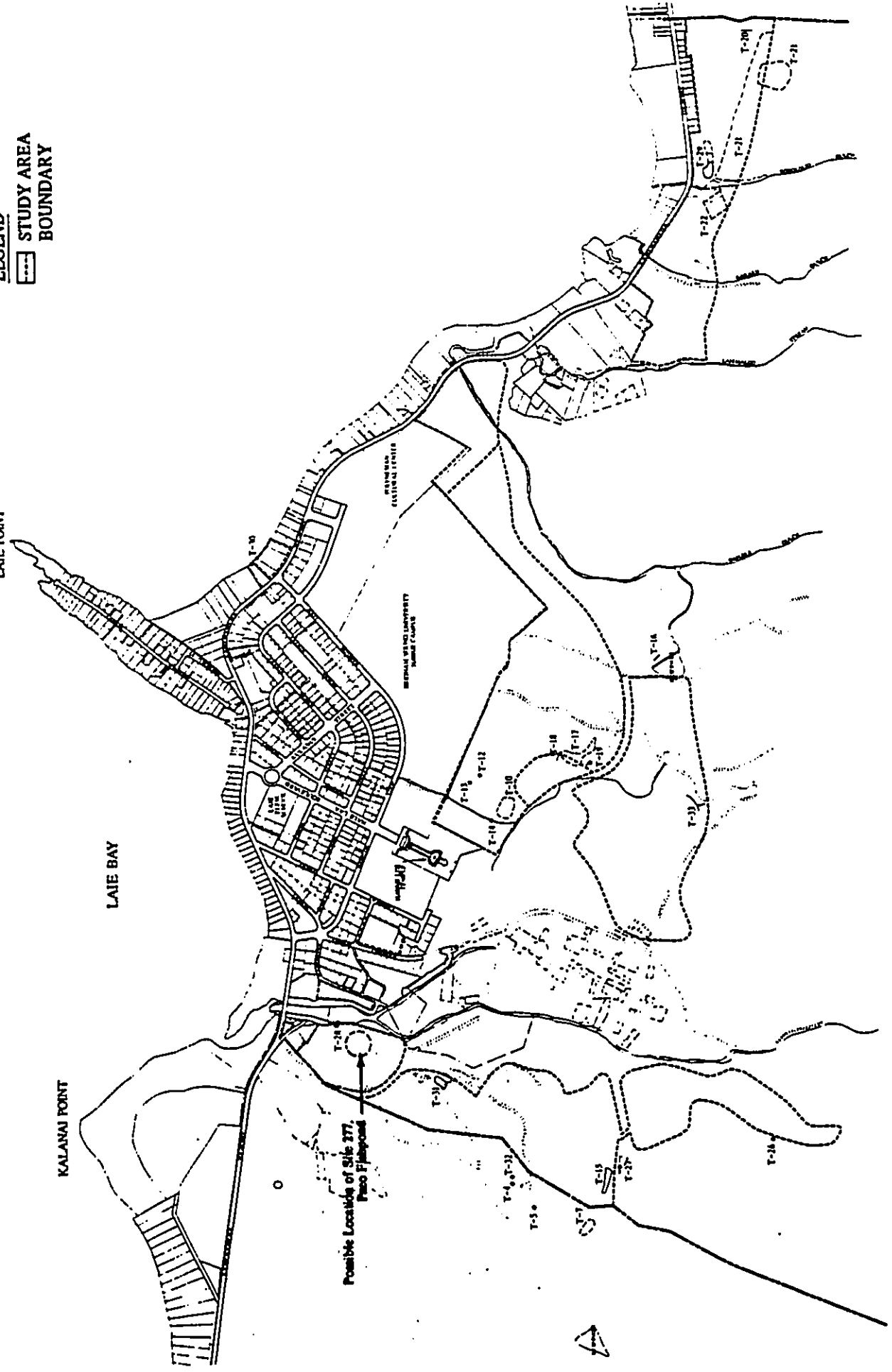
CLUBHOUSE

Source: PHRI Inc., April 1992



ARCHAEOLOGICAL RESOURCES SITES
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FIGURE 20



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adjacent to the project area. The sites are summarized in Table 6. The sites are in poor to good condition and consist of both single and multiple features. The subsurface testing within the project area yielded indigenous portable artifacts collected from the excavations, including basalt flakes and a possible *ulu maika* stone. In addition to the artifacts recovered during excavation, an *ulu maika* stone, a basalt bi-face, worked basalt and an adze were collected from the surfaces of sites. Detailed discussion of data analysis is included in Appendix J of this EIS.

Proposed BYU Mauka Residential Area: The BYU Mauka area contains only one archaeological site (T-33), which is an agricultural ditch/tunnel. The data collected from this site during the archaeological survey is considered sufficient recovery of significant information, and no further work is recommended.

Egg Farm Alternative Residential Site: The Egg Farm alternative residential area contains two archaeological sites. A small cemetery (T-31) is assessed as significant for information content and cultural value, and further data collection, followed by preservation "as is", is recommended. A possible agricultural complex (T-15) is significant for information content. There are several other sites in the vicinity of this area which will not be affected by the proposed development if properly surveyed and identified in the field prior to construction.

La'iemalo'o Alternative Residential Site: The La'iemalo'o alternative residential site contains four archaeological sites, including: a terrace wall (T-20), a multiple feature agricultural and habitation complex (T-21), a multiple feature agricultural complex (T-22), and a pond field complex (T-29). Two of these sites, T-21 and T-29, include possible prehistoric agricultural features and are assessed as significant for information content and cultural value.

Industrial Area (±2 acre site): One burial complex (T-28) was identified at the edge of Kahawainui Stream near the border of this proposed light industrial area. The site is assessed as significant for information content and cultural value. Earlier archaeological surveys describe a site, Paeo Fishpond (Site 277), as being in the vicinity of the proposed industrial area, but its exact location is unknown. It is possible that the fishpond was filled in by silt from flooding. Additionally, this general area is the site of a former City and County landfill. Paeo Fishpond is assessed as significant solely for information content even though it was not located during the current archaeological survey.

BYUH Expansion Area: Seven archaeological sites were identified in the BYUH Expansion area. Site T-12 is a possible habitation foundation and is assessed as significant for information content and possibly for cultural value, pending additional historical documentary research. Another site (T-17) is also possibly a habitation or temporary habitation and assessed as significant for information content and possibly significant for cultural value. The other five sites include: an agricultural complex (T-10), a modified outcrop (T-13), irrigation ditches (T-14, T-18), and a habitation complex (T-19).

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TABLE 6

SUMMARY OF IDENTIFIED SITES AND FEATURES

Site/Feature Number	Formal Site/Feature Type	Tentative Functional Interpretation	CRM Value Mode Assess.			Field Work Tasks		
			R	I	C	DR	SC	EX
4454 (T-10)	Complex (32)**	Agriculture	M	L	L	-	-	-
A	Wall							
B	Terrace							
C	Wall Segment							
D	Enclosure							
E	Wall Remnant							
F	Terrace							
G	Enclosure							
H	Wall Remnant (2)							
I	Circular Alignment							
J	Circular Alignments (16)							
K	Rubble Concentration							
L	Mound							
M	Circular Alignment							
N	Terrace							
O	Paved Area							
P	Modified Bedrock							
4455 (T-12)	Foundation	Possible Habitation	M	L/HL/H		+	-	+
4456 (T-13)	Modified Bedrock	Dozer Push	L	L	L	-	-	-
4457 (T-14)	Ditch	Irrigation	L	L	L	+	-	-
4458 (T-17)	Complex (19)	Multiple	H	L/HL/H		+	+	+
A	Overhang	Temporary Habitation						
B	Modified Crevice	Temporary Habitation						
C-E1	Overhang	Temporary Habitation						
E2	Cave	Possible Burial						
E3	Cupboard	Storage						
F	Modified Crevice	Temporary Habitation						
G1	Retaining Wall	Possible Agriculture						
G2	Wall	Possible Agriculture						
H	Wall	Boundary						
I	Wall	Boundary						
J	Overhang	Possible burial						
K	Overhang	Temp. Hab. - Poss. Burial						
K2	Modified Crevice	Temporary Habitation						
L	Cave	Possible Storage Area						
M	Wall	Possible Habitation						
N	Overhang	Temporary Habitation						
O	Paved Area	Indeterminate						

SIHP (State Inventory of Historic Places). SIHP numbers are five-digit numbers prefixed by 50-80-02 (50=State of Hawaii; 80=Island of Oahu; 02=USGS 7.5' series quad map ["Kahuku, Hawaii"]). SIHP numbers are immediately followed by PHRI temporary site numbers, (T-).

CRM (Cultural Resource Management)

Value Mode Assessment—Nature: R = scientific research, I = interpretive, C = cultural
 —Degree: H = high, M = moderate, L = low

Field Work Tasks: DR = detailed recording (scaled drawings, photographs, and written descriptions), SC = surface collections, EX = limited excavations.

**Number of component features within complex.

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TABLE 6 (continued)

SUMMARY OF IDENTIFIED SITES AND FEATURES

Site/Feature Number	Formal Site/Feature Type	Tentative Functional Interpretation	CRM Value Mode Assess.			Field Work Tasks		
			R	I	C	DR	SC	EX
4459 (T-18)	Ditch	Irrigation	M	L	L	-	-	-
4460 (T-19)	Complex (5+) Terraces & Paved Areas	Habitation	H	L	L	+	+	+
4461 (T-20)	Terrace-Wall	Erosion Control-Fenceline	M	L	L	-	-	-
4462 (T-21)	Complex (21+)	Multiple	H	M	L	+	+	+
A	Retaining Wall	Agriculture						
B	Terrace	Agriculture						
C	Retaining Wall	Agriculture						
D-F	Ditch	Irrigation						
G	Terrace	Possible Habitation						
H-J	Terrace	Agriculture						
K	Terrace	Habitation						
L	Terrace	Agriculture						
M	Wall	Erosion Control						
N	Terrace-Wall	Agriculture						
O	Terrace(2)	Agriculture						
P	Terrace(3)	Agriculture						
Q	Enclosure	Indeterminate						
R	Overhang	Temporary Habitation						
4463 (T-22)	Complex (8)	Multiple	M	L	L	+	-	+
A	Wall	Agriculture						
B	Retaining Wall	Agriculture						
C	Retaining Wall	Agriculture						
D	Ditch	Irrigation						
E	Soil Berm	Erosion Control-Fenceline						
F	Retainingwall	Erosion Control						
G	Ditch	Irrigation						
H	Retaining Wall	Agriculture						
4464 (T-26)	Complex (2)	Habitation	M	L	L	+	-	+
A	Terrace							
B	Modified Bedrock							
4465 (T-28)	Complex (19)	Burial	H	H	H	+	-	-
A	Platform (2)							
B	Mound (17)							
4466 (T-29)	Complex (3)	Agriculture	M	L/H	L/H	+	-	+
A-C	Pond Field							
4467 (T-30)	Subsurface Deposit	Possible Habitation	M	L	L	-	-	+
4468 (T-31)	Cemetery	Burial	H	H	H	+	-	-
4469 (T-32)	Upright Stone	Marker	M	L	L	-	-	-
4470 (T-33)	Ditch-Tunnel	Irrigation	M	L	L	-	-	-

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TABLE 6 (continued)
 SUMMARY OF IDENTIFIED SITES AND FEATURES

Site/Feature Number	Formal Site/Feature Type	Tentative Functional Interpretation	CRM Value Mode Assess.			Field Work Tasks		
			R	I	C	DR	SC	EX
SITES LOCATED OUTSIDE OF PROJECT AREA								
4471 (T-04) A B	Complex (2) Mound Paved Area	Agriculture	M	L	L	+	-	+
4472 (T-07)	Cave	Temporary Habitation-Burial	H	M	H	+	+	+
4473 (T-15) A B C D	Complex (4) Retaining Wall Enclosure Wall Wall	Multiple Possible Agriculture Possible Agriculture Indeterminate Indeterminate	M	L	L	+	-	+
4474 (T-16) A-C	Complex (3) Retaining Wall	Erosion Control	M	L	L	+	-	-
4475 (T-27) 4093 (T-05)	Retaining Wall Ditch-Tunnel	Agriculture Irrigation	L M	L L	L L	- +	- -	- +

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Dale L. Berge, Professor of Anthropology at Brigham Young University in Provo, Utah, mentions in recent correspondence that in 1984 he "partially excavated the remains of the La'ie Plantation sugar mill and discovered an ancient Hawai'ian site nearby." In addition to the mill, Berge mentions he found *heiau* walls and a fishpond located "just north of the sugar mill site." During the current survey no evidence of the sugar mill site was visible in the area indicated; the excavations were apparently backfilled. In regards to the "ancient Hawai'ian site", it appears to be the site identified during the current survey as Site 4458, but the artifacts described by Berge were not observed. As for the "rock walls of a *heiau* and a fishpond", no positive correlations can be made between those sites and the current sites until more detailed information is received. The applicant will coordinate its research on historic sites with Berge as more information is made available.

Resort: A site (T-30) near the north-east corner of this parcel's shoreline was assessed as important for information content, with further data collection necessary.

Significance Assessments: General significance assessments and recommended general treatments for all identified sites are summarized in Table 7. Of the twenty-three sites surveyed by PHRI, sixteen are assessed as significant under Criterion D of the National Register criteria. Ten of these sites are located within DP Amendment request areas. Criterion D is defined as significant resources which have yielded, or may be likely to yield, information important in pre-history or history. Paeo Fishpond (Site 277) is also assessed as significant solely for information content even though it was not located during the current survey. The significance assessments are currently under review by DLNR.

B. Anticipated Impacts

Figure 20 shows the relationship of the identified archaeological sites with the requested DP Amendment areas and the two alternative residential sites. Ten of the twenty-three sites found in this study lie within proposed Development Plan Amendment areas. Archaeological features would be affected at all of these sites. Of these ten sites, five (T-10, 13, 14, 18, 33) were assessed as significant for information content only; no further work is necessary. Further data collection is recommended at the other five sites (T-12, 17, 19, 28, 30) followed by preservation "as is" for site T-28. Sites T-12 and T-17 are provisionally recommended for preservation; a definite assessment will be determined following the results of further data collection. All ten sites would be affected by the projects either directly or indirectly. The proposed BYU Mauka residential area has only one site (T-33), an agricultural ditch/tunnel. It is assessed as important for information content only, with no further data collection necessary. The BYUH Expansion area may affect two culturally significant sites at T-12 and T-17. Burials at the proposed Industrial Area (T-28) are assessed as culturally significant and further data collection is necessary. However, development of this area will not directly affect the burials and they will be preserved in-situ.

Six of the twenty-three archaeological sites lie within the two alternative residential areas. Of these six sites, one (T-20) was assessed as significant for information content

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TABLE 7

SUMMARY OF GENERAL SIGNIFICANCE ASSESSMENTS
 AND RECOMMENDED GENERAL TREATMENTS

SIHP Site Number	Significance Category				Recommended Treatment			
	A	X	B	C	FDC	NFW	PID	PAI
● 4454 (T-10)	-	+	-	-	-	+	-	-
● 4456 (T-13)	-	+	-	-	-	+	-	-
● 4457 (T-14)	-	+	-	-	-	+	-	-
● 4459 (T-18)	-	+	-	-	-	+	-	-
4461 (T-20)	-	+	-	-	-	+	-	-
4469 (T-32)	-	+	-	-	-	+	-	-
4470 (T-33)	-	+	-	-	-	+	-	-
● 4475 (T-27)	-	+	-	-	-	+	-	-
Subtotal: 8	0	8	0	0	0	8	0	0
277	+	-	-	-	+	-	-	-
4093 (T-5)	+	-	-	-	+	-	-	-
● 4460 (T-19)	+	-	-	-	+	-	-	-
4463 (T-22)	+	-	-	-	+	-	-	-
4464 (T-26)	+	-	-	-	+	-	-	-
● 4467 (T-30)	+	-	-	-	+	-	-	-
4471 (T-4)	+	-	-	-	+	-	-	-
4473 (T-15)	+	-	-	-	+	-	-	-
4474 (T-16)	+	-	-	-	+	-	-	-
Subtotal: 9	9	0	0	0	9	0	0	0
● 4465 (T-28)	+	-	-	+	+	-	-	+
4468 (T-31)	+	-	-	+	+	-	-	+
4472 (T-7)	+	-	-	+	+	-	-	+
Subtotal: 3	3	0	0	3	3	0	0	3
4462 (T-21)	+	-	*	-	+	-	*	-
4466 (T-29)	+	-	*	-	+	-	*	-
Subtotal: 2	2	0	2	0	2	0	2	0
● 4455 (T-12)	+	-	-	*	+	-	*	-
Subtotal: 1	1	0	0	1	1	0	1	0
● 4458 (T-17)	+	-	-	*	+	-	-	*
Subtotal: 1	1	0	0	1	1	0	0	1
Total: 23	15	8	2	5	16	8	3	4

General Significance Categories:

- A=Important for information content, further data collection necessary (CRM value mode assessment = scientific research value);
- X=Important for information content, no further data collection necessary (CRM value mode assessment = scientific research value);
- B=Excellent example of site type at local, regional, island, State, or National level (CRM value mode assessment = interpretive value);
- C=Culturally significant (CRM value mode assessment = cultural value).

Recommended General Treatments:

- FDC=Further data collection necessary (further survey and testing, and possibly subsequent data recovery/mitigation excavations);
- NFW=No further work of any kind necessary, sufficient data collected, archaeological clearance recommended, no preservation potential (possible inclusion into landscaping suggested for consideration);
- PID=Preservation with some level of interpretive development recommended (including appropriate related data recovery work); and
- PAI=Preservation "as is," with no further work (and possible inclusion into landscaping), or minimal further data collection necessary.

*Provisional assessment; definite assessment pending results of further data collection.

● = Site is within DP Amendment request area.

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only; further data collection is recommended at the other five sites (T-15, 21, 22, 29, 31). The larger number of significant sites (four) would be affected at the La'iemalo'o alternative residential site (T-20, 21, 22, 29). Burials at the Egg Farm residential alternative site (T-31) would not directly be affected by development and would be preserved in-situ.

C. Mitigative Measures

Several mitigative measures have been proposed to minimize potential impacts to archaeological resources.

Data Recovery and Mitigation Plan: Significant sites will undergo data recovery or be preserved following DLNR-HPD recommendations. Once it is agreed which sites will be preserved and data recovered, the DLNR-HPD will require the approval and successful execution of a detailed mitigation plan. The detailed plan will be submitted to the DLNR-HPD at a future date. It will include a preservation plan and a data recovery plan.

Preservation: Within the proposed Industrial area, the complex/burial (T-28) will also be preserved in accordance with DLNR-HPD recommendations. Pending the results of further data collection, Sites T-12 and T-17 within the BYUH expansion area may be preserved as is. Should the Egg Farm alternative residential area be approved for residential development, the cemetery/burial (T-31) will be preserved, as recommended. Sites T-21 and T-29 in the La'iemalo'o alternative residential area may also be preserved "as is" with the potential for interpretive development.

Data Collection: Further data collection is proposed for two identified archaeological sites within the requested DP Amendments area: T-19, and T-30; and two sites within the alternative residential areas: T-15 and T-22, including further surveys, testing and possibly subsequent data recovery (Figure 20).

4.12 ROADWAYS AND TRAFFIC

This section includes a description of the existing roadways and traffic conditions within the requested DP Amendment Areas (the study area) and the surrounding La'ie community. The potential impact of the required amendments on future traffic conditions is presented, as well as the recommended mitigative measures to minimize effects on traffic and transportation. A detailed Traffic Impact Analysis was prepared for the project by The Traffic Management Consultant (TMC, January 1992). A summary of this report is included in this section, and the entire report is included as Appendix K.

A. Existing Conditions

The study area is comprised of several proposed development sites within the La'ie community. Study area sites are generally located on the *mauka* side of Kamehameha Highway between Malaekahana State Park and Kakela/Kokololio park, as referenced in Figure 6. The proposed resort amenities site is located *makai* of Kamehameha Highway near the Laniloa Lodge.

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Roadway Conditions: Kamehameha Highway is a two lane, two way arterial highway that provides regional access to the study area. The highway is paved, 22-foot wide, with unpaved shoulders in some locations. The two proposed commercial areas, the resort area, PCC Expansion, and the La'iemalo'o residential area alternative are all adjacent to and take access from the highway.

A number of roadways intersect the highway providing access to various study area sites. The unpaved Egg Farm road is the most northerly access to the study area and currently provides access to the existing Cackle Fresh egg farm and at least two parcels owned by others. Naniloa Loop has two junctions with Kamehameha Highway, providing access to the existing La'ie residential area and La'ie Elementary School. Hale La'a Boulevard is a divided roadway that provides access to the Mormon Temple and the surrounding residential area. The Polynesian Cultural Center has three access driveways leading to the main parking lot. The main access driveway (center) has provisions for exclusive left and right turn lanes on Kamehameha Highway in the north-bound and south-bound directions. None of these intersections with Kamehameha Highway are signalized.

Public transit service is available on Kamehameha Highway. Several bus stops are located along Kamehameha Highway through the study area.

Observed Traffic Conditions: A field investigation was conducted in November, 1991 and January, 1992. Manual traffic counts were taken by TMC during the weekday morning peak period (between 6:30 am and 8:30 am), during the weekday evening peak period (between 3:30 p.m. and 5:30 p.m.), and during the weekend peak period (Saturday between 1:00 p.m. and 3:00 p.m.). The traffic counts were taken at seven key intersections of Kamehameha Highway and study area access roads at: Cackle Fresh Egg Farm, Naniloa Loop (north and south ends), Hale La'a Boulevard, and PCC (three access driveways). The resulting data showed greater Saturday afternoon peak hour traffic volumes than the weekday peak periods. During the Saturday afternoon peak hour, a total of 1,143 vehicles were recorded in both directions along Kamehameha Highway just south of PCC, in comparison to 994 vehicles during the weekday afternoon peak hour.

Kamehameha Highway is also traveled by island-tour buses and by tour-buses which transport visitors to the Polynesian Cultural Center from Waikiki or other hotel/resort centers. An average of 30 buses and 15-20 mini-buses deliver visitors to PCC to the regular evening show. The buses return at approximately 9:00 p.m. when the evening show ends, during a non-peak traffic period (Mr. Alfred Grace, PCC).

Existing Level-of-Service: Seven intersections of Kamehameha Highway with La'ie access roads or driveways were analyzed to determine existing Level-of-Service (LOS) conditions for turning movements onto the highway. Table 8 presents Level-of-Service ratings under current conditions. Levels-of-Service are poorest (LOS E) for left turn movements onto Kamehameha Highway during the weekday morning

See revised Table

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TABLE 8
 KAMEHAMEHA HIGHWAY INTERSECTION TURNING MOVEMENTS
 LEVEL-OF-SERVICE

BYUH Vicinity			Existing 1991/1992			2004 without Project			2004 with BYU Mauka			2004 with BYU Mauka, fewer golf courses			2004 with Egg Farm			2004 with Laiemalo'o		
			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat
Egg Farm Rd	Kahuku-Bd	LT	A	A	B	D	E	E	E	E	E	E	E	E	F	F	F	E	E	E
	Kaneohe-Bd	RT	A	A	B	D	E	E	C	D	C	C	D	C	D	D	D	C	D	C
	Kam Hwy	LT				B	B	B	C	B	C	C	B	C	D	C	D	C	C	C
Naniloa Lp. (north)	Kahuku-Bd	LT	D	C	D	F	E	E	F	F	F	F	F	F	F	E	E	F	E	E
	Kaneohe-Bd	RT	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Kam Hwy	LT							C	C	C	B	C	C	C	C	C	C	C	C
Hale Laa Blvd	Kahuku-Bd	LT	E	D	D	F	E	E	F	E	E	F	E	E	F	E	E	F	E	E
	Kaneohe-Bd	RT	A	A	A	D	C	C	D	D	D	D	C	C	D	D	D	D	D	D
	Kam Hwy	LT				D	C	B	D	C	C	D	C	C	D	D	C	D	D	C
Naniloa Lp. (south)	Kahuku-Bd	LT	B	D	C	E	E	E	E	F	E	E	E	E	E	F	E	E	E	E
	Kaneohe-Bd	RT	B	D	C	C	C	D	C	D	D	C	C	D	C	C	D	C	D	D
	Kam Hwy	LT				B	C	C	B	D	C	B	D	C	B	D	D	C	D	D
Percent Highway Capacity			42-48%	40-49%	52%	66-76%	69-73%	74%	72-84%	77-78%	77-83%	69-82%	77-81%	75-86%	80-86%	82-86%	85-86%	79-84%	78-81%	83%
PCC Vicinity			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat
PCC North	Kahuku-Bd	LT	C	C	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Kaneohe-Bd	RT	A	A	A	B	C	C	B	C	C	B	C	C	B	C	D	B	C	D
	Kam Hwy	LT				A	B	B	A	B	C	A	B	B	A	C	C	A	C	C
PCC Main driveway	Kahuku-Bd	LT	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Kaneohe-Bd	RT	A	A	A	A	A	B	A	B	B	A	B	B	A	B	B	A	B	B
	Kam Hwy	LT	A	A	A	A	B	C	A	C	D	A	C	C	A	C	D	A	C	D
PCC South driveway	Kahuku-Bd	LT	C	C	C	D	E	D	D	E	D	D	E	D	D	E	E	D	E	E
	Kaneohe-Bd	RT	C	C	C	D	E	D	D	E	D	D	E	D	D	E	E	D	E	E
	Kam Hwy	LT				A	B	C	A	C	C	A	C	C	B	C	C	B	C	C
Project Access	Kahuku-Bd	LT							E	E	E	E	E	E				F	E	F
	Kaneohe-Bd	RT							B	D	D	B	D	D				C	D	D
	Kam Hwy	LT							A	C	D	A	C	C				B	D	D
Percent Highway Capacity			60%	53%	62%	67%	73%	80%	72%	78%	84%	69%	77%	82%	77%	84%	93%	77%	85%	90%

Abbreviations:
 Bd. = Bound
 LT = Left Turn
 RT = Right Turn

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TABLE 8

KAMEHAMEHA HIGHWAY INTERSECTION TURNING MOVEMENTS
 LEVEL-OF-SERVICE

BYUH Vicinity			2004 with BYU Mauka & DP approved projects only																	
			Existing 1991/1992			2004 without Project			2004 with BYU Mauka			2004 with Egg Farm			2004 with Lalemalo'o					
			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat
Egg Farm Rd	Kahuku-Bd	LT	A	A	B	D	E	E	E	E	E	E	E	E	F	F	F	E	E	E
	Kaneohe-Bd	RT	A	A	B	D	E	E	C	D	C	C	D	C	D	D	D	C	D	C
	Kam Hwy	LT				B	B	B	C	B	C	C	B	C	D	C	D	C	B	C
Naniloa Lp. (north)	Kahuku-Bd	LT	D	C	D	F	E	E	F	F	F	F	F	F	F	E	E	F	E	E
	Kaneohe-Bd	RT	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Kam Hwy	LT				B	B	B	C	C	C	B	C	C	C	C	C	C	C	C
Hale Laa Blvd	Kahuku-Bd	LT	E	D	D	F	E	E	F	E	E	F	E	E	F	E	E	F	E	E
	Kaneohe-Bd	RT	A	A	A	D	C	C	D	D	D	D	C	C	D	D	D	D	D	D
	Kam Hwy	LT				D	C	B	D	C	C	D	C	C	D	D	C	D	D	C
Naniloa Lp. (south)	Kahuku-Bd	LT	B	D	C	E	E	E	E	F	E	E	E	E	E	F	E	E	E	E
	Kaneohe-Bd	RT	B	D	C	C	C	D	C	D	D	C	C	D	C	C	D	C	D	D
	Kam Hwy	LT				B	C	C	B	D	C	B	D	C	B	D	D	C	D	D
Percent Highway Capacity			42- 48%	40- 49%	52%	66- 76%	69- 73%	74%	72- 84%	77- 78%	77- 83%	69- 82%	77- 81%	75- 81%	80- 86%	82- 84%	85- 86%	79- 84%	78- 81%	83%

PCC Vicinity

			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat
PCC North	Kahuku-Bd	LT	C	C	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Kaneohe-Bd	RT	A	A	A	B	C	C	B	C	C	B	C	C	B	C	D	B	C	D
	Kam Hwy	LT				A	B	B	A	B	C	A	B	B	A	C	C	A	C	C
PCC Main driveway	Kahuku-Bd	LT	D	D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Kaneohe-Bd	RT	A	A	A	A	A	B	A	B	B	A	B	B	A	B	B	A	B	B
	Kam Hwy	LT	A	A	A	A	B	C	A	C	D	A	C	C	A	C	D	A	C	D
PCC South driveway	Kahuku-Bd	LT	C	C	C	D	E	D	D	E	D	D	E	D	D	E	E	D	E	E
	Kaneohe-Bd	RT	C	C	C	D	E	D	D	E	D	D	E	D	D	E	E	D	E	E
	Kam Hwy	LT				A	B	C	A	C	C	A	C	C	B	C	C	B	C	C
Project Access	Kahuku-Bd	LT							E	E	E	E	E	E				F	E	F
	Kaneohe-Bd	RT							B	D	D	B	D	D				C	D	D
	Kam Hwy	LT							A	C	D	A	C	C				B	D	D
Percent Highway Capacity			60%	53%	62%	67%	73%	80%	72%	78%	84%	69%	77%	82%	77%	84%	93%	77%	85%	90%

Abbreviations:
 Bd. = Bound
 LT = Left Turn
 RT = Right Turn

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peak period at the intersection of Hale La'a Boulevard, and during the Saturday peak period at the

intersection of the PCC main driveway. Of the 45 intersection turning movements observed at the seven key intersections (during the AM, PM and Saturday peak-hour time periods), 43 intersection movements currently operate at LOS D or better.

B. Anticipated Impacts

Analysis Methodology: The focus of the traffic impact analysis was to determine the impact of the project-generated traffic at the seven key intersections of Kamehameha Highway in La'ie. Forecasts were made for the weekday morning, weekday afternoon, and Sunday afternoon peak hours.

The estimated traffic is calculated by adding the expected project traffic to the estimates of future traffic on Kamehameha Highway. The key intersections of Kamehameha Highway were then analyzed for conditions with and without the project-generated traffic. The traffic projections are made for the year 2004, although it is expected that the majority of the DP Amendment Request Area parcels will be developed earlier (Table 9).

A factor which causes the TMC traffic impact analysis to represent an overly conservative prediction is the fact that many residents of La'ie will work at the Kuilima Resort and the new golf courses in the area. Each of the traffic studies for these new developments have accounted for worker vehicle trips to and from all of the windward coast communities. In addition, a portion of the visitor traffic to PCC is expected to originate from the Laniloa Lodge or Kuilima Resort. The traffic analysis for the La'ie DP Amendments includes the predicted vehicle trips from these previous traffic studies plus it adds vehicles from the new La'ie residential area. This results in a double-counting of the La'ie residents who will commute to work at the new developments to the north and some of the tourist trips.

Future Ambient Traffic: The expansion of the Kuilima Resort, other known projects within the Ko'olauloa District, and projected growth throughout the island are all expected to contribute to an increase in ambient (background) traffic on Kamehameha Highway within the study area. Future ambient traffic for the study area (2004) was calculated assuming full development of the Kuilima Resort, two 18-hole golf courses at Malaekahana and three 18-hole golf courses in Kahuku (Punamano Golf Courses). Traffic generation resulting from the development of the golf courses and the Kuilima Resort were adapted from the traffic reports in EIS documents for each of these projects (Kuilima Resort Co., 1989; Estate of James Campbell, 1990).

In addition to the future projects mentioned above, an ambient traffic forecast was developed to establish the base line 2004 highway traffic volumes without the proposed La'ie DP Amendment projects. A rate of 2.9 percent per year through-traffic increase on Kamehameha Highway was forecast.

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TABLE 9
TRIP GENERATION SUMMARY

Analysis Period	Land Use	Single-Family Residential	Residential Apartment	Egg Farm Industrial	Wahinepee Industrial	PCC Expansion	Traffic Generation Totals
	Indep. Var.	350 - 360 Dwelling Units	90 - 100 Dwelling Units	209,000 SF GFA	26,000 SF GFA	21 Acres	
Weekday AM Peak Hour (vph)	Enter	62 - 64	8 - 9	131	20	36	257 - 260
	Exit	177 - 181	39 - 44	27	4	28	275 - 284
	Total	239 - 245	47 - 53	158	24	64	532 - 544
Weekday PM Peak Hour (vph)	Enter	217 - 223	39 - 43	16	3	48	323 - 333
	Exit	117 - 120	19 - 20	120	23	58	337 - 341
	Total	334 - 343	58 - 63	136	26	106	660 - 674
Sat Peak Hour (vph)	Enter	176 - 181	26 - 28	14	2	107	324 - 332
	Exit	150 - 154	26 - 28	16	2	56	250 - 256
	Total	326 - 335	52 - 56	30	4	163	575 - 588

Notes:

1. Vehicles per hour is abbreviated: (vph).
2. Industrial Area assumptions are based upon Square Feet of Gross Floor Area, abbreviated: SF GFA.

Source: The Traffic Management Consultant, January, 1992.

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Although the new developments outside of La'ie are assumed to be completed for the purpose of projecting future traffic in La'ie, it should be noted that recent delays in the Kuilima Resort project are expected to postpone project completion until 2010. Including traffic from full development of Kuilima Resort by 2004 is another conservative assumption included in the TMC analysis, resulting in analysis of the worst-case 2004 traffic conditions. Additionally, none of the five proposed golf courses in this area have received any of the required State or City and County entitlements for development, and further approvals for the golf projects are not being pursued at this time. Ambient traffic levels projected for 2004 in this report should be considered in light of the conservative assumptions described above. For comparative purposes, an additional analysis was conducted for 2004 traffic with development of the proposed BYU Mauka residential area, including ambient traffic from Kuilima Resort, but excluding proposed projects which are not on the DP Land Use Map (i.e. Malaekahana and Punamano golf courses). Details of the determination of future ambient traffic are included in Appendix K.

Trip Generation: An estimate of future traffic generated by the requested DP Amendments was derived based upon the nature of the land uses proposed. Estimates of the number of vehicles entering and exiting each of the DP Amendment request areas were made based upon data published in "Trip Generation" (Fifth Edition), developed by the Institute of Transportation Engineers, 1991. Table 9 shows the breakdown of vehicle trips generated by the requested DP Amendments which are expected to generate traffic. Given the scope and nature of the land uses proposed, the proposed sites for Commercial, Resort, Park and Public Facilities designations are not expected to generate any substantial additional vehicular traffic.

The size of the theatre at PCC is not planned to increase with the DP Amendments, so the number of buses on the highway at the peak time of 9:00 p.m. when the evening show ends is not expected to increase. The number of "motor coaches" attending the evening show has declined over recent years, however, there has been an increase in the number of mini-buses and rental cars. This trend is expected to continue, which will tend to minimize any future increase in the number of buses serving the evening show.

Traffic Assignment: Traffic assignment is the process by which vehicle trips are assigned to the roadway network in the project area. Traffic from the study area was assigned to Kamehameha Highway, which is the only major access to La'ie and connection to the major population centers. From the assignment of vehicles to the local roads, traffic forecasts can be evaluated for various intersections of Kamehameha Highway. Generally, the traffic assignment was based upon existing conditions, however, some adjustment was made to reflect the development of the Kuilima Resort as a visitor traffic origin and employee traffic destination.

The proposed BYU Mauka residential area will contribute a large percentage of the vehicle trips generated by the DP Amendments (Table 9). It was assumed that approximately 50 percent of the residents at this new housing area would be employees

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Although the new developments outside of La'ie are assumed to be completed for the purpose of projecting future traffic in La'ie, it should be noted that recent delays in the Kuilima Resort project are expected to postpone project completion until 2010. Including traffic from full development of Kuilima Resort by 2004 is another conservative assumption included in the TMC analysis, resulting in analysis of the worst-case 2004 traffic conditions. Additionally, none of the five proposed golf courses in this area have received any of the required State or City and County entitlements for development, and further approvals for the golf projects are not being pursued at this time. Ambient traffic levels projected for 2004 in this report should be considered in light of the conservative assumptions described above. For comparative purposes, an additional analysis was conducted for 2004 traffic with development of the proposed BYU Mauka residential area but excluding development of two proposed 18-hole golf courses at Malaekahana and three proposed 18-hole golf courses in Kahuku (Punamano Golf Courses). Details of the determination of future ambient traffic are included in Appendix K.

Trip Generation: An estimate of future traffic generated by the requested DP Amendments was derived based upon the nature of the land uses proposed. Estimates of the number of vehicles entering and exiting each of the DP Amendment request areas were made based upon data published in "Trip Generation" (Fifth Edition), developed by the Institute of Transportation Engineers, 1991. Table 9 shows the breakdown of vehicle trips generated by the requested DP Amendments which are expected to generate traffic.

Given the scope and nature of the land uses proposed, the proposed sites for Commercial, Resort, Park and Public Facilities designations are not expected to generate any substantial additional vehicular traffic.

The size of the theatre at PCC is not planned to increase with the DP Amendments, so the number of buses on the highway at the peak time of 9:00 p.m. when the evening show ends is not expected to increase. The number of "motor coaches" attending the evening show has declined over recent years, however, there has been an increase in the number of mini-buses and rental cars. This trend is expected to continue, which will tend to minimize any future increase in the number of buses serving the evening show.

Traffic Assignment: Traffic assignment is the process by which vehicle trips are assigned to the roadway network in the project area. Traffic from the study area was assigned to Kamehameha Highway, which is the only major access to La'ie and connection to the major population centers. From the assignment of vehicles to the local roads, traffic forecasts can be evaluated for various intersections of Kamehameha Highway. Generally, the traffic assignment was based upon existing conditions, however, some adjustment was made to reflect the development of the Kuilima Resort as a visitor traffic origin and employee traffic destination.

The proposed BYU Mauka residential area will contribute a large percentage of the vehicle trips generated by the DP Amendments (Table 9). It was assumed that approximately 50 percent of the residents at this new housing area would be employees

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of PCC, BYUH, Laniloa Lodge or the Industrial site (near cemetery); therefore, a significant portion of vehicle trips will be captured on internal roads serving the employment centers. These vehicle trips would not involve Kamehameha Highway and, therefore, would not affect local highway traffic flow. For this analysis, all vehicle trips generated by the Egg Farm and La'iemalo'o alternative residential sites are assigned to Kamehameha Highway and it is also assumed that approximately 50 percent of the residents would be employees of PCC, BYUH, Laniloa Lodge or the Industrial site (near cemetery).

Construction Traffic Impacts: Traffic volumes in La'ie will increase slightly as a result of construction-related traffic. An estimated average of 100 on-site construction jobs will be generated during the initial years of construction, tapering-off to 40 jobs during the latter portion of the build-out period. Since projects of the subject DP Amendment request areas are dispersed throughout La'ie, and will be developed over a 10-year period, it is expected that construction-related traffic impacts will be minimal. The use of company vans and trucks to carry workers to the job site will further minimize impacts. Trucks and heavy equipment will be scheduled to travel to and from construction sites during non-peak hours and be assisted by special duty police officers to off-set the potential impact on commuter traffic.

2004 Traffic Projection Without the DP Amendments: Visitor industry projects and proposed golf courses within the region are the primary contributors to the projected ambient level traffic increase between 1991 and 2004 in this study. As indicated in Table 8, peak hour traffic (measured by volume-to-capacity ratios) along Kamehameha Highway is projected to increase from 40 to 62 percent of highway capacity to between 66 and 80 percent of capacity in 2004 without the proposed DP Amendments. This analysis assumes that the background traffic levels include the maximum build-out projections for the Kuilima Resort, which is unlikely to occur by 2004 due to project delays. A long-term increase in regional traffic volumes is anticipated by the State Department of Transportation. During the next 10 years, anticipated modest improvements to Kamehameha Highway in this region (addition of proper width paved road shoulders) are expected to bring the highway up to minimum design standards. Paved road shoulders will improve traffic flow and Levels-of-Service for through-traffic along the highway.

Without the DP Amendments, LOS F (over capacity) is projected during the AM peak hour periods for two left turn movements onto the highway in the BYUH vicinity, specifically at the north junction of Naniloa Loop and at Hale La'a Boulevard (Kahuku bound). As traffic increases in the future, it will take longer to execute left turns onto and off of Kamehameha Highway.

2004 Traffic Projection With the DP Amendments: The traffic assessment evaluates the combined impacts of the requested DP Amendments, examining the proposed BYU Mauka residential area and the two residential alternatives separately. The analysis assumes that modest State highway improvements (shoulder widening) are completed.

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Future (2004) traffic volumes along Kamehameha Highway will increase from the projects built as a result of the DP Amendments. As compared to 2004 traffic without these projects, Kahuku-bound peak hour volumes with the projects are projected to increase by 12 to 13 percent. Hau'ula-bound peak hour volumes are projected to increase by 12 to 15 percent with the projects, as compared to 2004 traffic without the projects. This increase in future traffic volume will result regardless of which residential alternative is selected. The proposed BYU Mauka residential area will direct much of its traffic toward the south end of the La'ie community, which accounts for the anticipated very low contribution (four percent) of traffic on the highway segment near PCC in the year 2004.

The results indicate that traffic in general along Kamehameha Highway will be primarily affected by future increase in ambient traffic between 1992 and 2004. The additional traffic generated by the projects at the DP Amendment request areas will be mitigated through intersection improvements, as described below.

The impact of the requested DP Amendments on turning movement LOS at the key intersections with Kamehameha Highway varies depending upon the location of the residential area. Table 8 includes the impact for the proposed BYU Mauka residential area as well as the two alternative sites. A summary of traffic conditions associated with the proposed residential area and the two alternative sites follows.

Proposed BYU Mauka Residential Area. Traffic projections with this proposed residential area indicate that left turn movements onto the highway are expected to operate at LOS F at Naniloa Loop (north) during all peak periods, at Naniloa Loop (south) during the PM peak period, and at Hale La'a Boulevard (Kahuku bound) during the AM peak period. A modified traffic projection for this proposed residential area which excludes the traffic from five proposed golf courses at Malaekahana and Kahuku indicates that left turn movements would operate slightly better for some turning movements. Volume to capacity ratios for Kamehameha Highway intersections are projected to range from 69 to 84 percent.

Egg Farm Residential Alternative. Under this scenario, LOS F is projected during peak period for left turn movements onto Kamehameha Highway from the Egg Farm road (project access road), Naniloa Loop (north and south), and Hale La'a Boulevard. This results from a combination of projected residential and industrial area traffic. Volume to capacity ratios for Kamehameha Highway intersections are projected to range from 77 to 93 percent.

La'iemalo'o Residential Alternative. Under this scenario, LOS F is projected at weekday morning and Saturday peak period left-turn movements onto the highway from the project access road, and at Naniloa Loop (north) and Hale La'a Boulevard during the AM peak period. Volume to capacity ratios for Kamehameha Highway are projected to range from 77 to 90 percent.

The proposed BYU Mauka residential area will be slightly less disruptive to traffic conditions on Kamehameha Highway within the study area than either of the two

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residential alternative sites. As shown in Table 8, Traffic Level-of-Service Analysis, intersections at Hale La'a Boulevard, PCC North and PCC South Driveways all operate slightly better during certain peak periods with the proposed BYU Mauka residential area. In addition, volume to capacity ratios are approximately five to ten percent lower for most intersections in Laie with the proposed BYU Mauka residential area. A large percentage of traffic generated by this residential project would be captured within internal roadways serving the major employment centers of La'ie. In both the proposed BYU Mauka residential area and the two alternative residential sites, the proposed Industrial area near the Egg Farm contributes additional demand for left turns at the Egg Farm road intersection.

Area-wide Traffic Impacts: Overall traffic volumes on Kamehameha Highway are projected to increase with the implementation of the proposed DP Amendments, as described above. Under the worst-case conditions, Kamehameha Highway is projected to operate at LOS E and within its maximum capacity to carry traffic. Relative traffic impacts of the new developments will diminish considerably with greater distance from the study area. Traffic impacts of the proposed DP Amendments will likely be perceptible in immediately adjacent communities, but not elsewhere within the region.

C. Mitigative Measures

Several mitigative measures are planned to be implemented to minimize the impact of traffic generated by projects at the DP Amendment request areas in La'ie, as discussed below.

Construction Traffic: The number of worker vehicles traveling to and from the site during the construction period will be minimized by the use of company trucks and vans to carry workers from construction company base yards. Truck and heavy equipment travel to and from the development areas will be conducted during non-peak traffic hours to minimize the impact on local and commuter traffic. During construction periods, special duty police officers shall be employed to assist in directing traffic and the movement of heavy equipment and supplies.

Group Transportation: A shuttle bus service between the study area and Kuilima Resort should be established (possibly servicing other communities) in the North Shore/Ko'olauloa District. An employee van pool will be encouraged between Kuilima Resort and the residential areas of La'ie.

Public Transportation: The Bus routes should be extended to provide service to the proposed BYU Mauka residential area and, if the Egg Farm alternative residential area is developed, service should also be extended to this area.

Signalization: The need for the installation of traffic signals at the various key intersections with Kamehameha Highway will be assessed as future traffic volumes build. Intersections with Kamehameha Highway at the Egg Farm/Industrial Area, Naniloa Loop (north) and PCC driveway (south) will be the first intersections which may warrant signals. The highway intersection with the new project access road to the

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proposed BYU Mauka residential area will also be monitored for possible signalization in the future. In each situation, cost sharing for signal installation will be considered based on the relative contribution of traffic from new developments of the DP Amendment request areas.

Proposed BYU Mauka Residential Area: Internal capture of vehicle trips will result through development of a major new loop road to serve the proposed BYU Mauka residential area. These trips would not reach Kamehameha Highway thus mitigating the traffic impact of the new development. Roadway development costs cause this site to be the more expensive to pursue for residential development than either of the two alternative residential sites.

Egg Farm Alternative Residential Area: If the Egg Farm residential alternative site is developed instead of the proposed BYU Mauka residential area, then consideration should be given to providing a secondary access to this residential site by extending a new roadway to connect with the existing roadway network in the BYUH area.

La'iemalo'o Alternative Residential Area: If the La'iemalo'o residential alternative site is developed instead of the proposed BYU Mauka residential area, then consideration should be given to providing a secondary access to the La'iemalo'o site off Kamehameha Highway. Additionally, the proposed school at this site should be developed to provide appropriate traffic circulation, parking, and drop-off areas to avoid disruption of traffic flow on the highway.

4.13 NOISE

Existing noise conditions and potential future noise conditions at the requested DP Amendment areas and the adjacent properties are evaluated below.

A. Existing Conditions

Noise from sources such as traffic is commonly measured in "A" weighted decibel units (dBA). The "A" weighting refers to the emphasis of certain sound frequencies over others to simulate the sensitivity of the human ear. The decibel scale is logarithmic, and a 10-fold increase in sound energy results in an increase of 10 dBA corresponding (approximately) to a subjective doubling of loudness. With an instantaneous change in noise, doubling of the sound energy results in an increase of three dBA, the smallest change in noise level considered to be noticeable.

The DP Amendment areas are located throughout the existing developed and undeveloped areas of the La'ie community. Ambient noise conditions at the project site are generally quiet due to its rural setting. Noise from vehicular traffic is dominant at site locations along Kamehameha Highway. Natural sound sources, such as wind in the foliage, birds and surf predominate at locations away from the highway. The ambient sounds at residences near or directly on the beach are dominated by surf noise, especially during winter months. Consistent trade wind conditions create foliage noise at most locations in La'ie, especially at the coastal and higher elevation areas.

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Residences located closer to the highway have considerably greater levels of traffic noise. Considering current traffic volumes during the peak periods, the closest residences to the highway are generally exposed to Day-Night average sound levels (Ldn) as high as 70 dB. Homes located further away from the highway experience lower Ldn sound levels of 65 dB or less. Residences located far from the highway generally experience lower neighborhood noise levels (Ldn of 60 dB or lower), with some exceptions being normal daytime sources such as lawn mowers, dogs barking, power tools and vehicle traffic along the collector roadways.

Some of the requested DP Amendment areas are located adjacent to existing sensitive noise receptors such as residences and the BYUH campus, as well as future sites for residences, churches and schools. Existing sites associated with the large traffic attractions, such as BYUH, PCC and the shopping center, are peak areas in the community for traffic noise. The only nearby industrial noise sources are created by the sand mining operations, which are distant from the residential community.

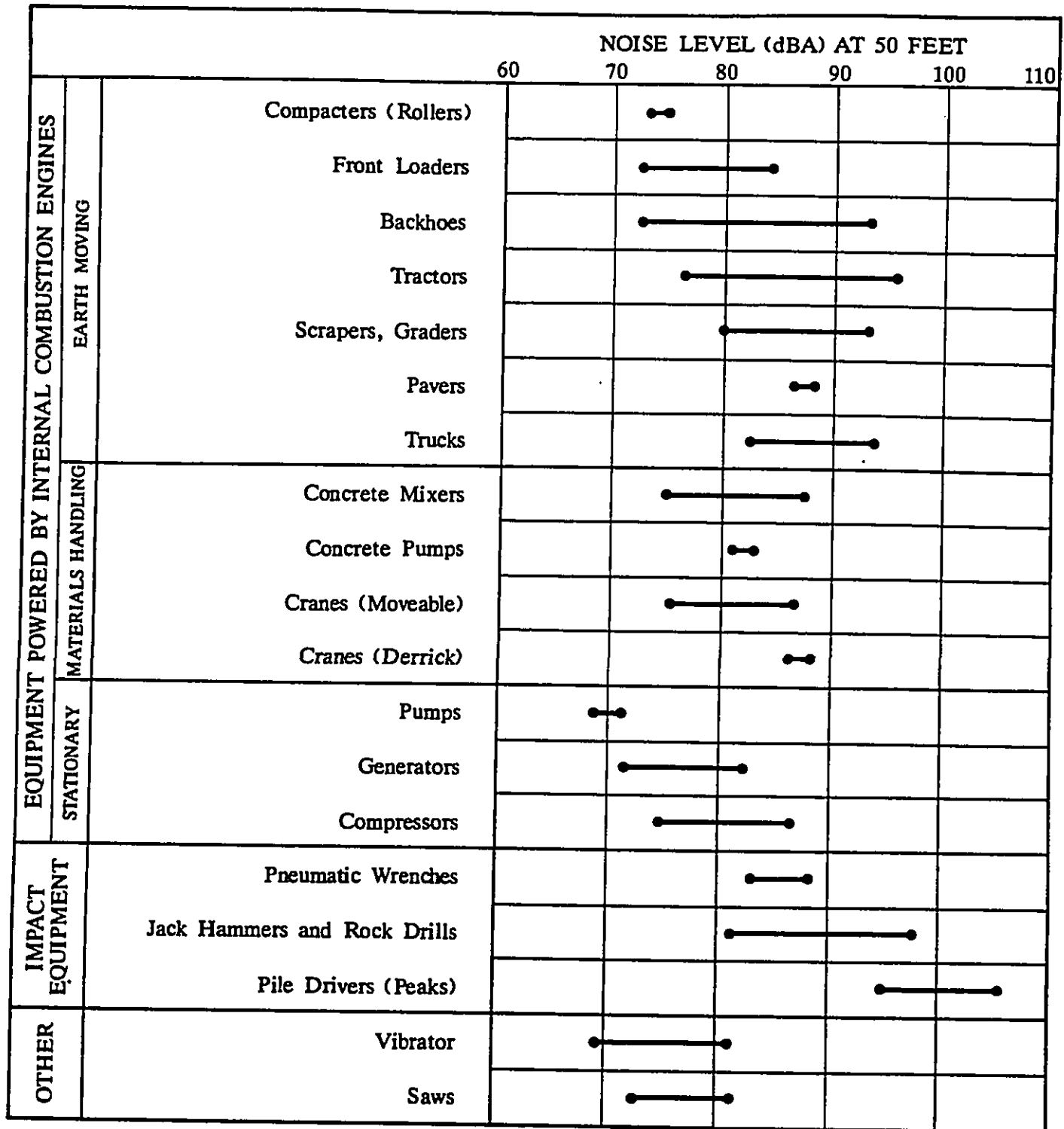
B. Anticipated Impacts

Future activities proposed for the DP Amendment areas will include construction activities, new land uses and project-generated traffic. Potential noise impacts on existing homes, schools and churches within the project were also considered.

Construction Impacts: Development of the DP Amendment Areas will involve clearing, grubbing, grading, and the construction of infrastructure and buildings. The actual amounts of noise generated in construction are dependent on the methods employed during each construction phase. Earth moving equipment, such as bulldozers and diesel powered trucks, will probably be the loudest equipment used in construction. Typical construction equipment noise levels are shown in Figure 21.

The construction of access roadways, other infrastructure and building sites may require rock removal. Individual sites will undergo detailed geotechnical studies prior to advanced planning to identify potential rock conditions on each site. Equipment typically used for rock removal include rock hammers and drills, as well as blasting equipment. Equipment used to break rock is noisy, as shown in Figure 21, where 82 to 98 dBA at 50 feet is typical of jack hammers and rock drills. The breaking of rock by explosion usually creates a muffled "thump" sound. Noise created during rock removal will affect any nearby noise receptors. The impact will be short-term in duration, and the actual time period required for any rock drilling and blasting will be assessed after final design and geotechnical studies are completed for individual development sites.

Traffic Noise: Existing residences located along Kamehameha Highway will experience higher noise levels in the future due to an increase in traffic associated with island-wide ambient traffic growth, new developments planned near La'ie, and the eventual development of the proposed DP Amendment areas for their respective land uses. Future average sound levels (Ldn) at these closest residences is expected to increase above existing levels, with Ldn levels expected to range from 70 to 73 dB. Residences



Note: Based on Limited Available Data Samples

CONSTRUCTION EQUIPMENT NOISE RANGES
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Source: U.S. Environmental Protection Agency, 1972

FIGURE 21

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located greater distances from the highway (100 feet or greater) will likely experience increased Ldn levels during these periods, ranging from 65 to 67 dB. With the proposed BYU Mauka residential area, existing residences located near the proposed new loop road intersection with Kamehameha Highway will experience additional traffic noise from vehicles using the new loop road.

Four of the subject DP Amendment areas are located adjacent to Kamehameha Highway as is the La'iemalo'o alternative residential site. Each of these sites are proposed for commercial or recreational land uses except the La'iemalo'o alternative residential site. The La'iemalo'o alternative residential site is also located adjacent to Kamehameha Highway. Traffic noise from the highway will not contribute significantly to the overall acoustical environment at any of the proposed residences, schools or churches. Internal roadways and residential setbacks in the new residential area will be designed to standards which create normal residential area traffic noise conditions. Noise levels should be fairly similar at the proposed BYU Mauka residential area and the Egg Farm alternative residential site, with a potentially greater influence of highway noise at the La'iemalo'o alternative residential site. Detailed noise studies of the proposed BYU Mauka residential area will be conducted later in the planning process.

Noise Generated by Future Land Uses: At this preliminary stage in project planning, future noise conditions resulting from land use activities associated with the various proposed DP Amendment request areas were qualitatively considered. In comparison to the future increase in highway noise, noise level changes in sections of the community bordering one of the proposed DP Amendments may still be significant. Individual projects will warrant noise studies once site plans are designed in later stages of planning.

The expanded Wastewater Reclamation Facility, PCC and BYUH will place new activities closer to *kuleana* parcels, as will the proposed new access loop roadway and the proposed BYU Mauka residential site. The expansion of activities in these areas is likely to create a noticeable increase in noise levels at some nearby *kuleana* parcels. Development of the La'iemalo'o residential alternative site would have direct noise effects on adjacent residences.

The expansion of resort amenities will take place at a site located next to some existing homes. The recreational support activities are generally expected to be passive types of activities associated with use of the beach. Operation of amenities such as a swimming pool or tennis courts may create slight increases in the daytime noise levels experienced by neighbors. It is likely that the new noise sources will be masked by highway noise.

La'ie Shopping Center parking area will be also established near some existing residences. Increased noise associated with parking lot is expected to be noticeable at the adjoining residences.

Operation of various future uses at the new industrial areas pose the greatest potential for increased noise effects. Activities such as auto body repair are extremely noisy. Truck and equipment operations will also create additional noise. Nearby residences

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will likely experience an increase in daytime noise levels. Actual noise level increases experienced will depend on the specific industrial activity and the distance to the receptor location. Industrial uses will be required to meet State DOH noise standards to minimize effects on the nearby residences. Noise buffers may be necessary such as building insulation, perimeter walls and berms.

Noise generated by each of the new land uses involved with the proposed DP Amendment requests could be mitigated by various noise mitigation techniques described below. The need for noise control buffers at specific projects will be determined in subsequent planning, once detailed site planning is completed.

C. Mitigative Measures

Several measures will be implemented to minimize potential noise impacts at off-site receptors. Noise mitigation for specific projects should be addressed in future planning once detailed site plans are available.

Construction Noise Control: Compliance with existing regulations will mitigate construction noise generated by the project to acceptable levels. State regulations have been established to limit construction noise generation. Prior to construction, a permit will be obtained from the State Department of Health for operating construction equipment, power tools and vehicles which emit noise levels in excess of the allowable limits. Required permit conditions for construction activities include:

"No permit shall allow construction activities creating excessive noise... before 7:00 a.m. and after 6:00 p.m. of the same day".

"No permit shall allow construction activities which emit noise in excess of ninety-five dB(A)...except between 9:00 a.m. and 5:30 p.m. of the same day".

"No permit shall allow construction activities which exceed the allowable noise levels on Sunday and on...(certain) Holidays. Activities exceeding ninety-five dB(A) shall (also) be prohibited on Saturdays."

In addition, construction equipment and on-site vehicles or devices requiring an exhaust of gas or air must be equipped with mufflers. Construction vehicles using local roadways will satisfy the noise level requirements defined in Hawai'i Administrative Rules, Title 11 (1981).

During rock removal, the immediate blast area is covered by a blast mat with the purpose of directing the explosive energy into the rock, muffling the airborne pressure pulse, and controlling flying debris. The actual blast will be perceived as a muffled "thump" sound and should cause minimal vibration through the ground to structures located nearby.

Operations Noise Control: The design of individual projects will be required to consider the potential noise effects on neighboring land uses. Major facilities will best reduce

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their impact on noise levels by planning the location of the air conditioning equipment, exhaust fans and other equipment, such that local noise regulations will be satisfied.

Grounds maintenance equipment used at common areas such as parks, apartment complexes, schools and churches will generally be powered by internal combustion engines with exhaust mufflers. Schedules for maintenance operations will be arranged such that noisier operations do not occur near residences before 7:00 AM or after 5:00 PM.

Industrial Site Noise Control: Design of industrial use facilities will include noise reduction measures such as building insulation, walls and berms. Noisy activities will be limited to normal working hours. Detailed noise reduction measures will be proposed for advanced land use approvals, once decisions on specific uses and site planning have been completed.

4.14 AIR QUALITY

A. Existing Conditions

Air quality in the La'ie area is mostly affected by air pollutants from natural and/or vehicular sources. Natural sources of air pollution that may affect the air quality of the study area include ocean sea spray, aero-allergens from plants and wind-blown dust from bare soil areas or perhaps distant volcanic emissions from the Island of Hawai'i. Industrial and agricultural sources of air pollutants are located generally on the leeward and central portions of O'ahu, which are generally downwind from the project. There are no industrial or agricultural air pollution sources upwind of the study area.

The only long-term State of Hawai'i air quality monitoring station is located in Waimanalo. This monitoring site was selected to measure background levels of particulates. None of the other regulated air pollutants are measured at this station. For the period 1985 to 1989, the average annual Total Suspended Particulate (TSP) concentration at Waimanalo ranged from 20 to 29 micrograms per cubic meter, which is well within the State standard for TSP, and is probably typical of most locations on the windward coast of O'ahu. The maximum 24-hour average concentration was also well within the allowable limit.

Kamehameha Highway is a two-lane arterial highway which passes through the study area. Depending upon the prevailing wind direction, emissions from motor vehicles traveling on Kamehameha Highway may also be dispersed through the study area. Four of the subject DP Amendment areas are located adjacent to Kamehameha Highway. All four sites are proposed for commercial or recreational land uses. The La'iemalo'o alternative residential site is also located adjacent to Kamehameha.

Odors are currently experienced in the area of the Egg Farm and the wastewater treatment facility disposal area. These odors are affecting only a small part of the La'ie population at present.

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B. Anticipated Impacts

Construction Activity: There will be two types of short-term direct air quality impacts from project construction: fugitive dust generation and on-site emissions from construction equipment. There will also be short-term indirect impacts occurring off-site from slow moving construction equipment traveling to and from the project, and from an increase in local traffic caused by commuting construction workers.

Fugitive dust emissions will arise from grading and dirt moving activities within the project. A rough estimate of uncontrolled fugitive dust emissions from construction activity has been provided by the U.S. EPA (1987), estimated at 1.2 tons per acre per month under conditions of "medium" activity and moderate climactic conditions. Uncontrolled fugitive dust emissions from construction related to the proposed developments in La'ie would probably be lower than this because the area is relatively wet. State of Hawai'i Air Pollution Control Regulations require that fugitive dust emissions be controlled to such an extent that no visible emissions of fugitive dust from construction activity should occur beyond the property line.

Mobile and stationary construction equipment also emit some air pollutants in the form of engine exhausts. The larger types of equipment are usually diesel-powered. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand, are very low and should be relatively insignificant compared to normal vehicular emissions on nearby Kamehameha Highway.

Indirect Effects of Motor Vehicle Emissions: There will be a potential long-term indirect impact on air quality along the the roadways in La'ie due to traffic increases associated with the projects in the proposed DP Amendments. By serving as an attraction for increased motor vehicle traffic, the individual projects will be considered to be potential indirect air pollution sources. Carbon monoxide (CO) in vehicle emissions is commonly evaluated as the most stable and most abundant of the motor vehicle-generated pollutants. Carbon monoxide is also the air pollutant with the greatest likelihood of violating Ambient Air Quality Standards (AAQS).

It is important to note that the worst-case meteorological conditions used for assessing CO concentrations have a very low probability of occurrence. A slight increase in the assumed worst-case wind speed from two mph to four mph would reduce the predicted carbon monoxide concentrations to about one-half of the levels estimated in this worst-case scenario.

Present peak hour carbon monoxide concentrations are estimated to fall within the range of 2.0 to 5.0 milligrams per cubic meter (mg/m³) along Kamehameha Highway in La'ie. Concentrations are normally highest at the busiest intersections with the highway, due to vehicle delays experienced at these locations. The estimated 1992 one-

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hour worst-case CO concentrations are well within State AAQS (10 mg/m³) and national AAQS (40 mg/m³).

In 2010 without the proposed DP Amendments built, the predicted maximum one-hour CO concentrations (worst-case) are expected to increase slightly compared to present levels. This is because traffic is expected to increase substantially, particularly during the morning.

For the 2004 scenario with the projects in the DP Amendments built and operating, worst-case peak-hour CO concentrations at the local intersections with Kamehameha Highway could range between 5.0 to 14.0 mg/m³ (varies widely between individual intersections). The intersections which are predicted to experience the greatest peak hour traffic delays (such as the Egg Farm access, Naniloa Loop and PCC driveways) would experience the highest CO levels. Predicted worst-case concentrations result from the increase in local traffic the DP Amendments will cause, as compared to 2004 traffic without these projects. Overall, with the proposed projects, worst-case CO levels at key local intersections of Kamehameha Highway could be slightly higher than 2004 conditions without the DP Amendments. However, CO levels with the projects are expected to remain within state and national AAQS. The extremely stringent one-hour State AAQS could occasionally be exceeded if peak traffic and worst-case meteorological conditions occur simultaneously.

At the intersection of Kamehameha Highway with the new residential area access roadway, eight-hour CO concentrations will increase, but are expected to remain well within Federal AAQS. Future eight-hour carbon monoxide levels are also expected to be well within Federal AAQS. The more stringent State AAQS could be exceeded at the residential area access intersection if peak traffic and worst-case meteorological conditions occur simultaneously. Because the proposed BYU-Mauka residential area would create less vehicle trips on Kamehameha Highway, it would result in less vehicle emissions at critical intersections than would occur with the other residential site alternatives.

Electrical Demand and Solid Waste Disposal: The annual electric demand of the DP Amendments when fully developed is estimated to range from approximately about 10 to 11 megawatts. As a consequence of electrical power usage, the proposed project will contribute to indirect air pollution emissions from power generating facilities, most probably provided by oil-fired generators on O'ahu.

Solid waste generated by the DP Amendment projects when fully developed is estimated at approximately three to four tons of refuse per day. If this refuse is not landfilled and all or part is burned at a municipal incinerator or other facility (such as H-power), disposal of solid waste from the project will also result in emissions of particulate, carbon monoxide and other contaminants from the incineration facility.

Long-term, quantitative evaluations of these impacts were not made, but it is likely to be relatively small since the projected emissions will be much less than one percent of current O'ahu emissions from power generating and waste incineration facilities.

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C. Mitigative Measures

Several mitigation measures will be implemented to minimize potential air quality impacts, as listed below.

Dust Control: During construction of the project, adequate fugitive dust control will be accomplished by establishing a frequent watering program to keep bare dirt surfaces in work areas from becoming significant dust generators. Control regulations also require that open-bodied trucks be covered at all times when in motion if they are transporting materials likely to give rise to airborne dust. Paving of parking areas and establishment of landscaping as early as possible in the construction process will also be done to lower the potential for fugitive dust emissions.

Construction Equipment Transport: Indirectly, slow-moving construction vehicles on Kamehameha Highway can obstruct the normal flow of traffic to such an extent that overall vehicular emissions of carbon monoxide are increased. This impact will be mitigated by moving heavy construction equipment during periods of low traffic volume whenever possible.

Roadway Traffic: Roadway improvements will be implemented to move traffic efficiently through the project area and to help maintain air quality.

Recycling: Cleared trees that cannot be preserved on-site will be mulched for re-use. Source separation, recycling collection stations, and other types of programs for recycling will be supported by Zions Securities Corporation.

Alternative Energy Source: The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize alternative energy sources, such as solar water heating devices, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.

Termination of Egg Farm: If the Egg Farm alternative residential site were developed, the existing Egg Farm would be displaced. Odors currently generated by this facility would be eliminated by this action.

4.15 VISUAL RESOURCES

Existing views of the requested DP Amendment areas have been inventoried in this section, both descriptively and through photographs. Views from La'ie Peninsula and Kamehameha Highway were assessed because of their scenic quality and public access. Long-term effects on views which could potentially result from DP Amendments are assessed, and measures are proposed to minimize adverse effects.

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A. Existing Conditions

Views of the study area were inventoried from improved roadways and from La'ie Point to ascertain possible impacts upon scenic and public views. A photograph key map (Figure 22) identifies the approximate location and direction of the photographs included in Figures 23A through 23H.

Views from Kamehameha Highway :

Proposed BYU Mauka Residential Area. The proposed BYU Mauka residential area is not visible from Kamehameha Highway.

Alternative Residential Areas. The Egg Farm alternative residential area is not visible from Kamehameha Highway. Portions of the La'iemalo'o alternative residential area is currently visible from Kamehameha Highway and from the existing homes which border the highway (Figure 23A). Most of these views consist of active agricultural operations (fruit trees) and natural vegetation.

La'ie Shopping Center Parking. This parcel is visible from both Kamehameha Highway and the Hau'ula end of the existing parking lot for La'ie Shopping Center (Figure 23B).

PCC Expansion Area. The PCC expansion area is adjacent to Kamehameha Highway (Figure 23C). The land is currently covered by natural vegetation and active agricultural crops (fruit trees).

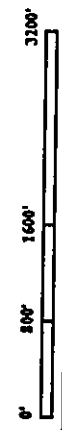
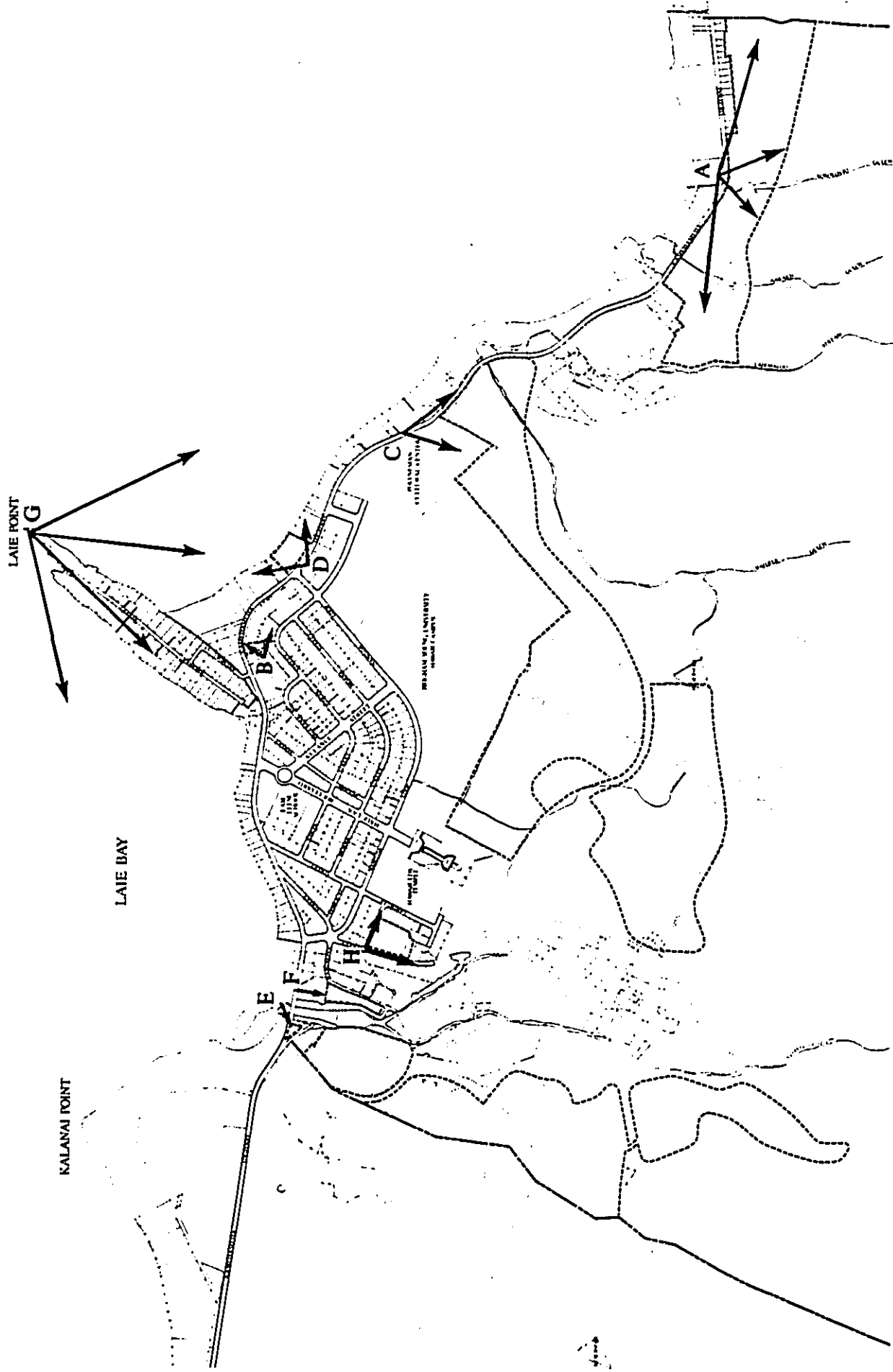
Resort Amenities. This residential parcel currently separates the highway from the shoreline. Existing views are of older homes and vegetation, with limited view through the parcel to the ocean (Figure 23D).

Corner Commercial. This site is visible from Kamehameha Highway (Figure 23E), located very close to the highway on a curve.

Industrial Area (near cemetery). This site is visible in the distance from Kamehameha Highway (Figure 23F).

Other Areas. There are only distant views of the other sites from Kamehameha Highway, including sites for the BYUH expansion, Wastewater Reclamation Facility expansion, Po'ohaili Street Park, and an industrial area (near the Egg Farm Road).

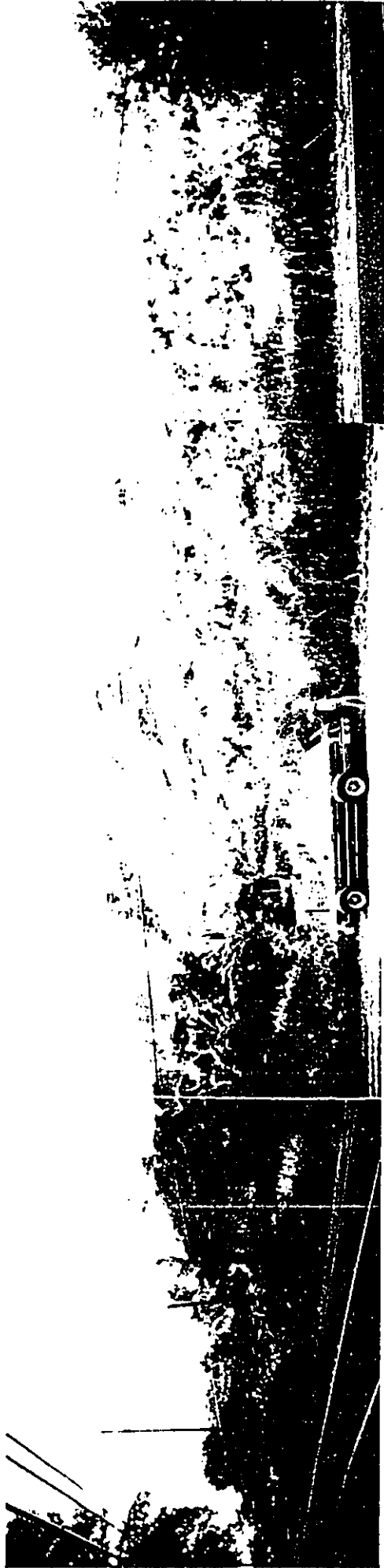
Views from La'ie Peninsula: As shown in Figure 23G, existing structures along the shoreline and Kamehameha Highway are barely visible in the distance, as viewed from La'ie Point, because is virtually overwhelmed by the backdrop of the Ko'olau Mountains. Structures at PCC stand out the most of all existing development in La'ie. Views to BYUH from the peninsula are obstructed by the existing residential development on La'ie Peninsula.



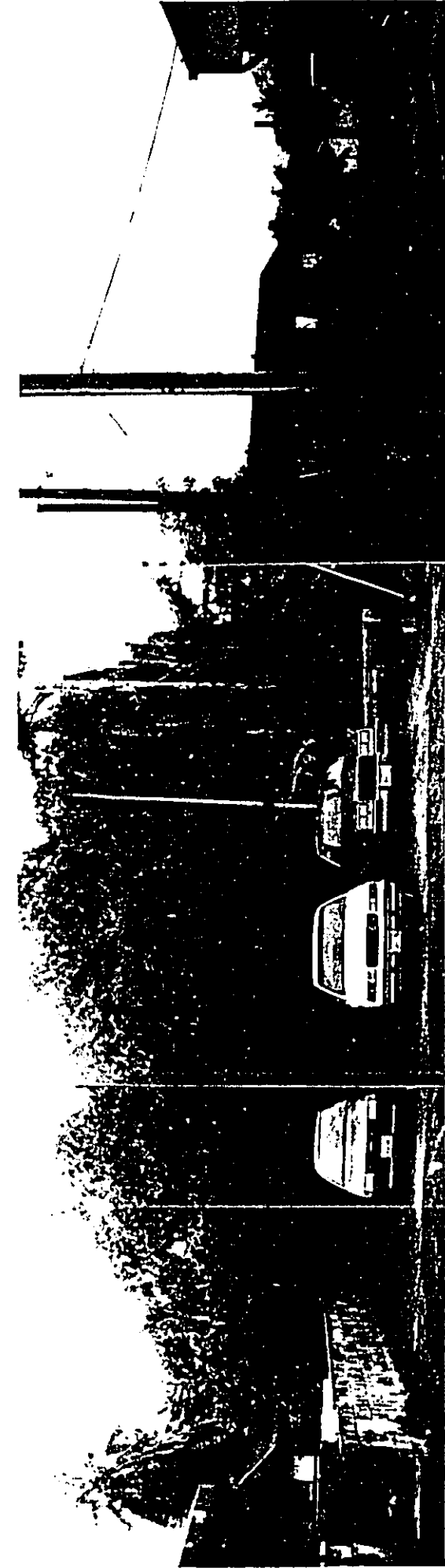
PHOTOGRAPH KEY MAP

LA'IE DEVELOPMENT PLAN AMENDMENTS

FIGURE 22



A. VIEW TOWARD LA'JEMALOO ALTERNATIVE RESIDENTIAL AREA FROM KAMEHAMEHA HIGHWAY



B. VIEW TOWARD PROPOSED SHOPPING CENTER PARKING EXTENSION FROM HAU'ULA END OF EXISTING PARKING LOT

VIEWS OF THE STUDY AREA
LA'IE DEVELOPMENT PLAN AMENDMENTS

FIGURE 23



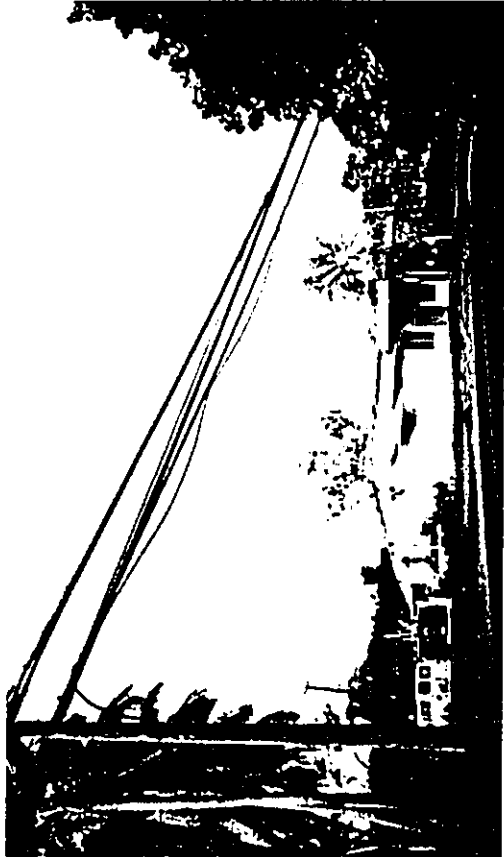
C. VIEW TOWARD PROPOSED PCC EXPANSION AREA FROM
KAMEHAMEHA HIGHWAY LOOKING SOUTHWEST



D. VIEW TOWARD PROPOSED RESORT AMENITIES
AREA FROM KAMEHAMEHA HIGHWAY

VIEWS OF THE STUDY AREA
LA'IE DEVELOPMENT PLAN AMENDMENTS

FIGURE 23



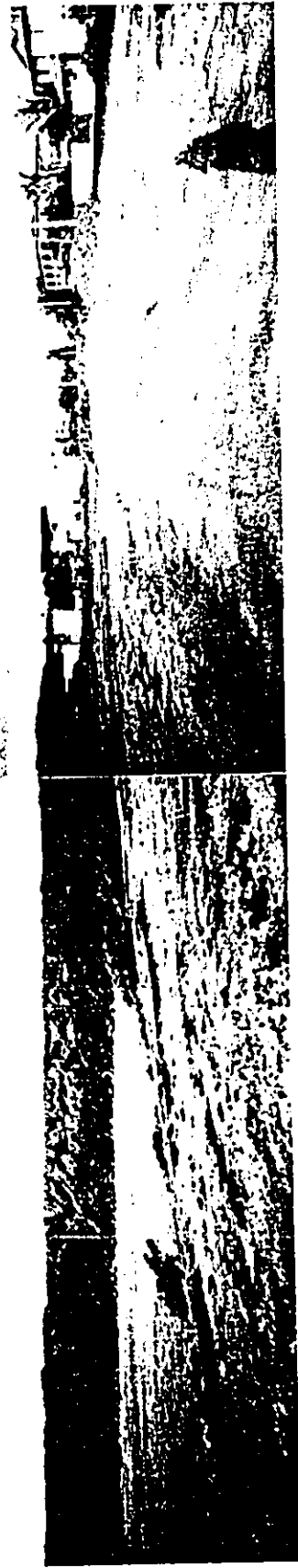
E. VIEW TOWARD PROPOSED CORNER COMMERCIAL FROM KAMEHAMEHA HIGHWAY



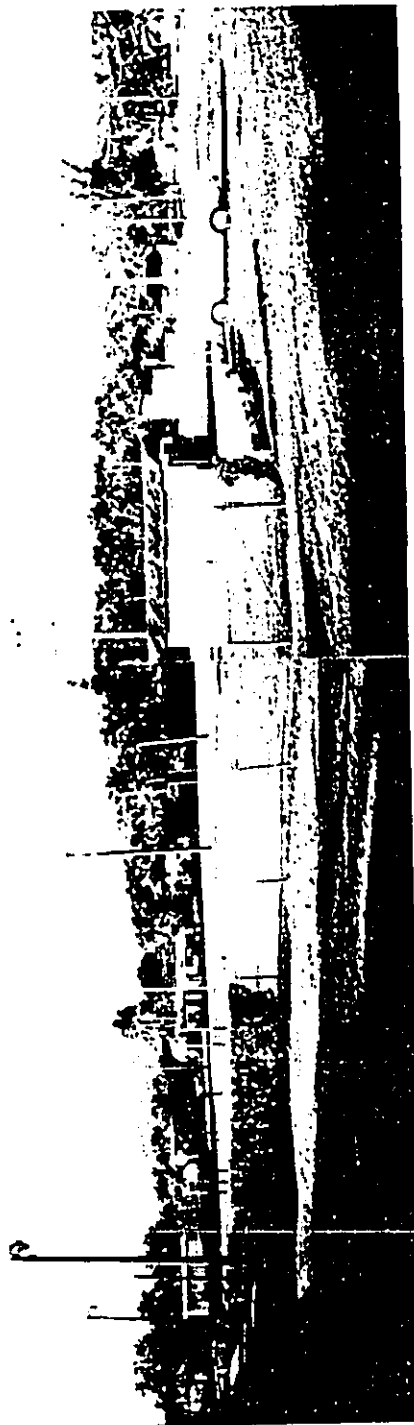
F. VIEW TOWARD PROPOSED INDUSTRIAL AREA (NEAR CEMETERY) FROM KAMEHAMEHA HIGHWAY

VIEWS OF THE STUDY AREA
 LA'IE DEVELOPMENT PLAN AMENDMENTS

FIGURE 23



G. PANORAMIC VIEW TOWARD KO'OLAU MOUNTAINS AND PROPOSED DP AMENDMENT AREAS FROM LA'IE POINT



H. VIEW TOWARD FO'OHAILI STREET PARK FROM NORTH CORNER

**VIEWS OF THE STUDY AREA
LA'IE DEVELOPMENT PLAN AMENDMENTS**

FIGURE 23

LA'IE DEVELOPMENT PLAN AMENDMENTS
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B. Potential Impacts

Short-Term Visual Impacts: Depending on the extent of adjacent land uses and distance from Kamehameha Highway, construction activities will create some adverse effects on the views of the DP Amendment areas. Vegetation clearing and grading involved with construction may be visible, as will construction of buildings and the installation of utilities. Construction activities will be visible from Kamehameha Highway at some locations, such as the shopping center parking lot expansion, resort support facilities, industrial areas, the PCC Expansion, and, if were to be developed, the La'iemalo'o alternative residential site. Construction activities in the proposed industrial areas will also be visible from residential streets adjacent to these areas. Temporary construction fences may be erected at some of these sites to shield public views of construction activities.

Long-Term Visual Impacts:

Proposed BYU Mauka Residential Area. New development at the BYU Mauka residential area would not be visible from Kamehameha Highway. Ridgeline views to the near hills and more distant mountains will not be affected by residential development at this site.

Alternative Residential Areas. New development at the Egg Farm alternative residential area would not be visible from Kamehameha Highway. Development at the La'iemalo'o alternative site could appear as a visible extension of the existing homes which border Kamehameha Highway (Figure 23A). If this site is developed, landscaped setbacks along the highway right-of-way will mitigate some of the visual impacts of the new housing from the highway. Ridgeline views to the near hills and more distant mountains will not be affected by residential development at either of the two alternative residential areas.

La'ie Shopping Center Parking Lot Expansion. Shrubs will be used to create a landscaped perimeter adjacent to any residences. Existing views will change from that of a parking lot with residences in the background, to an extension of the parking lot with landscape material in the background. The landscaping will create an attractive visual buffer around the shopping center's parking lot extension.

PCC Expansion Area. Views from Kamehameha Highway and areas *makai* of PCC to the existing slopes and to the Ko'olau Mountains are not expected to be significantly affected. Heights and design features for new buildings at this site should be established with consideration of avoiding adverse effects on public views.

Resort Amenities. Given that only recreational amenities are proposed for this site, public views to and along the shoreline through this site will be enhanced with the requested DP designation. Views to the ocean from the highway will be greater than if the lot were to be redeveloped for residential use. No mitigative measures are considered necessary, as the leisure and recreational amenities proposed for this site are expected to be visually preferable to the existing conditions.

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Corner Commercial. The proposed DP Amendment will bring into conformance the existing small scale commercial uses on this site. Public and scenic views are not affected by this proposed use.

Industrial Area (near cemetery). Development on the two proposed industrial sites will not adversely affect significant public views, such as the view of the distant Ko'olau Mountains ridgeline experienced from the highway. Nearby residences will experience views of new light industrial buildings and associated activities. These new facilities will likely be screened from residences by landscaping, berms and/or walls. Night-time security lighting could potentially create an adverse visual effect to residences near this location.

Po'ohaili Park. The existing park is highly visible from the adjacent residential streets (Figure 23H). No changes are proposed. No significant adverse effects are anticipated and no mitigative measures are necessary.

Other Areas. Development on the BYUH expansion, Wastewater Reclamation Facility expansion, Po'ohaili Street Park, and industrial area (near the Egg Farm Road) will not adversely affect any distant ridgeline views available from the highway, and are not expected to adversely affect other public views.

Views from La'ie Peninsula. The Development Plan Special Provisions acknowledge the visual importance of panoramic mountain ridge and coastal views from La'ie Peninsula and recommend that these views be protected. Development proposed for the proposed BYU Mauka residential area or either of the two alternative residential areas would not be seen from La'ie Point, as they are obstructed by vegetation, land forms and the existing residential development on the peninsula and along the shore. None of the projects proposed for the DP Amendment areas are expected to impede or intrude upon views of the sea, the mountains or other area landmarks from La'ie Peninsula and no mitigative measures are considered necessary.

C. Mitigative Measures

Landscaping: Even though significant scenic views are not affected by the projects proposed in the DP Amendments, landscape material utilized as a buffer is recommended as a mitigative measure for proposed land uses which are adjacent to the highway.

Design Considerations: New facilities which are developed as part of the DP Amendments will consider their potential impact on public views, and mitigate impacts through design measures such as restricted heights, use of appropriate building materials, colors and sensitive facility siting.

4.16 SOCIAL AND ECONOMIC CHARACTERISTICS

4.16.1 Population

A detailed demographic study was conducted for the project by Community Resources, Inc. (December 1991) and is included in Appendix M. Information from this report is summarized in this section.

A. Existing Conditions

La'ie is the largest settlement within the Ko'olauloa Census Division, with a 1990 population of 6,926 people (Census Tract 102.02, which extends from Kokololio Park [the former CYO Camp site] to the Malaekahana Stream bridge just outside Kahuku Village). The Census Division comprises the region stretching from Ka'a'awa to Waimea Bay. It includes the entire Ko'olauloa Development Plan Area and also a triangular-shaped portion of the North Shore Development Plan area (Figure 24). The Ko'olauloa Census Division, which had a population of 18,443 in 1990, is considered the study area for this section of the DP Amendments EIS.

La'ie's population increased by an average of 1.9 percent annually between 1980 and 1990, which was the community's lowest growth rate in 40 years. It was also equal to only two-thirds the 1980 to 1990 annual growth rate for the Ko'olauloa Census Division (2.9%). However, this relatively low growth rate for La'ie was still almost twice that of the O'ahu's annual growth rate during this same period.

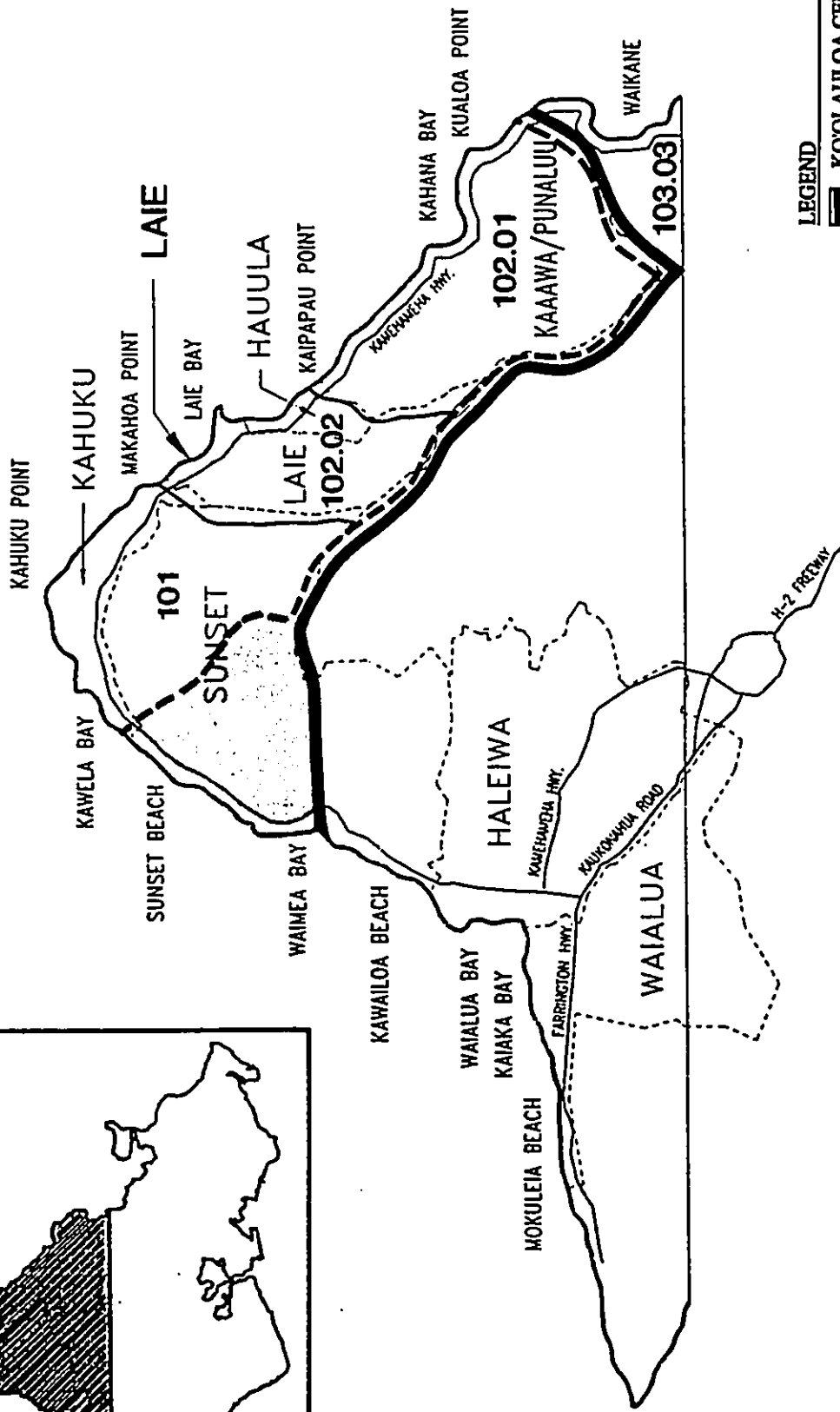
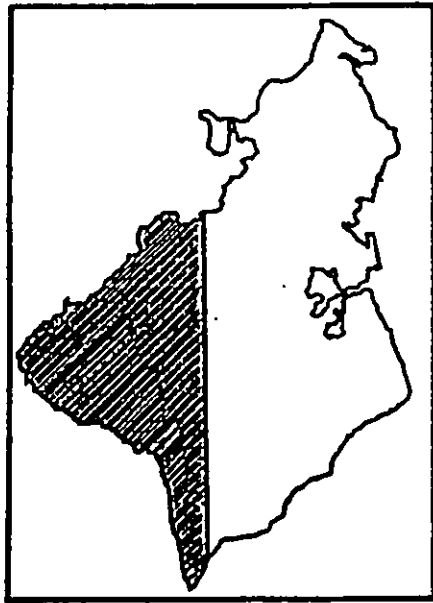
Population in the Ko'olauloa Development Plan Area increased from 11,123 in 1980 to 14,263 in 1990 (U.S. Bureau of the Census, 1991), or at an average annual rate of 2.5 percent. The DP Area's population in 1990 was equal to 1.7 percent of the island-wide total.

According to 1990 Census data, Caucasians formed the largest single ethnic group (32%) in La'ie, and was very similar to O'ahu in this respect. However, the town otherwise differed greatly from the rest of the island in that it has greater numbers of Polynesians – particularly Hawai'ians (23% vs. 11% on O'ahu) and Samoans (16% vs. 2%). La'ie also had relatively few residents of Japanese ancestry (5 percent) compared to the island-wide average (23%) in 1990. Roughly 20 percent of La'ie residents were born in the Pacific Islands, about 36 percent were born in Hawai'i, and another 35 percent were born on the mainland United States.

B. Anticipated Impacts

1. Forces for Change

There are forces for change independent of the project which will affect the future of communities within the study area. According to official State projections, the City and County's resident and visitor populations will continue to increase over the next two



NOTE: Study area boundaries for the most part only include Census Tracts 101, 102.02, and 102.01, which together comprise the Koolauloa Census Division. The shaded region is that portion of the census division that is not included in the Koolauloa Development Plan area, but for the purposes of this document is sometimes considered part of the study area.

**KOOLAULOA CENSUS DIVISION MAP
LA'IE DEVELOPMENT PLAN AMENDMENTS**

NOT TO SCALE



FIGURE 24

LA'IE DEVELOPMENT PLAN AMENDMENTS
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decades. Ko'olauloa Census Division, which has had population growth rates exceeding the County average, will continue to experience an economic surge.

Interviews with major employers in the region indicate as many as 4,000 to 6,000 new jobs may be created in the Ko'olauloa/North Shore DP Areas by the year 2000. Within the study area, completion of the planned resort at Kuilima will account for approximately 3,360 direct on-site jobs. Despite recent delays in construction, Kuilima Resort is expected to be completed by 2010.

With new economic opportunities, the resident population is expected to grow along with the visitor population. Traffic congestion will increase, and the need to improve limited infrastructure will become pressing. If growth control measures are exercised in the form of housing stock restrictions, the likely result will be severe crowding and higher housing costs in the area, and more long-distance commuting.

If La'ie housing is developed before many new jobs are created in the region, many of the new residents are likely to be persons with long-standing social and economic ties. In the short run, La'ie could experience improved housing conditions, i.e., much less crowding, and only slight population growth. This is quite likely to occur if Phase I of the proposed Kuilima Expansion is not completed until after 1998. In the longer run, however, the demand for housing generated by new visitor industry workers in the region will promote further population growth.

2. Impacts on DP Amendment Areas

The proposed Development Plan Amendment areas which have population impacts are discussed below:

Proposed BYU Mauka Residential Area. The development of approximately 450 residential units is intended primarily to alleviate existing overcrowded housing conditions, rather than to attract new residents to the area. A community-wide public opinion survey (Community Resources, Inc., 1987) indicated a "pent-up demand" in La'ie for some 365 housing units. Consequently, many existing La'ie residents are expected to move out of La'ie's overcrowded existing housing stock into the new single-family homes and apartments, and the immediate effect to La'ie's population at the time the residential subdivision is built could be relatively small.

The City and County Department of General Planning has estimated a potential population increase of 1,294 persons would result from development of one of the alternative residential areas. However, as noted above, it is anticipated that this population increase may be much lower. Furthermore, the timely completion of housing construction by 1998 will precede the job increase generated by approved visitor industry developments at the Kuilima Resort. Therefore, without any major new source of employment in the area, less reason will exist for persons outside of the Ko'olauloa region to move to La'ie.

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No change to the overall ethnic make-up of the La'ie community is anticipated from the proposed housing development, as it is expected that many existing residents will move from La'ie's overcrowded existing housing stock into the new housing units.

The effects of population on La'ie resident's lifestyle are discussed in Section 4.16.5. The relationship of the requested Development Plan Amendments to General Plan Population Guidelines is discussed in Section 6.3.1.

BYUH Expansion Area. To be included in the BYUH expansion area is a married student housing complex which will consist of 48 three-bedroom units. These housing units could accommodate approximately 170 to 210 residents upon completion in 1995. These units will be used to house existing BYUH students; no expansion of the University enrollment is planned. As with the proposed residential area, the future residents of the married student housing most likely currently reside in the La'ie area, so there will be little or no immediate increase in the regional population.

PCC Expansion Area. The number of PCC visitors is expected to reach an average of about 3,600 daily by 2005. Of that number, some 360 visitors could be attributable to the proposed PCC expansion.

The potential visitor population associated with the PCC expansion is projected on the basis of the State's official M-K Series projections. Given existing approvals for resort development in Ko'olauloa, many future visitors will already be in the DP area (i.e., at the Kuilima Resort) before they come to visit the PCC.

Industrial Areas. Development of the industrial area will create jobs in the community, many of which are likely to be filled by existing area residents of La'ie and other parts of the Ko'olauloa region who are currently commuting long distances. Therefore, it is likely that little if any population increase will result as a direct effect of operation of the proposed new industrial areas.

C. Mitigative Measures

Existing Residents: The primary purpose of the proposed new housing is to serve the existing residents of La'ie, to relieve the extensive overcrowding that exists here and elsewhere in the Ko'olauloa region. Efforts will be made to design, construct and finance the housing such that it can be offered to existing community residents at the lowest feasible cost while maintaining design standards which are consistent with the rural character of the area. This subject is discussed further in section 4.16.3. Extensive community participation will be an integral part of the effort to achieve these goals.

Timely Development: The applicant intends to take all necessary steps to obtain the permits for the development as quickly as possible, before any major new demand for housing in the area arises in the region, such as from future employees of the Kuilima Resort expansion. This will maximize the opportunity for existing La'ie and other Ko'olauloa residents to purchase the units.

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4.16.2 Employment and Personal Income

This section includes a discussion of existing conditions, anticipated impacts and proposed mitigative measures regarding the relationship of the DP Amendments to employment, personal income and consumer expenditures. A detailed economic impact study has been prepared for the requested DP Amendments by Community Resources, Inc. (December 1991). Information from this report is summarized below, and the complete report is enclosed in Appendix M.

A. Existing Conditions

Existing conditions in the La'ie area for employment, personal income and consumer expenditures are reported below.

1. Employment

Within the La'ie area, employment opportunities come from BYUH, PCC and some limited commercial/retail establishments. PCC, a top O'ahu tourist attraction, employs about 1,100 area residents. BYUH currently employs full-time approximately 350 people, most of which live in La'ie. Additional employment is provided by the shopping center in La'ie which has basic retail-commercial shopping opportunities, including a grocery store, restaurant, and hardware store. Also, some employment is provided by a surf shop and an agriculture retail-sales store which are located on a corner site on Kamehameha Highway, at the Egg Farm road intersection.

La'ie has the highest civilian labor force participation rate in the Ko'olauloa Census Division, with approximately 72 percent of the residents holding jobs. However, a quarter of La'ie's workforce only works one part-time job (Community Resources, Inc., 1990). The major employers in the Ko'olauloa/North Shore region are the Kuilima Resort in Kahuku, PCC, and BYUH in La'ie.

About half of the Ko'olauloa Census Division's workforce commutes to jobs outside the Ko'olauloa/North Shore region. Proportionally, more La'ie workers remain in the Ko'olauloa/North Shore region for employment than any other community (68 percent for La'ie versus 52 percent for the region). This is partially due to many La'ie residents' employment at Kuilima Resort, PCC and BYUH.

Considering the "country" atmosphere, a strikingly high proportion of La'ie residents have "white-collar" or professional/managerial jobs, approximately 38 percent. Little more than one percent of La'ie residents are part of the plantation/farm work force.

La'ie's 1990 unemployment rate of two percent was the lowest in the Ko'olauloa Census Division (State Department of Labor and Industrial Resources). Unemployment in the Census Division as of 1989 was near the island-wide average of 2.2 percent.

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2. Personal Income

Reported household incomes for La'ie are very similar to those of other communities in the region, with approximately 42 percent of La'ie households earning monthly incomes between \$2,000 and \$4,000. Given that La'ie households have, on average, more people per household, the per capita income is probably lower than in neighboring communities.

B. Anticipated Impacts

In socio-economic impact assessment, an "impact" is usually defined as the difference between the future *with* the proposed land use and the future *without* the proposed land use. The future with the proposed land use is not properly compared just to existing conditions, since that comparison does not separate ongoing regional or statewide trends from the likely impacts of a specific proposed land use.

The Ko'olauloa region currently has relatively few people and jobs, compared to urban areas to the south. Still, housing is crowded, especially in La'ie. Crowding and rising real estate prices signal the involvement of the region in the islandwide economy. Future growth in that economy, especially growth of the visitor industry in Ko'olauloa, will likely lead to the following local trends:

- Increased demand for housing in the Ko'olauloa and North Shore regions;
- Lower unemployment in these regions;
- New economic opportunities in both regions to support both operations at Kuilima and the needs of the new workforce; and
- A general trend towards higher wage levels (with union wages at Kuilima setting regional standards).

Whether or not new jobs will attract new residents or encourage existing residents to stay in the area depends largely on City and County policy. Government constraints on new housing could mean that many Kuilima workers will commute to work from outside the area, while others add to the already crowded conditions in the existing housing.

In this context, these Development Plan amendments must be seen as largely responsive to economic and demographic changes which are already in progress. The "impact" of the project is a matter of *where* the anticipated development occurs, and not whether it occurs.

Notably, activities at the proposed industrial area would likely support the expanded Kuilima Resort and its workforce. Hence, these would be ones which have been counted for EIS purposes as indirect and induced impacts of the Kuilima Resort expansion (Community Resources, Inc. and A. Lono Lyman, 1984).

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Similarly, the expansion of the Polynesian Cultural Center responds to projected growth in the island visitor census (DBEDT 1988). Resort project EIS's have already forecast increases in off-site visitor spending that would presumably account for the PCC expansion.

New housing in the project is intended to alleviate existing housing pressures *within* the area, rather than attract new residents *to* the area. Hence, it will be responsive to existing conditions.

1. Employment

Two types of employment opportunities will be created by the requested DP Amendments -- construction jobs and operational jobs. Operational jobs are new long-term or on-going jobs that would be created in La'ie after construction is completed within the proposed DP Amendment areas.

Construction (Short-term) Employment: An estimated 300 construction jobs per year will be generated between 1993 and 1995 in La'ie, tapering off to 140 jobs per year between 1996 and 2000 (Table 10). These figures cover construction of new facilities for the land uses proposed by the DP Amendments.

Operational (Long-term) Employment: By 2005, the DP Amendments are expected to create 100 to 130 new full-time direct jobs in La'ie and 40 full-time-equivalent (FTE) jobs for students. The majority of direct operational employment would occur at the PCC and the light industrial area. By 2005, the PCC expansion will probably create an additional 50 full-time jobs and 35 FTE student jobs. The industrial areas are estimated to employ between 45 and 75 people. Additional employment at BYUH, the wastewater reclamation facility, and the resort beach-front amenities is estimated to be about 15 jobs.

Employment effects also include indirect and induced jobs, as well as the above-discussed direct jobs. "Direct" jobs are those jobs involved in the actual construction and operation of proposed land uses within a Development Plan request area. Some of these jobs, such as jobs in construction firm's offices and loading yards, may be out of the area. "Indirect" jobs are created by demand for goods and services to support a proposed land use within a Development Plan request area, e.g., jobs in suppliers' firms. "Induced" jobs are supported by the wages of workers who have direct and indirect jobs. An example is jobs in retail stores patronized by workers. For a rural area like La'ie, most of the indirect jobs are likely to be located outside the community, whereas the locations of induced jobs will roughly reflect where those holding the direct jobs live.

A summary of projected employment which would be generated by development in the DP Amendment areas is provided in Table 10.

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TABLE 10
 PROJECTED EMPLOYMENT ASSOCIATED WITH
 DEVELOPMENT OF THE DP AMENDMENT AREAS

	Average Annual Construction Jobs		Operational (Ongoing) Jobs*	
	1993-1995	1996-2000	1995	2005
Direct Employment	100	40	0	100-130
Indirect & Induced Employment	200	100	0	110-140
TOTALS	300	140	0	210-270

* Excludes direct jobs occupied part-time by students, but includes indirect and induced jobs attributable to the part-time student jobs. Projections for part-time student jobs are 20 (10 FTE) jobs in 1995, 40 (20 FTE) jobs in 2000, and 80 (40 FTE) jobs in 2005.

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2 Personal Income

Personal income paid to construction workers could be expected to amount to an average of \$7.8 million annually between 1993 and 1995, then \$3.7 million annually between 1996 and 2000. Wages of direct operations employees would reach nearly \$2.6 to \$3.2 million by 2005. Eventually, operational wages would stabilize at about \$3.3 to \$3.8 million.

C Mitigative Measures

The impacts of the requested DP Amendments on employment and personal income will be beneficial to area residents. Consequently, no mitigative measures are needed or recommended.

4.16.3 Housing

A. Existing Conditions

BYUH Campus: The BYUH on-campus dormitories provide living accommodations for 60 to 65 percent of the BYUH student population. The remaining students either live in private housing in La'ie or commute to the University from outside the community.

La'ie: While the Ko'olauloa region is distant from Honolulu, where O'ahu's housing prices are highest, prices for single-family properties within the study area have climbed along with island-wide averages. Of all Ko'olauloa Census Division communities, La'ie faces the most serious housing shortage. La'ie has more people but fewer housing units than any other census tract in Ko'olauloa. High prices and a lack of available units help to explain why there is widespread overcrowding and house sharing in the total study area.

The majority of occupied units in the La'ie area are rented at prices (median \$509/month) which are the lowest in the Ko'olauloa region (median \$563/month) and below the median levels found island-wide (\$615/month). Only approximately one third of the occupied units are owner-occupied, compared to almost half for Ko'olauloa and just over half for O'ahu. The median price of owner-occupied housing in the La'ie area (\$179,500) is lower than both the surrounding region median price (\$197,000) and the island median price (\$283,600).

The median number of rooms per housing unit in La'ie was five, compared to four rooms for the rest of Ko'olauloa. Despite this relative spaciousness, La'ie is the most crowded community in the Ko'olauloa Census Division, with 4.33 persons per housing unit compared to 3.5 persons for the Ko'olauloa Census Division and 3.02 persons for O'ahu. Almost 20 percent of La'ie residents surveyed live in "very crowded" units (more than 1.5 persons per room) and another 20 percent in "crowded" units (1 to 1.5 persons per room).

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Ko'olauloa/North Shore Region: No major proposals have been made by others to increase the housing stock in the La'ie area. In the remaining areas of the region, planned and proposed residential projects are largely intended for the visitor or luxury market, but also include some components to meet the housing needs of persons now living in Hawai'i.

Affordable housing for low to moderate-income families is being constructed at Kahuku as part of two programs. The Kahuku Housing Corporation began construction of 289 units in 1987. Current construction is now overseen by the Kahuku Village Association. Approximately 177 units remain to be built by 1993, all of which have been allocated to Kahuku residents.

The other housing development program planned in Kahuku involves the provision of up to 200 housing units as a condition of the City and County approval of the Kuilima Resort expansion (1985 approval). These are for low to moderate income families residing in Ko'olauloa or the North Shore. However, since 1991, all Kuilima projects (except the golf course) are on hold, and construction is not expected to resume for at least two years.

Obayashi's Lihi Lani Recreational Community in Pupukea has received Development Plan amendment approval, but further land use and construction permits are required. The project would provide 180 affordable housing units and 120 market residential lots by 1996, should their development schedule proceed as planned.

A proposal to build 114 housing units in Hau'ula is on hold until infrastructural needs can be adequately addressed.

A joint effort by the City and County of Honolulu and the Weinberg Foundation to provide temporary housing for 55 families will be completed in June 1992. The housing will be erected between Malaekahana State Park and Kahuku.

B. Anticipated Impacts

The proposed residential area is expected to help considerably to relieve the existing shortage of housing in La'ie, and thereby have a positive impact within the La'ie community. Given the situation of overcrowding which currently occurs in La'ie households, it is expected that many of those who will move into the new residential area will be existing residents of the area.

Assuming the necessary approvals are obtained without undue delay, housing unit construction is anticipated to occur between 1994 and 1998. The residential area is intended to be designed and constructed so that a majority of the home prices will be affordable for existing La'ie residents. Market priced housing will be provided only to the degree necessary to meet this overall goal. The home prices will be tailored to the La'ie area market and, as a result, are expected to meet and exceed current State standards for affordability. The market lots or units are expected to be sold at price levels

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which are typical for market housing in the region. It is anticipated that the affordable unit buyers will mostly be from La'ie or the Ko'olauloa region.

If the proposed housing construction is delayed beyond 1998, it is expected that new workers at approved visitor industry developments within the region will also look to occupy the new homes. This could offset to a significant degree the intended positive effect of new housing for La'ie residents. Increased demand for housing, which is anticipated given approved resort development in the region, will create a market situation wherein existing La'ie residents would be hard-pressed to compete.

New employment will be created in La'ie over the ±13 year development period as a result of the proposed DP Amendments. According to estimates by Community Resources, Inc., the demand for new housing associated with these La'ie jobs would range from 10 to 20 new households (under low economic growth assumptions) and between 60 and 80 new households (under high growth assumptions) by 2005. Only part of this new housing demand -- up to 30 units -- is expected to be located in the Ko'olauloa/North Shore region. This new demand for housing could, along with the existing pent-up demand in La'ie, be met by the proposed residential area.

In several instances, implementation of the proposed DP Amendment land uses will eventually displace some residents who are currently leasing property from Zions Securities Corporation. In most cases, the leases are on a month to month basis or will soon expire. The affected parcels on which persons are currently residing are listed below.

Proposed BYU Mauka Residential Area. Two houses are located on the hill above the aquaculture ponds and occupied by employees of the aquaculture operation.

Egg Farm Alternative Residential Area. There are two caretaker residences occupied by employees of the Cackle Fresh Egg Farm.

La'iemalo'o Alternative Residential Area. One structure in this area appears to be occupied as a full or part-time residences, one of which is currently vacant.

La'ie Shopping Center Parking Lot Expansion. The expanded parking area proposed for the La'ie Shopping Center will displace two residences, one of which is currently vacant.

Resort Amenities Area. There are two residential structures on this site.

C. Mitigative Measures

The proposed new affordable housing is expected to have a very positive impact on the existing overcrowding in La'ie. It will also provide homes for those who will fill the new jobs that will be generated within the community. An improvement in overall living conditions is expected because many existing residents will be afforded an opportunity to move out of overcrowded homes. By locating affordable homes in

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proximity to La'ie's primary job centers, the degree to which La'ie workers are forced to live in other distant areas of O'ahu will be lessened.

In addition to addressing the above-described housing needs, the proposed new residential area will provide suitable units for the relocation of households displaced when any of the projects on the proposed DP Amendment areas are built. The applicant intends to assist in the relocation of the affected residents where needed.

4.16.4 Government Revenues and Expenditures

A. Existing Conditions

Zions Securities Corporation currently pays approximately \$20,000 to \$30,000 per year in City and County property taxes on the lands included in this Development Plan Amendment request. The State gains revenue from taxes on agriculture now practiced on-site. Independent of this Development Plan amendment application, Zions Securities Corporation is phasing out its agricultural leases; however, the land will continue to be utilized for agricultural purposes until converted to uses described in the requested Development Plan Amendments. There are no significant public expenditures being made for direct services to the alternative residential sites or other DP Amendment areas due to their undeveloped nature and/or the fact that roads and the water and sewer sewer systems in La'ie are all privately owned and operated.

B. Anticipated Impacts

1. Revenues

Development of the proposed DP Areas in La'ie would increase tax revenues received from these these properties by the City and County and State governments to about 10 to 16 times what they are now. County government revenues would be generated principally from real property taxes on the new housing units, expansion to PCC, and the new industrial area. Revenues to the State government would be composed principally of general and specific excise taxes, personal income taxes paid by occupants of the new residences and the general excise tax on sales revenues attributable to day visitors to the community (Table 11).

Net additional real property taxes were projected according to assessed values on comparable properties in the region, less the current property taxes generated by the project sites. The estimated increase from the proposed housing units, PCC expansion, industrial areas and other facilities is estimated to be over \$150,000 per year by 2000, and would reach \$278,000 per year by 2005 (1991 dollars) when industrial area tenants are all well established.

New revenues to the State government would be generated from excise and income taxes, among others. Excise and income taxes on construction and operations from the La'ie Development Plan Amendments would generate, on average, over \$454,000 to \$493,000 (1991 dollars) annually for the period 1993 to 2005. Additional tax revenues

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TABLE 11

**PROJECTED REVENUES AND STATE TAXES ASSOCIATED WITH
DEVELOPMENT OF THE DP AMENDMENT AREAS**

	ANNUAL AVERAGE (\$1,000s) FOR:			CUMULATIVE 1993-2005
	1993-1995	1996-2000	2001-2005	
CONSTRUCTION SPENDING				
Affordable Residential	1,770	2,322	0	16,920
Other Construction	15,775	3,751	331	67,732
OPERATIONAL RECEIPTS				
Polynesian Cultural Center (1)	458	2,343	4,830	37,242
Industrial Park				
Low	0	726	1,902	13,144
High	0	1,347	3,528	24,377
<hr/>				
SELECTED POTENTIAL TAX REVENUES ASSOCIATED WITH OPERATIONS AND CONSTRUCTION				
Excise Tax (2)				
Low	326	196	280	3,361
High	326	221	345	3,810
Income Taxes (3)				
Low	266	123	88	1,852
High	267	132	108	2,003
TOTAL				
Low (4)	593	319	368	5,213
High (5)	593	354	453	5,813

- NOTES:** All values are in thousands of dollars.
- (1) Based on estimated average visitor spending of \$48, estimated as covering both PCC receipts and off-site travel costs.
 - (2) Excludes affordable housing construction.
 - (3) At a rate of 3.41% (based on income tax receipts as a percentage of personal income in Hawaii).
 - (4) 1993-2005 average: \$454,000
 - (5) 1993-2005 average: \$493,000

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associated with residents' spending and conveyance taxes would add slightly to this estimate.

2. Expenditures

Given the scope and nature of the requested DP Amendments in La'ie, government expenditures associated with development are those resulting from providing services in La'ie, rather than in other areas. Provision of City and County services for police and fire protection will need to be extended to previously undeveloped lands identified for residential and industrial use. Existing water supply and wastewater services in La'ie are privately owned and operated. It has not yet been determined whether the applicant will seek to dedicate to the City and County either of the new water and sewer systems which will service the new residential area. In either case, however, no major City and County capital expenditures will be required in connection with these DP Amendments.

The major State expenditure arising in connection with the requested residential area would be the need to add a second elementary school in La'ie. This school would serve students living in the proposed new residential area, and is likely to also serve students from existing residential areas in the vicinity. However, since the applicant intends to dedicate land for a new elementary school, this expenditure will be substantially reduced.

3. Fiscal Impacts

Additional fiscal benefits to the City and County are projected as rising to eventually reach over \$278,000 annually. Benefits to the State are projected as averaging over \$450,000 between 1993 and 2005.

The Development Plan amendments respond to existing and anticipated forces associated with growth of the island economy. The costs of island-wide growth have, to a large degree, already been assessed in the permitting process for other major developments. In other words, costs associated with new residents in the region have already been estimated and offset by benefits flowing from new visitor industry developments. These costs are accordingly not counted here.

C. Mitigation Measures

Since future tax revenues that will be collected by the City and County and the State are expected to more than offset the costs of providing some public services, no mitigation measures are considered necessary with respect to government expenditures.

4.16.5 Lifestyles

A. Existing Conditions

Nearly all residents of the North Shore/Ko'olauloa region prize "country" living. However, the communities in the region are composed of so many diverse peoples and

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cultures that the notion of "country" living varies considerably. A "country" lifestyle involves a close-knit community for some residents, but a fairly independent mode of living for others. Like La'ie, nearly two-thirds of the regional population in 1990 lived in small towns with business centers and well-defined neighborhoods.

Many of these communities, such as La'ie, are or were once "company towns", resulting in some clear lines of social organization. They are more subject to small-town pressures for cooperation and social cohesiveness. People from neighboring communities tend to view La'ie as being self-contained and as having scant contact with other towns. However, La'ie residents have become increasingly more vocal on land/economic issues while also becoming more involved with nearby communities.

The typical La'ie lifestyle is largely centered on the activities of the Church of Jesus Christ of Latter-Day Saints (LDS Church). Although LDS Church involvement brings many La'ie residents together, people in the town recognize cross-cultural and socio-economic differences between various groups. Many of the residents know each other, and some have felt part of the community for generations.

Thus, centralized employment centers and large-scale economic activity are (to a point) historically compatible with the lifestyles and values of the community dwellers of this region.

B. Anticipated Impacts

La'ie residents' lifestyle will not be significantly affected by the DP Amendment requests. Rather than the city coming to the "country" and creating an urban fringe, La'ie will retain its rural qualities and remain a "community within the country". The proposed DP Amendment requests will complement the existing scale of development and allow the logical expansion of the land uses and facilities already there.

The population of La'ie will increase some as a result of these projects, however, it is not expected to increase nearly as much as the proposed increase in the number of housing units may seem to indicate. No real change to the overall ethnic makeup of the community is anticipated, since many existing residents are expected to move out of La'ie's overcrowded housing stock into the new housing units. The residential area will be mostly single-family homes and comparable in density with the existing residential areas in La'ie and the region.

New employment opportunities, such as operational jobs generated primarily by the expansion of the PCC and the new industrial area, will be very similar to the existing general types of jobs in the community. The overall effect on lifestyles in the La'ie community from the proposed developments will be the opportunity for the next generation to stay on in the area and perpetuate the existing lifestyle.

The Egg Farm and La'iemalo'o residential alternative areas each include a parcel which is not owned by Property Reserve, Inc. The locations of these parcels are described in

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Section 1.0 and are shown on Figures 5 and 6. In both cases, the parcels are currently used for residential purposes.

The impact of the proposed residential development on these parcels will be to change the immediate surroundings from active agricultural uses or open space to a residential neighborhood. Improvements associated with the proposed residential area, such as sewer connections and paved roadways, will be provided to these private parcels as well as to other residences in the neighborhood.

The requested DP Amendments (including the alternative residential sites) should have no noticeable impact upon the "lifestyle of *kuleana* landowners" for the following reasons:

- The requested Amendments do not require the development over *kuleanas* or other property not owned by the developers of the land being developed.
- The requested Amendments will not deny required access to *kuleanas* by *kuleana* owners. Such access to *kuleanas* will not be gated, blocked, or otherwise impaired to *kuleana* owners.
- The requested Amendments will not fill or destroy any streams, or divert same away from *kuleanas*, or dam or cut off stream waters from *kuleanas* served by streams.
- The requested Amendments should not affect or obstruct exercise of any other traditional, legally recognized, rights of *kuleana* owners.
- Other effects of the requested DP Amendments upon *kuleana* lands are as described in the Draft EIS. They are similar or identical to expected impacts upon other lands surrounding *kuleanas*.

C. Mitigative Measures

The surrounding environment for the parcel within the Egg Farm alternative residential area or the La'iemalo'o alternative residential area will be changed significantly, if one of these sites is selected as the location for the new residential area. This could adversely affect the existing lifestyle of the occupant, depending on what that existing lifestyle is. On the other hand, the infrastructure improvements to the area will be a benefit which, depending on the occupant's viewpoint, could be perceived as counterbalancing any adverse lifestyle impacts.

4.17 INFRASTRUCTURE

This section includes brief descriptions of the existing infrastructure on the project site and the surrounding area for water supply, wastewater collection, treatment and disposal; solid waste disposal, drainage facilities and roadways. Anticipated project impacts are evaluated along with mitigative measures proposed to minimize impacts on infrastructure. Aqua/Waste Engineers (January 1992) has prepared civil engineering

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studies of wastewater management, water supply, and storm drainage for the requested DP Amendment Areas. The complete reports are included in Appendices C, D, and F, respectively. Information from these reports is included in this section.

4.17.1 Water Supply Facilities

A. Existing Conditions

The La'ie community water system is owned and operated by Zions Securities Corporation. This system is not connected to the County Board of Water Supply (BWS) although BWS has evaluated the system for possible operation in the future.

The location of the five wells which provide drinking water to the existing Laie community are shown on Figure 25. The "BYU Wells" are numbered 3855-06, 07, and 08; the "Temple Well" is 3956-03; and the "Egg Farm Well" is 3956-05. The wells draw groundwater from a contained artesian aquifer. Current potable water consumption is estimated at 1.5 million gallons per day (mgd), including residential, institutional, and commercial use.

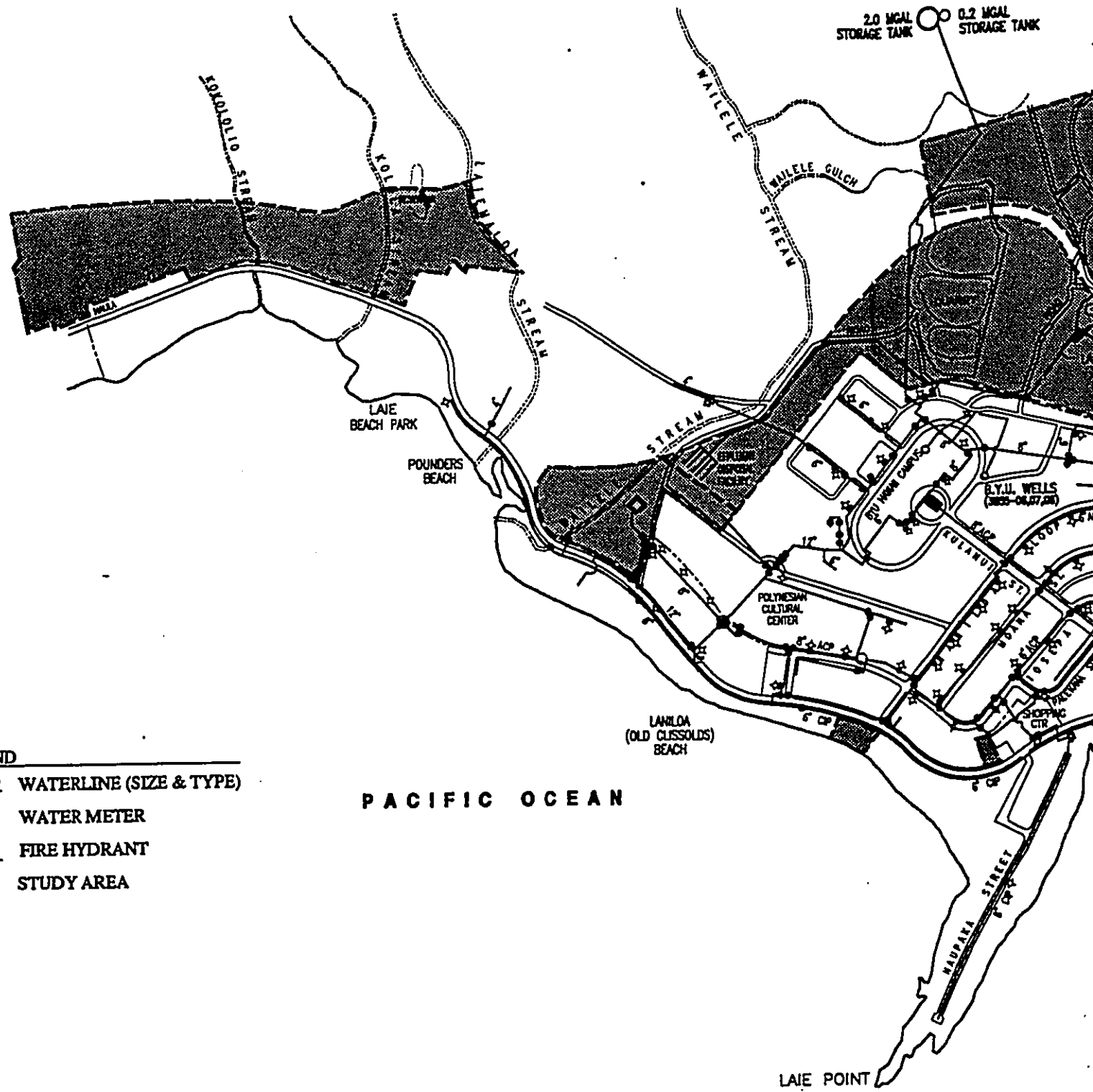
The Childs Well (3855-10) is not shown on the map because it was disconnected in 1990 after failing to meet a Department of Health bacteriological test, probably due to a leak in the casing of the well. This well was disconnected from the potable water system and has not been used for domestic water since that time. The well is currently used for irrigation purposes.

The Quarry Wells (3856-01 - 06) are not part of the current potable water system. These wells will be evaluated during the summer of 1992 to determine their viability for future addition to the water system. The Lagoon Well (3855-09) is located in the center of the Polynesian Cultural Center lagoon and is only used to maintain the water level in the lagoon and is not part of the domestic water system.

The pumped water supply is stored in a 2.0 million gallon reservoir, located mauka of the BYU-Hawai'i campus at an elevation of approximately 230 feet. This reservoir is a welded steel tank that was moved to the site and reconstructed in 1987. Although the present water system is privately owned and operated, an additional 0.5 mg of storage capacity is needed to meet BWS standards for the existing water system.

Transmission of water throughout La'ie is provided by a single system, portions of which were installed beginning in 1927. Expansion of the system occurred with new development in La'ie between 1958 and 1975. Because of the age and incremental development of this system, the size and type of transmission pipe varies considerably.

There is no water transmission system presently extending to the proposed BYU Mauka residential area or either of the alternative residential areas, the PCC and BYU expansion areas, or to the proposed industrial area near the Egg Farm road.



- LEGEND**
- 6" CIP WATERLINE (SIZE & TYPE)
 - Ⓜ WATER METER
 - ⊕ FIRE HYDRANT
 - ▨ STUDY AREA

**EXISTING WATER SYSTEM
LAIE DEVELOPMENT PLAN AMENDMENTS**

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B. Anticipated Impacts

The land uses proposed for all of the DP Amendment areas will require an additional water source capable of delivering an approximately 300,000 gpd (or about 0.30 mgd) to meet potable water needs. Based on pumping rates from the existing well sources, an additional two well source locations would be required. One well would be regularly used and one would remain as a stand-by backup system. Based upon available information, as discussed in Section 4.5, the underlying artesian aquifer has adequate capacity to satisfy the added demand proposed with the DP Amendments.

Preliminary development costs to construct off-site and on-site water delivery systems for the proposed and alternative residential sites are: Proposed BYU Mauka site - \$950,000; Egg Farm Alternative site - \$1,300,000; and La'iemalo'o Alternative site - \$1,600,000.

Installation of water lines within the community will create some short-term impacts such as dust, noise and traffic disturbances during the period of construction.

C. Mitigative Measures

Water Source Development: A water master plan will be developed for La'ie to include provision for two new well source locations capable of delivering 0.30 mgd to serve the proposed land uses. New source development will require review and approval from the Water Commission.

Water Storage: An additional storage tank will be constructed to meet water storage needs of the proposed land uses plus the current 0.5 mgd storage deficit identified by BWS. Storage tank siting and line sizing will be determined as part of a water master plan.

Water Distribution and Fire Flow: Distribution main lines will be installed for new development areas. Fire hydrants will be installed, as needed, to meet standard fire protection guidelines.

Water Facilities Construction: Mitigation of nuisances during construction such as dust, noise and traffic disturbances will be accomplished by: limiting construction to weekdays during working hours when many residents are not at home; use of wind breaks or watering to reduce dust; and observance of approved traffic control plans.

Water Conservation: Measures to conserve water, such as re-use of treated wastewater effluent for irrigation purposes, production of compost from effluent sludge and green-waste materials, and water flow restrictors for new domestic water use, will be incorporated wherever possible in the design of new facilities within the requested DP Amendment areas. Short term (installation) and long term (operational) costs will be considered carefully to ensure that the primary goal of providing affordable housing is not unduly obstructed in an effort to incorporate water conservation devices.

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4.17.2 Wastewater Facilities

A. Existing Conditions

Existing System and Service Area: The La'ie community wastewater system is owned and operated by Zions Securities Corporation. The existing collection system presently serves the Hawai'i Temple, the entire BYUH campus, Polynesian Cultural Center, Laniloa Lodge, Chevron, McDonalds, and the La'ie Shopping Center. Residential connections to the collection system include on-campus housing at BYUH and 128 private homes in the newer La'ie residential area. All other residential areas within La'ie are not incorporated within the existing service area. Cackle Fresh Egg Farms production facilities and its smaller retail sales facility on Kamehameha Highway are not served by this system.

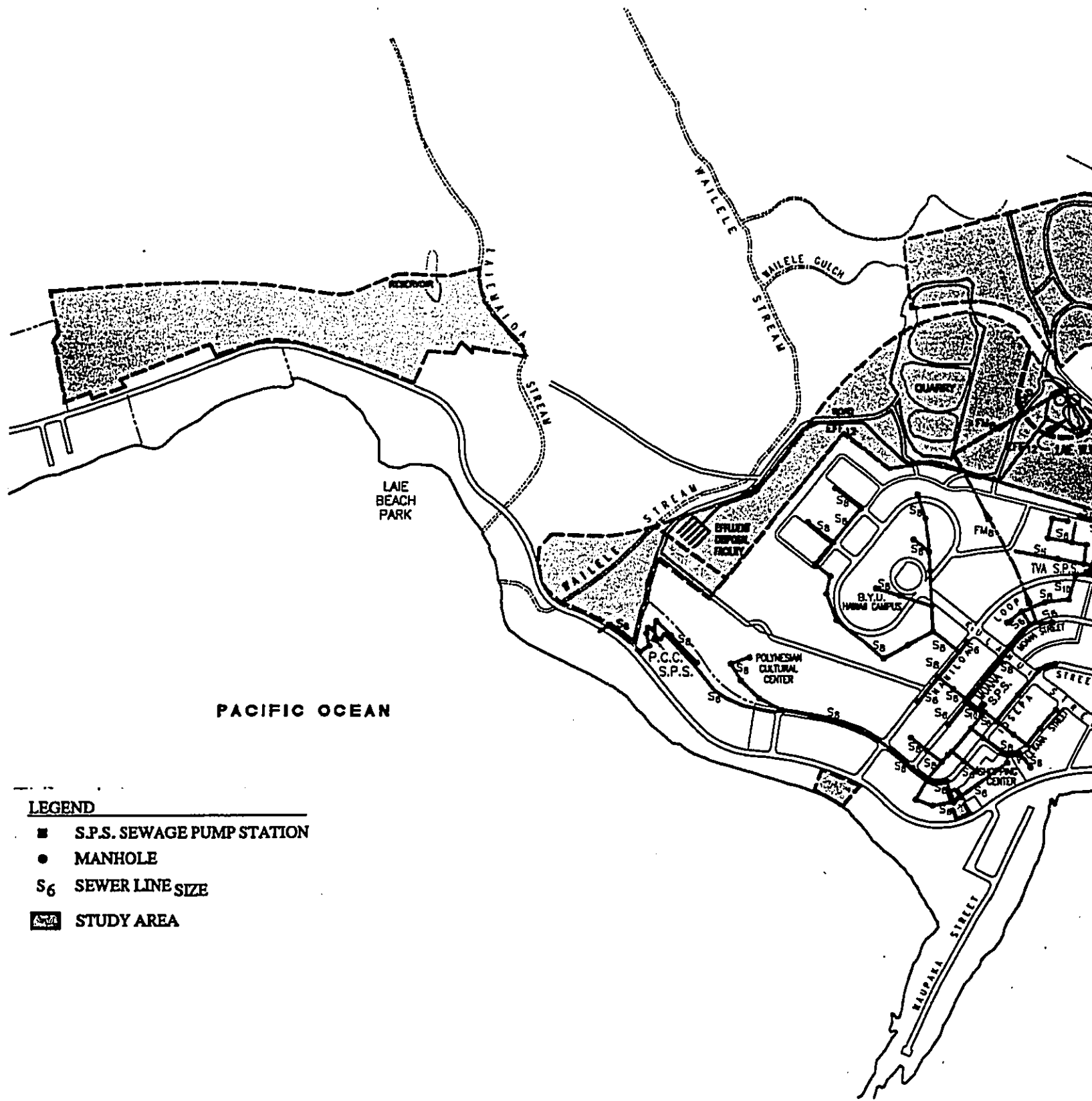
Due to the relatively flat topography in the service area, existing wastewater flows are transported to the Moana pump station via two pump stations in the vicinity of Temple View Apartments on Naniloa Loop and southeast of the Polynesian Cultural Center (Figure 26). The Moana pump station carries cumulative flows to the La'ie Wastewater Reclamation Facility which is upslope of Temple View Apartments complex at an elevation of approximately 60 feet.

The existing Wastewater Reclamation Facility is designed to treat average wastewater flows of approximately 0.5 million gallons per day (mgd). Average wastewater flows are between 0.365 and 0.465 mgd. However, a 1989 study of inflow and infiltration concluded that rainfall events producing over 100 mm (approximately four inches) increases the inflow to the system by 50 to 70 percent. A Facility Plan for the Laie Wastewater Reclamation Facility (LWRF) is under preparation which proposes expansion of the Wastewater Reclamation Facility.

Treated effluent is currently discharged to a 12-inch line which carries effluent to an open wetland pond *mauka* of the existing wastewater treatment plant. However, the recent installation of a tertiary filtration complex and a subsurface drainfield for effluent disposal southeast of the existing plant will soon eliminate all effluent discharges into the open wetland pond and adjoining stream areas.

Wastewater Management Plan: The existing La'ie community is only partly sewered and will require a significant expansion of the existing gravity collection system, pump stations, and force mains to provide service to the entire community. Discussions are ongoing between the community and Zions Securities Corporation to determine the most feasible method for financing these improvements. The results of these discussions are planned to be included in a final La'ie Master Plan, scheduled for completion near the end of 1992.

The design assumptions included in the Facility Plan for the Laie Wastewater Reclamation Facilities (LWFP)/Draft EIS (in preparation) account for wastewater generated by: present demand; new service to existing un-sewered portions of La'ie, stormwater infiltration and future growth of the La'ie community. Future growth is



LEGEND

- S.P.S. SEWAGE PUMP STATION
- MANHOLE
- S₆ SEWER LINE SIZE
- ▭ STUDY AREA

**EXISTING WASTEWATER SYSTEM
LA'IE DEVELOPMENT PLAN AMENDMENTS**

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addressed following a "moderate" growth scenario for the year 2010. The LWFP considers the potential approval of all land uses proposed by the requested DP Amendments. The LWFP offers several alternative treatment plan schemes, with a recommendation that the existing wastewater reclamation facility be expanded and upgraded to meet the existing and future demands for wastewater treatment.

Given the considerable amount of agricultural land in the area, the LWFP proposes re-use of treated effluent water for agricultural irrigation. Sewage sludge from the La'ie wastewater treatment process is planned to be composted with green waste collected from the community, as a viable method of re-use. The LWFP is currently under review by the State DOH and the County Board of Water Supply to ensure that the system design and monitoring mechanisms are acceptable. During an interim period, effluent will be dispersed by a subsurface drainfield located *makai* of the UIC line that will percolate tertiary treated effluent into the groundwater above the basalt cap on the aquifer. Monitoring wells are in place and background water quality measurements have been completed. This system is proposed to be utilized as an emergency or back-up system once the long-term effluent disposal system is in operation.

B. Anticipated Impacts

The wastewater system in La'ie is currently privately owned and operated. Other public infrastructure will not be affected by the land uses proposed by the DP Amendments. Improvements are underway at the existing wastewater treatment facility to eliminate all effluent discharges into the open wetland pond, through installation of tertiary filters and a subsurface effluent disposal facility. Further improvements are planned to upgrade the quality and capacity of the facility. The new tertiary treatment process will produce an effluent quality which may be characterized as having a maximum to 10 mg/l Biochemical Oxygen Demand (BOD) and Suspended Solids (SS), as compared to permissible levels of "30-30" BOD and SS.

The long-term upgrade and expansion plan will be implemented following State Department of Health review and approval of the LWFP/Draft EIS (in preparation). The plan proposes an ultimate design capacity of 1.5 mgd, which will be phased as necessary to meet moderate growth projections for the year 2010. The 1.5 mgd design capacity exceeds the necessary design flows to meet moderate growth projections for the year 2010. The moderate growth projections include and exceed the wastewater requirements projected for the subject DP Amendments.

Preliminary development costs to construct off-site and on-site wastewater transmission and lift station systems for the proposed and alternative residential sites are: BYU Mauka site - \$1,100,000; Egg Farm Alternative site - \$1,700,000; and La'iemalo'o Alternative site - \$1,300,000.

The potential environmental impacts of the proposed irrigation disposal of part of the treated effluent will be addressed in the LWFP/Draft EIS (in preparation). Potential impacts include nitrate leaching to groundwater, and subsequent release to ocean water. Because the shallow aquifer down-gradient of the planned disposal site is not tapped for

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potable purposes, slightly elevated nitrate concentrations in this groundwater is not a public health concern. As groundwater is released to the ocean (via natural release points offshore) nitrate in groundwater will be rapidly mixed to background levels, and rapidly utilized by algae and phytoplankton. Ocean water quality is not anticipated to be adversely affected by the proposed Laie wastewater disposal techniques.

C. Mitigative Measures

Because public wastewater facilities will not be affected by this project, there will be no mitigative measures required for public facilities. Zions Securities Corporation will upgrade the existing treatment system and provide back-up measures for its on-site facilities.

Back-up Features for Wastewater Treatment and Disposal: Safeguards will be incorporated in the design of the wastewater treatment and disposal facilities to ensure the safety and environmental sanctity of the community in the case of a mechanical or electrical failure. The following are the safeguards proposed for the Laie Wastewater Reclamation Facility (LWRF) and sewage pumping stations (SPS):

1. Generators. Standby power will be provided to each SPS and the LWRF to provide emergency power in case of electrical power outage. Thus, pumping operations and disinfections can continue uninterrupted, therefore preventing sewage spills.
2. Wet Well. Extra storage capacity will be designed into wet wells at each SPS to insure against a backup resulting in wastewater overflow, in the event of equipment failure.
3. Redundancy. Parallel sets of process basins, equal in capacity, will be constructed to provide operational redundancy during periodic instances of basin/equipment maintenance. Pump stations will be equipped with dual pumps, each capable of handling the entire flow entering the station.
4. Odor Abatement. Improvements to the treatment processes include measures to minimize the emission of odors.
5. Alarms and Telemetering. Alarms indicating high/low liquid level conditions, equipment malfunction, and other emergency conditions will be installed at each SPS. Visual and audio alarms will be mounted in areas routinely accessed by maintenance personnel. As far as practicable, signals will also be transferred through telephone lines by telemetry to the homes of key maintenance personnel as an additional safety measure during non-working hours.
6. Restricted Public Access. Pump stations and the treatment plant will be fenced to restrict public access. Additionally, these facilities will be landscaped or otherwise shielded from direct view.

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7. Warning Signs and Special Precautions. Effluent reuse facilities, including piping and appurtenances, in areas subject to public access will have warning signs that irrigation water is not fit for consumption. Piping and appurtenances will be labeled to distinguish the product as reclaimed sewage effluent.

The effluent will be tested to meet criteria stated in the proposed Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 62, Wastewater Systems.

4.17.3 Solid Waste Disposal Facilities

A. Existing Conditions

At present, solid waste generated by residents within the La'ie community is collected by the City and County and disposed of at appropriate sanitary landfills on the Windward side of O'ahu. A Convenience Center is located at the City and County's Corporation Yard, at the northern end of the La'ie study area and serves as a solid waste transfer station before final disposal.

B. Anticipated Impacts

Debris generated during construction, will either be utilized on-site or trucked off-site. Solid waste generated by the proposed development projects (during and after construction) will be collected by a private collection company and disposed of at the nearest City and County sanitary landfill. It is estimated that an additional 3.0 to 4.0 tons per day of refuse may be generated by the various components of the DP Amendments upon completion. This will place a small additional demand on City and County waste disposal facilities.

C. Mitigative Measures

Two measures are proposed to mitigate solid waste disposal concerns with the additional development of La'ie.

Recycling: Cleared trees that cannot be preserved on-site will be mulched for re-use. Source separation, recycling collection stations, and other types of programs for recycling will be supported by Zions Securities Corporation.

Solid Waste Disposal: It is expected that City and County revenues derived from the property taxes levied on completed projects will be sufficient to finance their fair share of the cost for major capital improvements, and operations for solid waste disposal facilities.

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4.17.4 Drainage Facilities

A. Existing Conditions

Existing storm drainage facilities in La'ie include the Kahawainui flood control channel on the north side of the community, Wailele Stream on the south side, and a lined 15-foot wide drainage ditch that flows along Naniloa Loop from a natural drainage course *mauka* and north of the Temple View Apartment complex (Figure 17). Construction of the Kahawainui flood control channel in 1989 has helped to alleviate storm flows from overtopping former natural drainage courses along Kahawainui and La'iewai Streams. More recently, a significant improvement was made to the Wailele Stream drainage course through the clearing of vegetation and debris within and along its banks.

However, even with the recent improvements to some storm drainage facilities, many homes within urbanized La'ie regularly experience flooding due, in part, to the low elevation at which the primary residential area was built and the presence of many slab-on-grade housing units. The current inadequacies of the storm drainage system causes an additional problem of substantial infiltration to La'ie's existing wastewater collection system.

B. Anticipated Impacts

Of the ±201 acres requested for DP Amendment, approximately 112 acres will be developed within the same drainage area that contains the existing developed residential areas of La'ie. The remaining DP Amendment (89 acres) are outside this central drainage area. Each of the newly developed areas proposed will have proper drainage controls established on site, or will complete off-site drainage system improvements to accommodate additional runoff. A significant portion of the stormwater flows generated by new residential development will need to be directed either to Kahawainui Stream, Wailele Stream, or La'iemalo'o Stream. Low-lying sections of the community which currently experience flooding will not be affected by the new projects. Existing flooding conditions in these areas, however, will not be remediated by the new development projects. Additional community-wide drainage system improvements should be completed in the future to alleviate the currently poor drainage conditions.

Preliminary development costs to construct off-site and on-site drainage improvements for the proposed and residential alternative sites are: Proposed BYU Mauka site - \$200,000, Egg Farm Alternative site - \$200,000; and La'iemalo'o Alternative site - \$2,000,000. The substantially greater cost for the La'iemalo'o Alternative site (ten fold) is due to the three streams which cross the site.

C. Mitigative Measures

Storm Water Runoff Controls: Development within the proposed DP Amendment areas will not place an additional burden on existing drainage facilities or create a potential flood hazard for the existing properties in La'ie. Control of runoff from the

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development areas will be achieved through the construction of storm drainage facilities, swales, detention basins and dry wells within the new development areas. The use of drywells may offer a favorable opportunity for the disposal of a portion of stormwater flows into the shallow water table. Flooding may continue to occur in existing developed areas of La'ie (and other areas adjoining the development areas) which will not be caused by runoff from the new projects. Runoff generated by the proposed projects must be controlled on-site and/or through the improvement of off-site drainage facilities.

4.17.5 Roadways

A. Existing Conditions

Significant public roadways within the study area include: Kamehameha Highway (State Highway 83), Naniloa Loop, Hale La'a Boulevard, Kulanui Street and Lanihuli Street. Along Kamehameha Highway are numerous direct connections to residential driveways and smaller local roads, many of which are unpaved. None of the intersections with Kamehameha Highway are signalized within the study area.

The condition of most roadways in the area of the project is asphalt pavement, and in some areas, roadways are overdue for maintenance. Most roadways have grass shoulders and are paralleled by drainage ditches. Guide rails are present along some bends in the Highway. Lighting and signage are present on the more frequently traveled routes off the Highway.

B. Anticipated Impacts

The impact of project development on local roadways will consist of construction impacts and operational impacts. The short-term effects of the project will be due to construction activities, which are not expected to be significant. Delays on Kamehameha Highway will occur during the construction of roadway improvements at the intersections serving the new projects. Construction of water and sewer lines for the proposed residential area may also cause some minor traffic detours and delays, depending upon which of the alternative residential sites is selected.

Long-term operational impacts of the project will cause a normal wearing effect on roadway surface conditions. As compared to other traffic added to Kamehameha Highway roads by the project's completion (2004), the vehicles added by the new projects will represent approximately 12 to 15 percent of all vehicles (worst case analysis). Local roadways will be privately maintained.

Preliminary development costs to construct primary access roads to the proposed and alternative residential sites are: Proposed BYU Mauka site - \$2,500,000; Egg Farm Alternative site - \$3,000,000; and La'iemalo'o Alternative site - \$500,000. Costs vary for the proposed BYU Mauka residential site depending upon the access alternative selected. Establishment of a new loop road connection to the proposed BYU Mauka residential site, which involves the greatest expense, was assumed in the traffic study.

C. Mitigative Measures

Roadway surfaces affected by construction of the project-related infrastructure will be repaved once construction is completed. Approved traffic control plans will be followed during the construction period to avoid unnecessary delays to traffic flow. Proper maintenance schedules will be followed for Kamehameha Highway and the privately-owned roadways in La'ie.

4.17.6 Electrical Supply

A. Existing Conditions

Hawaiian Electric Company (HECO) owns and maintains the existing electrical system which serves the project area. Existing overhead transmission lines deliver 46 kV power to the Hau'ula and Kahuku substations, which then steps power down to 12.47 kV for overhead distribution in La'ie.

B. Anticipated Impacts

The proposed development of 450 housing units is expected to generate an additional electrical load requirement of approximately 1.4 megawatts (MW). Other use included in the DP Amendments would require 9.6 MW. Expansion of the local electrical distribution system will be required to accommodate the proposed projects. Proper coordination with HECO will be necessary to ensure that electrical supply facilities will be developed on a timetable which will support the proposed projects.

C. Mitigative Measures

Coordination with HECO: Zions Securities Corporation will coordinate its development planning efforts with HECO to supply power to the area. Zions Securities Corporation will participate in providing necessary improvements to the electrical distribution system as required to directly serve the proposed projects in the requested DP Amendments.

Alternative Energy Source: The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize alternative energy sources, such as solar water heating devices, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.

4.18 PUBLIC SERVICES

Public services for education, police and fire protection, health care and recreational facilities are all addressed in this section. Existing conditions, anticipated impacts and

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mitigative measures were evaluated based on interviews and correspondence with representatives from each of the public service entities.

4.18.1 Schools

A. Existing Conditions

The schools nearest the project are La'ie Elementary and Kahuku High and Intermediate Schools. Both are currently operating beyond capacity. La'ie Elementary had 869 students enrolled in September 1990, while Kahuku High and Intermediate had 1,750 students (Hawai'i State Department of Education, 1991a).

B. Anticipated Impacts

The development proposals covered by the DP Amendments application includes 450 housing units. The proposed 450 housing units is expected to generate 115 students at the elementary level (Grades K-6), 28 students in intermediate school (Grades 7-8), and 45 students in high school (Grades 9-12)(Dept. of Education). However, the housing is primarily planned to relieve crowding in La'ie, and it is not anticipated to bring an influx of new students to the area.

The Department of Education has projected stable enrollments over the next six years for the Windward District (Hawai'i State Department of Education, 1991b). At La'ie Elementary, a decline of 57 students (7 percent) has been forecast between 1990 and 1996. At Kahuku High/Intermediate, however, enrollments are expected to increase by 330 (19 percent) by 1996.

C. Mitigative Measures

Land for New Elementary School: Zions Securities Corporation plans to dedicate approximately eight acres of land for a second elementary school in La'ie. The Development Plan Amendment application includes a request for redesignation of land for this school. The new school will be built adjacent to the selected location of the proposed BYU Mauka residential site.

Revenues Generated by New Developments: The new land uses included in the application will generate a net surplus in State tax revenues. A portion of these funds should be allocated to education, which will defray the increased operational expenses of the Department of Education.

4.18.2 Police Protection

A. Existing Conditions

The study area is located in the Honolulu Police Department's Regional Patrol Bureau, District 4. This district is defined by the following boundaries: Makapu'u Point along the

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southeast coast of O'ahu to Crawford's Convalescent Home, near Waialeale on the North Shore, and along the Ko'olau Mountain Ridge.

Police protection is provided to the study area from the Kahuku Substation. Six beat officers and two supervisors are on each watch. Response time to the La'ie area fluctuates over time, but was recently estimated to be three to five minutes from the Kahuku Substation (Sergeant Souza, Kahuku Substation, 1/6/92).

B. Anticipated Impacts

Police protection will be required to serve the new BYUH Mauka residential area; however, a substantial increase in calls for police services is not anticipated (Police Department, 1992).

C. Mitigative Measures

Net tax revenues generated by the project should more than cover the cost of providing some additional police service for land uses proposed within the requested DP Amendment areas.

4.18.3 Fire Protection

A. Existing Conditions

The Kahuku and Hau'ula Fire Stations are nearest to the project area and can both respond to an initial fire call. Under existing normal weather, road and traffic conditions, fire trucks are expected to be able to access the proposed development areas in less than seven minutes. The two fire stations could assist each other for back-up fire fighting support.

Each fire station has one fire truck with a water pumper, and is able to provide engine and medical services. In addition, the Hau'ula Fire Station also has a tanker truck. Marine rescue service is provided by Ka'a'awa Fire Station, approximately eight miles southeast of La'ie (Captain Tomita, Fire Department, 1/6/92).

Improvements to the existing privately operated water system are under consideration in conjunction with finalization of the La'ie Master Plan. Zions Securities Corporation has contracted with consulting engineers to examine costs for these types of improvements. Mechanisms for funding such improvements are currently being explored.

B. Anticipated Impacts

The proposed land uses will require fire protection from the City and County Fire Department. The additional potential demand on fire protection services is not expected to place an unusual burden on the existing Fire Department facilities at Kahuku and Hau'ula, nor are they expected to require the provision of significant additional facilities

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or equipment. Net County property tax revenues generated by the proposed land uses should exceed the cost of additional services required of the fire station attributable to these development projects.

The requested DP Amendments should include construction of water facilities including storage, water lines, and fire hydrants to serve all new development areas to avoid placing additional demands on the existing water facilities.

C. Mitigative Measures

Water Supply for Fire Fighting: Water lines and storage with adequate fire fighting capacity will be installed by the applicant within the DP Amendment areas, as appropriate under standards for these facilities. The location of fire hydrants will be reviewed and approved by the Board of Water Supply and the Fire Department.

Compliance with Fire Code: Buildings and facilities within the DP Amendment areas will be designed with proper attention to the principles of fire safety, and will also be built to follow necessary City and County fire protection standards.

4.18.4 Health Care/Hospitals

A. Existing Conditions

The health care facility nearest the study area is the 26-bed Kahuku Hospital located approximately five to ten minutes drive by car from La'ie. This facility is also the site for one City and County ambulance and a helipad for medical evacuation helicopters.

The Kahuku Hospital offers comprehensive medical services around the clock. Other facilities at the hospital include a private dental office and a medical office/clinic with three physicians in private practice.

B. Anticipated Impacts and Mitigative Measures

Given the overcrowded housing conditions in La'ie, a significant number of existing residents are expected to relocate to the proposed 450-unit BYUH Mauka residential area. Consequently, the impact upon public health facilities will be slight. The hospital is not presently operating at full capacity (Correa, Kahuku Hospital, 1/6/92). No mitigative measures are considered necessary for health care services as a result of this project.

4.18.5 Recreational Facilities

A. Existing Conditions

The Polynesian Cultural Center in La'ie is a popular commercial recreational attraction that is located in La'ie. There are several City and County parks and a State recreational area located within the general area of the requested DP Amendment areas which

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provide recreational opportunities. Popular activities include sunbathing, surfing, bodysurfing, fishing, and informal beach activities such as picnicking and volleyball.

City and County beach parks in the La'ie area include Hau'ula, Kokololio/Kakela, and La'ie, as well as portions of the La'ie Point Lookout. Hau'ula Beach Park is lifeguard-protected and has a bathhouse, camping area, and trailer sites. A restroom is provided at Kakela Beach Park, but La'ie Beach Park and La'ie Point Lookout have no developed facilities. Malaekahana State Recreation Area, a short distance north of La'ie, provides swimming, snorkeling/diving, and surfing opportunities. Its facilities include restrooms, showers, picnicking and camping areas. Other undeveloped beach parks which serve the area are Pounders and Hukilau. Fishing is done off the La'ie Point Lookout. All these parks and recreation areas are actively utilized.

Two privately owned sites are owned and maintained in park uses by the applicant. Po'ohaili Street Park, a three-acre site which has basketball courts, a ballfield, and night lighting, is heavily utilized by the community. At the *mauka* end of Po'ohaili Street is an 18-acre parcel which has been reserved to be the site of the future La'ie Community Park. A cleared field area at this site is currently used for "kilikili", a game derived from the English game of cricket. Rugby matches and other field sports are also played here.

Softball games are played at the La'ie elementary school and BYUH campus field. Tennis play also occurs at BYUH, and jogging occurs along roadways throughout the community.

B. Anticipated Impacts

Existing recreational facilities in the area will not be adversely affected by the Development Plan amendments.

The proposed Parks and Recreation designation of the Po'ohaili Street Park (3.6 acres) and its subsequent dedication to the City will assure the long-term availability of this site as a recreation resource within the La'ie community. An 18-acre community park is already planned for La'ie, just *mauka* of the current terminus of Po'ohaili Street. It is already designated on the Ko'olauloa DP Land Use Map. The BYU Mauka site, which has been selected from the three alternatives as the proposed new housing area, is 1/4 to 1/2 mile from this planned park. The total area already planned for neighborhood and community parks in La'ie is 22 acres.

A school with a two-acre playground facility is planned which may be utilized for recreational purposes by children within the community. The proposed BYU Mauka residential area enjoys proximity to Po'ohaili Street Park and the future La'ie Community Park.

La'ie residents and the public will also benefit from the proposed designation of Resort to the 2.6-acre shoreline parcel as it will afford public access to the beach and shoreline that is currently unavailable from this parcel.

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C Mitigative Measures

No mitigative measures are proposed because no adverse effect is expected to occur with respect to use of public recreational facilities. Overall, the requested DP Amendments will have a positive effect on the availability of beach access and the provision and assurance of a long-term park for the La'ie community.

4.19 CUMULATIVE IMPACTS

Cumulative impacts are those associated with existing, approved, and anticipated projects in the foreseeable future, which may produce related or additive impacts. For most of the environmental effects of the proposed project, a reasonable list of "cumulative" or "related" projects would include existing, approved, and proposed infrastructure or development projects in the vicinity of the proposed project. Those proposed development projects which may have potentially additive effects on the area's environment and infrastructure systems serving the area are listed below.

There are several projects which have some approvals, or are under construction, which could generate cumulative effects on the environment in the direct vicinity of the La'ie study area. Kuilima Resort Expansion and Kahuku residential projects qualify as projects in this category.

This cumulative analysis also considered projects which have been proposed, but for which none of the necessary government approvals have been granted. Other projects which have been discussed in at least some preliminary fashion include:

- **The Country Courses at Kahuku**
(Four 18-hole golf courses)
Applicant: Estate of James Campbell
Location: Punamano (Kahuku) and Malaekahana (La'ie)
Status: Filed for Development Plan amendment in 1990 which was denied; no further approvals have been pursued.
- **Malaekahana Golf Course**
(One 18-hole golf course)
Applicant: Kuilima Resort Company
Location: Malaekahana (La'ie)
Status: Withdrew Development Plan amendment in 1990.

Except for those projects already granted approvals, there is no guarantee that any or all of these projects will be built as proposed. The following is an analysis of potential cumulative impacts of the La'ie DP Amendments, considering the fact that additional development will likely occur in some portions of the Ko'olauloa region in the foreseeable future.

Land Use Character: Portions of the Ko'olauloa Development Plan (DP) Area are undergoing a gradual land use change from agricultural to resort or urban-related land

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uses. The Ko'olauloa DP Area Description refers to "La'ie-Kahuku Town" as having a "single-family residential character" which is balanced with the "tourist-oriented activities of the Polynesian Cultural Center and the Kahuku Sugar Mill" (DP Special Provisions, Section 32-7.1). The new land uses requested with the DP Amendments generally reflect and perpetuate the existing land uses in a pattern that is complementary to the existing community character. Minimal changes in topography are required to implement the proposed land uses. Although the number of acres of open space and agricultural land will decrease as a result of these projects and other projects in the region, noticeable changes to the general land use character of the region are not expected.

Ocean Water Quality: The requested DP Amendments are not expected to create significant adverse impacts to the marine environment because measures will be implemented to control erosion, storm water runoff and wastewater effluent quality. Each of the proposed development areas will be subject to construction period soil erosion, which can be minimized through management of the construction process. The effects to ocean water quality due to silt runoff during construction will be temporary, and not substantially different than natural siltation events that occur at present. Once projects are completed, especially in former agricultural sites, an overall reduction in silt runoff is expected. This finding applies not only to the La'ie projects but also for others in the region. The improvement and expansion of the La'ie Wastewater Reclamation Facility (LWRF) will likely have a positive effect on ocean water quality in the region.

Operation of the expanded LWRF is planned to re-use a portion of the tertiary treated and ultraviolet disinfected wastewater effluent for irrigation of nearby agricultural areas. Irrigation disposal provides a natural additional treatment step which strips many of the nutrients in treated wastewater. The groundwater will ultimately receive the leached product of this process, where constituents become diluted and transported to the ocean. Because of the advanced treatment level, irrigation disposal process and ocean mixing processes, no adverse effect on ocean water quality is expected to result.

Potable Water: The requested DP Amendments will require a small additional demand for potable water. Conservative assessments indicate that the total water demand in La'ie, including the requested DP Amendments, is well within the estimated sustainable yield for the La'ie area. There are ample potable water reserves in the region to support modest future growth without adversely affecting existing uses.

Traffic: Kamehameha Highway will primarily be affected by future increases in ambient traffic which are anticipated to occur by 2004. The DP Amendments for La'ie will add to the area traffic. Using the most conservative assumptions, the DP Amendments could account for approximately 12 to 15 percent of 2004 peak hour traffic volumes. Modest roadway improvements (shoulder widening) will be required in the future to accommodate future growth of traffic on Kamehameha Highway in this region with or without the proposed projects.

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Air Quality: The DP Amendments will contribute to an increase in air pollutant concentrations in the area due to increased motor vehicle traffic. Cumulative regional growth of traffic, will increase carbon-monoxide (CO) levels along roadways in the region, however CO levels will likely remain within the State and National Ambient Air Quality Standards. The extremely strict State standards may occasionally be exceeded, which currently occurs at many locations in the State that have moderate traffic.

Noise: Short-term noise impacts are expected during the construction phase of any of the proposed land uses. Increased traffic noise will be a long-term impact of the proposed projects. Existing residences located along Kamehameha Highway will experience higher noise levels in the future due to an increase in traffic associated with island-wide ambient traffic growth, new developments planned in the region, and the eventual development of the requested DP Amendment areas.

Socio-economic Characteristics: The DP Amendments will contribute to cumulative population, housing, employment, and economic growth in the Ko'olauloa Area. Independent of the requested Amendments, regional and demographic changes are already in progress. According to official State projections, the City and County's resident and visitor populations will continue to increase over the next two decades. Ko'olauloa Census Division, which has had population growth rates exceeding the County average, will continue to experience an economic surge. Within the study area, completion of the planned resort at Kuilima will account for approximately 3,360 direct on-site jobs. With new economic opportunities, the resident population is expected to grow along with the visitor population. Traffic congestion will increase, and the need to improve limited infrastructure will become pressing. If growth control measures are exercised in the form of housing stock restrictions, the likely result will be severe crowding and higher housing costs in the area, and more long-distance commuting.

The DP Amendments are essentially responsive to the regional economic and demographic changes which are already in progress. The proposed industrial areas would likely support the expanded Kuilima Resort and its workforce and are therefore considered as indirect and induced impacts of the Kuilima Resort expansion. Similarly, the expansion of the Polynesian Cultural Center responds to projected growth in the island visitor census. In the longer run, however, the demand for housing generated by new visitor industry workers in the region will promote further population growth.

Visual Resources: The proposed development areas adjacent to the highway will not impede or intrude upon views of the sea, the mountains or other area landmarks. Landscape material utilized as a visual buffer is recommended as a mitigative measure for proposed land uses which are adjacent to the highway, even though significant scenic views are not affected. Limited additional golf course and residential development in the region are not expected to create significant adverse visual effects.

Archaeology: Of the sixteen sites within the requested DP Amendment area, one site is recommended for preservation. Two sites are provisionally recommended for preservation. Further data analysis will yield final recommendations for the general

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treatment of these two archaeological sites. The remaining seven sites will be treated according to recommendations provided by the consulting archaeologist, subject to the approval of the State Department of Natural Resources, Historic Preservation Division. Because the State controls the fate of these resources and those located at other regional sites, cumulative adverse effects on archaeological resources will be minimized.

Drainage: The DP Amendments will not contribute to the existing drainage problems in La'ie. Control of runoff from the DP areas will be achieved through the construction of storm drainage facilities, swales, detention basins and dry wells within the new development areas. Flooding may continue to occur in existing developed areas of La'ie (and other areas adjoining the DP areas) which will not be the result of the new projects. Runoff generated by the proposed projects must be controlled on-site or through the improvement of off-site drainage facilities.

Summary: The overall cumulative effect of the La'ie DP Amendments which is most significant is the potential for moderate (12 to 15 percent) traffic growth in the region. This traffic will be most noticeable in the La'ie core, associated with local employment centers. Economic and social benefits to the region will also result from these projects. Because the DP Amendments generally represent an extension of existing uses, especially to improve the overburdened housing stock, changes to La'ie will otherwise not be felt over this region.

4.20 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

The La'ie DP Amendments will create limited adverse environmental impacts which cannot be fully mitigated by the measures planned to be implemented at the various project sites. The following list includes those short-term and long-term impacts that are expected to be unavoidable, including those that are minor in significance.

4.20.1 Unavoidable Adverse Short-Term Impacts

1. Temporary increases in soil erosion will result from construction operations at individual projects. Some eroded soil will be carried off-site in surface runoff water.
2. A maximum of 201 acres of vegetation will be cleared to create buildable areas within the requested DP Amendment areas.
3. Wildlife utilizing the site and immediate adjacent areas will be displaced by construction activities into nearby undeveloped lands. Construction operations will temporarily discourage wildlife from feeding, resting or migrating through the site.
4. Operation of construction equipment, trucks, and worker vehicles may temporarily impede traffic in the area during the construction period.

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5. Negligible releases of air contaminants will occur from construction equipment. Small amounts of dust may be generated during dry periods as a result of construction operations.
6. The visual character of the area will be affected by construction activities and by the presence and operation of construction equipment.
7. Minor increases in noise levels may result from construction activities.

4.20.2 Unavoidable Adverse Long-Term Impacts

1. Modifications to the current topography will be made at the site to accommodate project development.
2. Approximately 0.3 mgd of potable groundwater will be utilized for domestic purposes.
3. Minor amounts of nitrogen will be introduced to groundwater as a result of wastewater disposal practices.
4. Surface water of streams, wetlands, and the ocean will receive minor amounts of urban runoff constituents from newly developed areas.
5. It is possible that as many as ten archaeological sites on the project sites may be altered by construction, following data-recovery as per the Department of Land and Natural Resources-Historic Preservation Division.
6. Vehicles associated with the new project sites using Kamehameha Highway and other local roadways will contribute to delayed left-turns onto the highway at some intersections.
7. Some additional noise will be generated by the project which will cause a slight increase in noise levels along Kamehameha Highway.
8. The La'ie area will receive additional vehicle emissions from these projects, causing a negligible effect to air quality.
9. Views of some DP Amendment areas may be visible from Kamehameha Highway, such as the PCC expansion, the Commercial shopping center parking lot expansion, Industrial areas and the proposed Resort parcel. The proposed industrial areas may also be visible from existing circulation roadways within La'ie.
10. There will be up to an additional 3.0 to 4.0 tons per day of refuse generated by the project which must be accommodated by municipal solid waste management facilities.

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11. Minor demand on public services will result from the development, including schools, police and fire protection.

4.21 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The construction and operation of the proposed land uses will involve the irretrievable commitment of certain natural and fiscal resources. The most major resource commitment will be the land required for development within each of the DP Amendment areas. Money, construction materials, manpower, and energy will all be expended to complete construction. The impact of utilizing these resources should, however, be weighed against the economic, social, and recreational benefits to the residents of the community, region, County, and State.

The combined DP Amendments propose redesignation of approximately 201 acres of land. Approximately thirty percent of these lands is currently in active crop production, including lands which appear to be fallow.

There will be a permanent commitment of private funds and resources to plan, design, construct, and operate the various land uses proposed. This will result in a permanent increase of between 100 and 130 new full-time jobs, 40 full-time equivalent jobs for students and other employment-related benefits. There will also be an increased demand on the Kahuku Aquifer System for potable water, and a greater load on the County solid waste facilities.

The commitment of resources required to accomplish the project includes labor and materials, which are mostly non-renewable and irretrievable. The operation some of the proposed land uses will also include the consumption of petroleum-generated electricity which also represents an irretrievable commitment of resources.

4.22 GROWTH INDUCING ASPECTS OF THE PROJECT

Implementation of the land uses requested with the DP Amendments would require the extension of water lines and electrical power to the site. The extension of major infrastructure to an undeveloped or rural area (i.e. sewage treatment collection and treatment facilities, highway expansion, water main lines) can sometimes facilitate future development on undeveloped lands. In the Ko'olauloa District, this could increase the pressure on nearby lands presently designated as Agriculture to seek changes in land use. It is significant to note that some of the neighboring landowners have already prepared preliminary studies to ascertain potential development of their properties, although they are not pursuing development at this time.

The land uses proposed with the DP Amendments will be primarily self-contained in terms of infrastructure. New facilities for roads, water and sewer will be developed only to serve these sites, and will not be designed to serve any adjoining lands. Solid and liquid wastes will be collected and treated with on-site facilities. Potable and non-potable water sources will be developed only to meet the demands of the projects.

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While the expansion of PCC and the Industrial sites will generate some new long-term employment opportunities, the DP Amendments are not considered new major employment centers that could induce significant additional residential or commercial growth in the area.

SECTION 5 - Alternatives

5.0 ALTERNATIVES TO THE PROPOSED ACTIONS

Four alternatives to the proposed Development Plan Amendments are considered in the following discussion, focusing primarily on the proposed residential area and two alternative residential development sites. A No-Action Alternative was considered, which would leave the project sites in their present land use designation and current use. The proposed residential area and two alternative sites are analyzed with respect to environmental and social factors in Section 4, and findings from this section are summarized and compared for each site in this section. A comparative rating of each site's potential impacts are presented in a matrix table at the conclusion of this section.

5.1 NO-ACTION ALTERNATIVE

The no-action alternative would involve no changes in the foreseeable future to the land use designations and current uses of the twelve potential development sites proposed as DP Amendment. Public access to many of the various DP Amendment areas would remain restricted under the no-action alternative, to avoid disturbance of existing activities and prohibit trespassing. Agricultural uses on these lands would continue in their present status, should they remain economically viable.

With respect to environmental characteristics of the various areas, site topography, soils, streams, wetlands, drainage, runoff, groundwater, vegetation cover and wildlife would not be affected under the no-action scenario. Other factors that would not be affected under this alternative are archaeological resources, traffic, noise, air quality, population, employment, government expenditures, infrastructure and public services.

The lack of a new residential development on the proposed site would not create additional housing or employment opportunities for the residents of Laie and the upper windward area. Overcrowding of some of the existing housing stock is already an issue, and this condition will only be exacerbated without new residential development. Future BYUH campus expansion would also be limited by the no-action scenario. The generation of property taxes would continue at existing levels. The no-action alternative would force the owner of these lands to continue paying property taxes without gaining an offsetting income from some of these sites. It is possible that the State or City could purchase these sites for conservation or other public purposes, however, there are no known plans for this to occur.

As compared to the proposed project, the no-action alternative would create substantially fewer environmental effects. Social and economic benefits, as well as recreational benefits, would not be generated with the no-action alternative.

5.2 PROPOSED BYU MAUKA RESIDENTIAL AREA

The existing area designated for the BYU Mauka residential area is currently used for agriculture and an active sand quarry operation. Active small-scale crop farming

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(banana, papaya, vegetable) occurs on ±32 acres on this site. There are two houses on the property which are occupied by Zions Securities personnel.

Approximately 20 to 25 percent of the site is vacant mixed forest and scrub vegetation. Approximately 25 percent of the site contains either moderate slopes (10 to 20 percent) or steep slopes (20 to 30 percent). No streams cross this site.

Operation of the sand quarry is slated to end in the foreseeable future due to the limited sand resources. There are other areas in Laie which could be considered for future mining activities.

Detailed existing condition information on this proposed residential area is presented in Section 4, including topography, soils, agriculture, drainage, vegetation and archaeology. A comparison of environmental factors, infrastructure requirements and development costs of this area with the two alternative sites follows in Sections 5.5 through 5.7.

5.3 EGG FARM ALTERNATIVE RESIDENTIAL SITE

An alternative site for new residential development at the northern end of Laie has been labelled as the Egg Farm site. Approximately 18 acres are being used for non-crop agricultural use (Egg Farm and horse ranch), and active crop production occurs on ±25 acres. Two caretaker residences are also located on the lands used by Cackle Fresh Egg Farm. A single *kuleana* parcel (TMK 5-5-05:11) is located within the proposed Egg Farm site, but outside the Cackle Fresh Egg Farm area. The remainder of this land is vacant.

The land included for this site extends far *mauka* from Kamehameha Highway, into a valley in the lower reaches of the Ko'olau Range. Steep slopes are found over approximately 10 percent of this site, and moderate slopes (10 to 20 percent) are found over approximately 25 percent of the site. Much of the land outside the existing active agriculture and fallow agricultural areas contains mixed forest woodlands. Kahawainui Stream extends parallel to the site, located a short distance from its southern boundary. Drainage conditions on this site are generally good, and do not represent a constraint for residential development.

Detailed existing condition information on this alternative site is presented in Section 4, including topography, soils, agriculture, drainage, vegetation and archaeology. A comparison of environmental factors, infrastructure requirements and development costs of this alternative with the proposed area and other alternative site follows in Sections 5.5 through 5.7.

5.4 LA'IEMALO'O ALTERNATIVE RESIDENTIAL SITE

Approximately 24 acres of the La'iemalo'o alternative site is currently used for small scale farming, including coconut, banana, papaya, and cucumber. The remainder of this land is vacant. There is one *kuleana* parcel (TMK 5-5-01:12) included in the alternative residential area which has a residence on it. Residences are located along Kamehameha Highway adjacent to the southern portion of this site.

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Slopes on this site are generally gradual, with about 20 percent of the site involving moderate and steep slopes in the mauka portion of the property along the coastal *pali*. A small agricultural pond field is found on this site.

Approximately 50 percent of the site is active and fallow agriculture lands with half covered by mixed forest and scrubland vegetation. Three streams cross the site, including Kokololio Stream, A'akakii Stream and La'iemalo'o Stream (forms the northern boundary of the site).

Detailed existing condition information on this alternative site is presented in Section 4, including topography, soils, agriculture, drainage, vegetation and archaeology. A comparison of environmental factors, infrastructure requirements and development costs of this alternative with the proposed area and other alternative site follows in Sections 5.5 through 5.7.

5.5 COMPARATIVE ENVIRONMENTAL IMPACTS OF ALTERNATIVES

In this section, the proposed residential area and the two alternative residential sites are compared based on the existing conditions and anticipated impacts presented previously in Section 4. Brief discussions are presented below comparing the relative potential impacts under each category of environmental factor. The comparative ratings of potential environmental impacts for the proposed residential area and each alternative residential area are shown in Table 12.

Slopes: The proposed residential area and both of the alternative sites has adequate area in gentle and moderate slope land to allow residential development. The Egg Farm and BYU Mauka sites have more moderate sloped (10 to 20 percent) and steep sloped (20 to 30 percent) land to contend with, as compared to the La'iemalo'o site.

Soils: Land disturbance through clearing and grading of approximately 50 to 60 acres at the proposed area or the alternative sites would result in construction period soil erosion and silt runoff. On-site controls to minimize these conditions would be required. Suspended soil particles would be carried off the land by storm water into drainage channels and streams, eventually reaching the ocean. Impacts to soils are roughly comparable among the proposed area and alternative sites, with possibly less erosion expected to occur at the less steeply sloped land at La'iemalo'o. However, this attribute is off-set by the somewhat higher shrink-swell potential of the La'iemalo'o soils.

Agriculture: The presence of prime agricultural soils differs among the proposed area and the two alternative residential sites. The Egg Farm alternative site has only about 30 percent of its land designated by LSB as prime soils. The proposed BYU Mauka residential area and La'iemalo'o alternative site have nearly 50 percent of the land rated by LSB as prime agricultural soils. The ALISH ratings show the greatest amount of prime soils on the proposed BYU Mauka site. Development of the proposed BYU Mauka site or the La'iemalo'o alternative site would cause a greater reduction of available prime agricultural soils than would development of the Egg Farm alternative site.

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TABLE 12

**COMPARATIVE RATING OF ENVIRONMENTAL IMPACTS OF
PROPOSED AND ALTERNATIVE RESIDENTIAL SITES**

Environmental Factor	Proposed BYU Mauka	Egg Farm Alternative	La'iemalo'o Alternative
Slopes	9.5	9.5	11.0
Soils	10.0	10.0	10.0
Agriculture	9.0	9.5	11.5
Ground Water	9.5	9.5	11.0
Drainage	10.5	10.5	9.0
Stream Quality	10.5	10.5	9.0
Vegetation	11.0	9.5	9.5
Wildlife	10.0	10.0	10.0
Ocean Water	10.5	10.5	9.0
Archaeological	11.0	10.5	8.5
Traffic	12.0	9.0	9.0
Noise	10.0	11.0	9.0
Air Quality	10.5	10.0	9.5
Public Views	10.5	10.5	9.0
Infrastructure	10.0	10.0	10.0
Proximity to Shopping & Jobs	12.0	10.0	8.0
Development Cost	8.0	10.0	12.0
Displacement	11.0	8.0	11.0
Impact on Kuleanas	<u>11.0</u>	<u>9.5</u>	<u>9.5</u>
TOTAL/AVERAGE SCORE	196.5/10.34	188.0/9.89	185.5/9.76

Note: The rating system utilized above reflects assignment of scores to the three alternative sites for each environmental impact factor considered in the alternatives analysis. For each impact factor, the total combined score for the three sites (across the table) is equal to 30 points. Individual scores are based on a relative rating system ranging from 8 (less than average) to 10 (average) to 12 (above average).

These ratings indicate only how the impacts of a residential alternative site compare to the impacts of the other two sites. They do not attempt to indicate whether or not an impact is positive or negative, or significant or insignificant. In addition, no attempt has been made to reflect differences in the degree of importance of different environmental factors. All have been given equal weight.

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The Egg Farm alternative site involves five different land leases, currently involving about ±25 acres of active agricultural crop operations and ±18 acres of non-crop agricultural uses, including the existing egg farm. The proposed BYU Mauka residential area has a single agricultural tenant leasing 40 acres, with approximately 32 acres in active agriculture. Seventeen acres of the proposed BYU Mauka residential area are included in a lease to Laie Concrete. Three different leases exist for ±27 acres of the La'iemalo'o alternative site, with approximately 24 acres in active agricultural use. The impact on active farming operations and farm leases as a result of developing the proposed residential area or either of the two alternative sites would be roughly comparable.

Drainage and Flooding: Both the proposed BYU Mauka residential area and the two alternative residential sites are located outside the 100-year flood hazard area, and drainage conditions are acceptable for residential development at each site. Development at any of these sites would require installation of storm water runoff controls. Required drainage improvements would probably be most extensive at the La'iemalo'o alternative site, as compared to the other two sites, due to the three streams crossing the property property and agricultural pond fields. Once drainage facilities are installed, each site will be comparable in terms of drainage conditions.

Groundwater: Potable water use by the proposed BYU Mauka residential area and both of the residential alternatives would be roughly equivalent. Domestic water use is estimated at 225,000 gpd for the 450 proposed residences, school and church. The ground water aquifer has ample excess capacity to accommodate this new withdrawal without adverse effects on other uses of the aquifer. The potential for leaching of residential fertilizers and chemicals into potable groundwater could create a public health concern at the proposed BYU Mauka residential area, which is located upslope of existing potable well sites. Leached chemicals from the La'iemalo'o alternative site would travel the shortest distance underground before reaching the ocean, as compared to the other sites.

Surface Water Quality: The runoff from developed residential areas normally contains some amounts of typical urban runoff constituents, such as road dirt, oil, natural silt, and sometimes fertilizers, pesticides and other domestic use chemicals. The proposed residential area or the alternative residential sites are expected to contribute small amounts of these constituents to storm runoff. Much of surface runoff at these sites will be controlled by the use of detention areas and drywells. A portion of the surface runoff will be routed to existing streams which act as natural drainage pathways and eventually empty into the ocean.

The La'iemalo'o alternative site has three streams which collect runoff from the site. The proposed BYU Mauka residential area and the Egg Farm alternative site would contribute runoff over land and swales to Kahawainui Stream, located near these sites. A portion of the proposed BYU Mauka site may contribute runoff to the adjacent aquaculture ponds. In terms of direct effects, the La'iemalo'o alternative site poses the greatest potential for contributing urban runoff constituents to the collecting streams because they cross this site. Because the La'iemalo'o alternative site is also the closest to the ocean, residential development may result in a more direct input of these constituents into the ocean.

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Vegetation Clearing: The development of the proposed BYU Mauka residential area or either of the alternative residential sites would involve substantial vegetation clearing and grading of up to 60 acres. Vegetation cover at the three sites varies, with a high percentage of active and fallow agricultural and disturbed lands at the proposed BYU Mauka residential area. Mixed forest vegetation covers only about 25 percent of this site, as compared to more than 50 percent of the two alternative sites. The potential impact of vegetation clearing on existing natural vegetation is greatest at the Egg Farm and La'iemalo'o alternative sites. Neither the proposed residential area nor the alternative residential sites involve wetlands or endangered native or endemic vegetation species.

Wildlife: The proposed BYU Mauka residential area and both the alternative sites have generally similar wildlife species composition, and no endangered species exist on these sites. Development of the proposed residential area or the alternative sites would be expected to have the same relative impact on wildlife. The edge of the proposed BYU Mauka residential area is located closest to freshwater wetlands areas which are inhabited by endangered endemic waterbirds.

Marine Resources: The La'iemalo'o alternative site is located approximately 400 feet off the ocean, as compared to the proposed BYU Mauka residential area or the Egg Farm alternative site which are located over 2,000 to 3,000 feet from the ocean. A portion of surface runoff from the La'iemalo'o alternative site would drain into the ocean from three streams crossing the site. Any nutrients or compounds which leach into shallow ground water at the more mauka sites have a greater opportunity to degrade and be diluted prior to reaching the ocean. The La'iemalo'o alternative site could be expected to contribute a greater input of urban chemicals to the ocean through surface runoff and leaching to groundwater.

Archaeological Resources: The proposed BYU Mauka residential area and both of the alternative residential sites contain some archaeological sites, but most of these sites have been disturbed by former agricultural activities. The Egg Farm alternative site contains two sites, including a small historic period cemetery, which would need to be avoided if this alternative site were to be developed. The proposed BYU Mauka residential area contains only one archaeological site, which is an agricultural ditch/tunnel. The La'iemalo'o alternative site contains four archaeological sites, two of which are significant prehistorical agricultural features. It is anticipated that with preservation of the most significant sites and proper data recovery of the other sites, residential development could proceed at all of these sites without adverse effects to archaeological resources. Development of the La'iemalo'o alternative site would have the greatest potential conflict with significant archaeological features.

Roadways and Traffic: As reported in Section 4.12, the traffic impacts of the proposed BYU Mauka residential area and the two residential alternatives are roughly equivalent in terms of traffic volumes generated. The location and routes for this new traffic entering and exiting Kamehameha Highway are critical to the comparison. The Egg Farm alternative site would have its intersection at the existing Egg Farm access roadway, at the northern end of Laie. Traffic associated with the proposed BYU Mauka residential area would be split between Po'ohaili Street and a new intersection with the

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highway. The La'iemalo'o alternative site would directly join with the highway, creating a new intersection at the southern end of Laie.

Level-of-Service (LOS) ratings are roughly equivalent among the proposed BYU Mauka residential area and the two alternatives under future conditions; however, the Egg Farm and La'iemalo'o alternative sites would create slightly worse traffic conditions at some intersections. Residents of the proposed BYU Mauka residential area that work at PCC, BYUH, Laniloa Lodge or the Wahinepee Industrial site would produce internal trips which would not require travel along Kamehameha Highway. The internal capture of vehicle trips associated with the proposed BYU Mauka residential area would create slightly less traffic on the highway in comparison to the two residential site alternatives. Traffic impacts would be less with the proposed BYU Mauka residential area, but only with the construction of a major loop road connecting to the southern portion of Laie.

Noise: The noise generated by the new proposed residential development would be typical of the noise generated by existing residential areas in this area. Traffic noise associated with the ingress and egress of vehicles represents the most tangible potential impact of the new developments.

The proposed BYU Mauka residential area's establishment of a new access point to Kamehameha Highway located south of PCC could create substantial new noise effects on residences existing at this location. There are fewer adjoining residences and *kuleana* parcels near the Egg Farm alternative site as compared to the proposed BYU Mauka area. A small residential subdivision located along Kamehameha Highway borders the southern portion of the La'iemalo'o alternative site. Construction phase and long-term noise effects on existing uses would probably be greatest with the proposed BYU Mauka residential area and La'iemalo'o alternative site.

Air Quality: Vehicle emissions would be the only air quality concern of the proposed residential developments. Because the volume of traffic is roughly equivalent among the proposed residential area and the two alternatives, vehicle emissions would be similar. Due to the dispersed nature of traffic generated by the proposed BYU Mauka residential area, it is possible that air quality would be slightly better at local intersections under this scenario.

Public Views: The proposed BYU Mauka residential area will have a typical residential setting with proper setbacks from roadways and adjacent residences, and some modest landscaping to beautify the neighborhood and common areas. The location of the Egg Farm alternative site and proposed BYU Mauka residential area is generally distant from existing roadways and residential areas. Public views of these sites would be limited to distant views from roadways, residential areas and other public areas.

The La'iemalo'o alternative site, however, is located directly on Kamehameha Highway at the southern end of Laie. From the highway, the public currently experiences views of banana crops and other agricultural uses, along with vacant land with natural vegetation. The change of this land to residential development from its existing condition could have an adverse effect on public views. A small subdivision of homes

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exists along the makai portion of this site which would also experience direct view of the new residential area.

Social and Economic Factors: The proposed BYU Mauka residential area and the two alternative residential sites are similar in terms of their population, employment, housing, and government revenues. In terms of lifestyles, there has been some preference voiced during the past few years of planning for locating new housing within a reasonable distance to the existing core of the Laie community. The proposed BYU Mauka residential area and the Egg Farm alternative site are roughly comparable in distance from Laie Shopping Center, PCC and BYU. The proposed BYU Mauka area's access roadways are more directly linked to the community. The La'iemalo'o alternative site is furthest from the existing community, located at ± 1.4 miles from the Laie Shopping Center.

Infrastructure: Water supply is less complicated and costly for the proposed BYU Mauka residential area than for the two alternative sites, due to its proximity to the existing water distribution and storage system. The development of sewers to serve the proposed residential area or the two alternative sites would be roughly similar, with slightly greater requirements for the Egg Farm and La'iemalo'o alternative sites. Drainage improvements would be much more significant for the La'iemalo'o alternative site as compared to the other sites. Electrical supply would be roughly equivalent for the proposed area and each alternative. Roadway development would be substantial for both the Egg Farm alternative site and proposed BYU Mauka residential area, and minimal for the La'iemalo'o alternative site due to its proximity to Kamehameha Highway.

5.6 DEVELOPMENT COSTS COMPARISON

As shown in Table 13, costs for infrastructure development will be substantial for both the proposed BYU Mauka residential area or either of the residential alternatives. Major improvements are required to supply each site with systems for water supply, sewer collection, electrical supply, drainage controls, access and circulation roadways and lot development. Depending on the extent of roadway development, either the proposed BYU Mauka residential area or the Egg Farm alternative site is expected to be the most expensive site to develop as a new residential community.

If the new connector roadway and intersection at Kamehameha Highway is built for the proposed BYU Mauka residential area, it would be the most expensive site to develop, with costs estimated at \$22.2 million. The Egg Farm alternative site would cost approximately \$18.5 million to develop, with comparatively lower roadway development requirements. If the proposed BYU Mauka residential area uses only the access from Naniloa Loop, its cost would be less than the Egg Farm alternative site, at approximately \$16.7 million. The La'iemalo'o alternative site would involve the least expense to develop, primarily because of the relatively small roadway improvement requirement.

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5.7 SUMMARY OF ALTERNATIVES ANALYSIS

Based on the comparison of the proposed BYU Mauka residential area and the two alternative residential sites, consideration of some environmental and social factors point towards a preference for the proposed BYU Mauka site. However, the proposed BYU Mauka site could be the most expensive to develop. Potential environmental impacts differ slightly for the proposed residential area and the two alternative sites. The alternative sites of the Egg Farm and La'iemalo'o both have their own merits as potential development sites. Lower costs for development of the La'iemalo'o alternative site could be a significant factor in its favor. Relative ratings for the proposed residential area and each alternative site with respect to potential environmental impacts are shown in Table 12.

The applicant considered input from the local community to select the proposed BYU Mauka residential site. According to the results of an informal poll of approximately 300 people taken by the Laie Community Association (LCA), residents of the La'ie community expressed overwhelming support of the proposed BYU Mauka residential site (74.2%) and the DP Amendments as presented in the Draft EIS (96.2%). The LCA made substantial efforts to disseminate information regarding the requested DP Amendments and the Draft EIS within the community via meetings, newsletters and field tours of the alternative residential sites.

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TABLE 13
 DEVELOPMENT COSTS (\$1,000) FOR
 PROPOSED AND ALTERNATIVE RESIDENTIAL SITES

450 Housing Units	Water	Sewer	Electrical	Drainage	Access Roads (60 foot wide)	Lot Development	TOTAL
Proposed BYU Mauka Site	\$950	\$1,100	\$700	\$200	\$2,500 - \$8,000*	\$11,250	\$16,700 - \$22,200
La'iemalo'o Alt. Site	\$1,300	\$1,300	\$700	\$2,000	\$500	\$9,000	\$14,800
Egg Farm Alt. Site	\$1,600	\$1,700	\$700	\$200	\$3,000	\$11,250	\$18,450

* Access Road Costs based upon:

- (1) \$2,500 for Temple View Road
- (2) \$3,500,000 for Po'ohaili Road extension (does not include condemnation of ROW)
- (3) \$4,500,000 for PCC-Quarry Road



**SECTION 6 - Relationship to Existing Policies
and Plans for the Area**

6.0 RELATIONSHIPS OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

This section lists the land use plans and policies which are relevant to the proposed project and the affected area. These include the Hawai'i State Plan, the Hawai'i State Functional Plans, the City and County of Honolulu General Plan, the Development Plan Common Provisions and Ko'olauloa Development Plan Special Provisions, the Hawai'i Coastal Zone Management Program, and the City and County of Honolulu Special Management Area Review Guidelines. Policies to be addressed are selected based on their relevance to the proposed DP Amendments in terms of land use, location and other environmental issues.

6.1 HAWAII STATE PLAN

An assessment of the conformity of the proposed DP Amendments to the applicable goals, objectives, and policies of the Hawai'i State Plan, Chapter 226, Hawai'i Revised Statutes, and applicable priority guidelines are covered under this section.

6.1.1 State Plan Objectives and Policies

Section 226-7: Objectives and policies for the economy -- agriculture:

Objective 2: "Continued growth and development of diversified agriculture throughout the State."

Policy 6: "Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs."

Discussion: The applicant has and will continue to utilize much of its property for small scale, diversified agricultural production. In order to assure that agricultural use continues to proceed in an orderly manner and within the limits of applicable laws, the property owner is considering the creation of a farming organization for its La'ie properties. Employee-farmers, rather than tenant-farmers, would continue to grow a variety of fruits and vegetables on lands suitable for cultivation.

Approximately 660 acres owned by Property Reserve, Inc. and managed by Zions Securities Corporation in La'ie has sufficiently mild slopes to be potentially suitable for agricultural production. In order to implement the proposed DP Amendments and accommodate future growth in La'ie, approximately 193 of the 660 acres would be removed from the Agricultural designation. (Approximately 30 percent of these 193 acres is currently in active crop production.) Approximately 465 acres would remain available for agricultural uses.

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On a State-wide level, the proposal is not expected to adversely affect the growth of diversified agriculture. This is because production of diversified crops such as those grown in La'ie and elsewhere on O'ahu has been steadily shifting from O'ahu to the Neighbor Islands, due to lower costs of production. This trend stems, in part, from the declining economic viability of the sugar industry on the Neighbor Islands (Scott, 1988). An extensive amount of prime agricultural land and water has been freed from sugar and pineapple production because of past plantation closings and reductions in operations, with most of this land and water remaining available for diversified agriculture activities.

Given the outlook for low sugar prices, it is possible that additional lands will be made available on O'ahu, as well as on the Neighbor Islands, for diversified agriculture. Those sugar operations which are forced to close would make their lands available for profitable replacement crops, to the extent that such crops are available.

Another reason for the absence of any serious adverse effects is the relatively small amount of agricultural land, compared to the available and growing supply, that is required to grow proven and promising crops in Hawai'i. This supply greatly exceeds the amount of land required to achieve a realistic level of food and animal-feed self-sufficiency and to increase exports (Decision Analysts Hawai'i, Inc., 1989).

Section 226-8: Objective and policies for the economy -- visitor industry.

Objective: "A visitor industry that constitutes a major component of steady growth for Hawai'i's economy."

Policy 2: "Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people."

Policy 3: "Improve the quality of existing visitor destination areas."

Policy 5: "Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai'i's people."

Policy 8: "Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values."

Discussion: The proposed 21-acre Polynesian Cultural Center (PCC) expansion and the 2.6 acre resort amenities site are two components of this application which relate directly to this State objective and policies. Each of these proposals is intended to enhance the quality of existing and already approved visitor industry facilities.

The PCC was established in 1963 to study and preserve Polynesian arts, crafts, and culture, and to provide work for Brigham Young University-Hawai'i (BYUH) students who needed financial aid. The PCC has been a very popular visitor attraction on the island of O'ahu, and is now the single largest employer in La'ie. The proposed expansion area will permit the Center to create several additional exhibits and provide new job opportunities.

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There are 4.0 acres along Kamehameha Highway, next to the existing Laniloa Lodge, which have been zoned Resort for approximately 20 years. As indicated in the Development Plan Special Provisions for Ko'olauloa, "resort facilities (in La'ie) shall be limited to 300 visitor units within the area designated for resort use." This resort site is directly across the highway from the 2.6-acre parcel which is proposed to be utilized for resort-type amenities such as a pool, beach accessories and landscaping. Utilization of this parcel is intended to improve the quality and viability of this approved area, by providing a visual corridor and pedestrian access to the nearby beach as well as a place for ocean-related amenities.

By providing sources for new jobs, both PCC and the Resort are in keeping with economic needs of Ko'olauloa residents. Through visitor and resident interaction, each site provides an opportunity for visitors to experience the aloha spirit and learn more of Hawai'i's many cultures.

Section 226-11: Objective and policies for the physical environment -- land-based, shoreline, and marine resources:

Objective 1: "Prudent use of Hawai'i's land-based, shoreline, and marine resources."

Policy 3: "Take into account the physical attributes of areas when planning and designing activities and facilities."

Policy 8: "Pursue compatible relationships among activities, facilities, and natural resources."

Policy 9: "Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes."

Discussion: Steep lands, areas within flood hazard zones and other potentially sensitive sites were generally avoided in the selection of sites for the proposed DP Amendment areas, in order to minimize the potential for adverse effects on hazardous or important natural land areas, inland and ocean water resources, and the shoreline when these sites are developed. Project designs and construction practices will also follow all applicable laws and regulations intended to minimize the potential for any adverse impacts.

The improvements to the proposed 2.6-acre Resort site will be designed to provide improved accessibility to the shoreline for recreational purposes and to preserve the views of the ocean from the highway and the future hotel site. These land uses are low-impact in nature, consistent with policy which promotes prudent use of shoreline areas and compatible relationships among activities, facilities and natural resources. Increased accessibility for public recreational purposes will also be achieved.

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Section 226-12: Objective and policies for the physical environment -- scenic, natural beauty, and historic resources:

Objective: "Enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources."

Policy 1: "Promote the preservation and restoration of significant natural and historic resources."

Policy 3: "Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features."

Discussion: In general, the proposed DP Amendments will not affect existing views and vistas of the mountain or ocean landscapes. The DP Amendment areas on the *mauka* or mountain side of the highway are at low elevations, and all proposed improvements will be in low-rise structures. The resort amenities proposed for the 2.6-acre parcel on the *makai* or ocean side of Kamehameha Highway will not substantially interfere with ocean views from the highway and the future hotel site. They present a significant improvement over the view-blocking potential of new development the currently permitted residential.

A thorough study of historic resources within the Study Area is provided in Appendix J. As indicated therein, significant historical resources will be preserved, and the treatment of all identified sites will be in accordance with State Department of Land and Natural Resources requirements.

Section 226-13: Objective and policies for the physical environment -- land, air, water quality:

Objective 1: "Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources."

Policy 3: "Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters."

Policy 7: "Encourage urban developments in close proximity to existing services and facilities."

Discussion: Surface, ground and coastal water quality impacts of the proposed DP Amendments are addressed in Sections 4.5 and 4.6. In brief, there are no anticipated significant impacts to water resources. The improvements to the Laie Wastewater Reclamation Facility (LWRF) which are already underway will provide new, tertiary treatment facilities, capable of producing a high quality effluent for agricultural re-use. Once completed, the LWRF will have sufficient capacity to treat wastewater from the proposed developments.

The proposed location of the new BYU Mauka residential area in La'ie is near existing services and facilities. Additionally, the proposals for a light industrial area and added

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shopping center parking will allow for incremental growth of services in the community. This will enable area residents to avoid driving into "town" (e.g., Kaneohe) for basic services and facilities, thereby reducing traffic congestion and auto emissions.

Section 226-15: Objectives and policies for facility systems -- solid and liquid wastes:

Objective 2: "Provision of adequate sewerage facilities alleviate problems in housing, employment, mobility, and other areas."

Policy 1: "Encourage the adequate development of sewerage facilities that complement planned growth."

Policy 2: "Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic."

Discussion: Improvements to La'ie's wastewater reclamation facility are underway to eliminate effluent discharge into the adjacent marsh. The new, tertiary treatment plant will utilize an advanced technology treatment process to produce high quality effluent and composted sludge for re-use. A La'ie Wastewater Facilities Plan (LWFP) and Draft EIS is under preparation which proposes expansion of the wastewater reclamation facility to accommodate anticipated growth in La'ie up to the year 2010. Expansion of the existing facility will precede development proposed by the subject DP Amendments. Consistent with State policy, the LWFP proposes re-use of treated wastewater effluent and sludge for agricultural irrigation and compost purposes. Close coordination with the State Department of Health and City and County Board of Water Supply will ensure that these conservation practices are carried out safely.

Section 226-16: Objective and policies for facility systems -- water:

Objective: "Provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities."

Policy 1: "Coordinate development of land use activities with existing and potential water supply."

Discussion: The La'ie community water system is owned and operated by Zions Securities Corporation. This system is not connected to the County Board of Water Supply (BWS). The potable water system is supplied by artesian aquifers, accessed by two well stations. An additional source capable of delivering 300,000 gallons per day (gpd) will be needed to meet the combined needs of projects that could be built in the requested DP Amendment areas. As discussed in Section 4.5, available information indicates that the aquifers have ample capacity to meet these needs.

Section 226-19: Objectives and policies for socio-cultural advancement--housing.

Objective 1: "Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, livable homes located in suitable environments that satisfactorily

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accommodate the needs and desires of families and individuals."

Objective 2: *"The orderly development of residential areas sensitive to community needs and other land uses."*

Policy 1: *"Effectively accommodate the housing needs of Hawai'i's people."*

Policy 2: *"Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income and gap-group households."*

Policy 3: *"Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing."*

Policy 5: *"Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas."*

Discussion: The requested Residential and Low Density Apartment designations are specifically proposed to meet a critical housing shortfall within the La'ie community. La'ie households are much more crowded than is the case for O'ahu as a whole. In a 1987 survey, more than 36 percent of the existing residences in La'ie were found to be occupied by multiple households. One or more of these "extra" families (a total of about 50 percent of all La'ie households) indicated that they would move out if homes were available in the area at prices they could afford.

The requested DP amendments will designate approximately 55 acres as Residential and 8 acres as Low Density Apartments for the development of approximately 450 new dwelling units. The target market for at least 60 percent of these new homes will be La'ie residents who are currently living in overcrowded housing conditions and have expressed an interest in owning or renting an affordable home in La'ie. This plan is consistent with State and City and County policies with respect to the provision of affordable housing in new developments. Prices of many of the affordable units will be below the normally required levels (30 percent affordable to households with incomes between 80 percent and 120 percent of the median, and another 30 percent for households with incomes between 120 percent and 140 percent of the median) in order to be within the reach of La'ie families.

A variety of approaches will have to be used in order to feasibly provide housing that will be affordable to the families living in overcrowded conditions in La'ie. These include government programs which help reduce the costs of constructing and financing new housing, and/or private efforts such as self-help or owner-built housing. A study describing the various options, many of which will have to be used in combination with each other in La'ie, is provided in Appendix B.

Section 4.0 presents the environmental assessment of the proposed residential area and two alternative housing sites, considering the physical setting, accessibility to public facilities and services, social impacts and others.

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Section 226-23: Objective and policies for socio-cultural advancement -- leisure.

Objective: "Adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations."

Policy 6: "Assure the availability of sufficient resources to provide for future recreational needs."

Discussion: The proposed Parks and Recreation designation of the Po'ohaili Street Park (3.6 acres) and its subsequent dedication to the City will assure the long-term availability of this site as a recreation resource within the La'ie community. An 18-acre site just beyond the end of Po'ohaili Street has also been reserved for a major park to serve the entire La'ie community. Part of it is now being used for field sports. In addition, each proposed 8.0-acre elementary school site includes 2.0 acres for a playground facility which will be available for recreational purposes within the new residential area. Together, these recreational resources should be more than sufficient to provide for future recreational needs.

6.1.2 State Plan Priority Guidelines

The purpose of this section of the State Plan is to establish overall priority guidelines for addressing areas of state-wide concern. The following discussion provides an assessment of how the proposed project conforms to the relevant priority guidelines.

Priority Guidelines to Promote the Economic Health and Quality of the Visitor Industry:

Section 226-103 (b)(2): "Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access."

Section 226-103 (b)(3): "Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities."

Discussion: According to the City and County General Plan, La'ie is one of O'ahu's four secondary resort areas. The existing DP Land Use Map designates approximately four acres as Resort along the mauka side of Kamehameha Highway. The Resort designation requested for a 2.6-acre site directly across Kamehameha Highway is intended to permit development of leisure amenities typically associated with a hotel and assure ocean views from the hotel site. The hotel itself will remain more than 350 feet from the shoreline area, on the mauka side of the highway. These additional features are expected to enhance the attractiveness and viability of the future hotel. Public access to the shoreline through this area will also be provided, which is a public benefit that would not occur with the existing Residential designation.

The Polynesian Cultural Center is also a visitor facility. Plans are to use the proposed expansion area for parking, and thus enable the existing parking area to be redeveloped

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with new exhibits of Polynesian cultures not now included at the PCC. The result will be both an upgrade of the existing facility and an enhanced visitor experience.

Priority Guidelines to Promote the Growth and Development of Diversified Agriculture and Aquaculture:

Section 226-103 (d)(1): *"Identify, conserve and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands."*

Section 226-103 (d)(10): *"Support the continuation of land currently in use for diversified agriculture."*

Discussion: The proposed Development Plan amendments, if approved, will reduce by ±193 acres the ±660 acres of applicant-owned lands in La'ie which are potentially suitable for agricultural production. Of the ±193 acres, approximately 30 percent of this land is actually being used for active agricultural purposes at this time. As discussed previously with respect to State Plan objectives and policies for agriculture, withdrawal of this small area from agricultural use should not adversely affect either the existing levels or the potential for growth of diversified agriculture.

Priority Guidelines for Population Growth and Land Resources

Section 226-104 (b)(1): *"Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles."*

Section 226-104 (b)(2): *"Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district."*

Discussion: Although the general area is not "urban" or even "urban fringe", there are adequate support facilities available to serve the proposed land uses. The upgrading of the wastewater reclamation facility which is currently underway includes an expansion of its treatment capacity. Once completed, it will be able to treat wastewater from the proposed developments, as well as from the existing community. The applicant will develop the necessary water sources and distribution system improvements to serve all elements of the requested DP Amendments. A detailed assessment of potable water resources and wastewater treatment facilities is included in Sections 4.5 and 4.17.

The La'ie community is located in a predominantly rural area of O'ahu. A "country" lifestyle involves a close-knit community for some residents, but a fairly independent mode of living for others. Community residents value their country surroundings, and people living in the country areas report a sense of community, too. However, communities in the study area were founded on various economic activities, and there is a history of third- and fourth-generation families seeking preservation of their particular community as a home for the next generation. The requested DP

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Amendments reflect new land uses and perpetuate existing land uses in a pattern that is complementary to the existing community character. The requested DP Amendments are considered to be appropriate for La'ie, and are consistent with community needs as expressed in a 1987 survey in La'ie (Community Resources, Inc.).

The requested DP Amendments propose that a limited amount of the existing available agricultural land be redesignated in favor of incremental growth within La'ie and affordable housing. As previously discussed, the reduction of agricultural land is not considered to be a significant adverse impact.

Priority Guidelines for Affordable Housing

Section 226-106 (1): "Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households."

Section 226-106 (2): "Encourage the use of alternative construction and development methods as a means of reducing production costs."

Section 226-106 (6): "Encourage public and private sector cooperation in the development of rental housing alternatives."

Section 226-106 (8): "Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i."

Discussion: The proposal to develop affordable housing in La'ie to relieve overcrowding in the area is consistent with the primary objectives of the State Housing Functional Plan, as well as with three of the four applicable priority guidelines. Although some of the agricultural land which would be used for the housing is considered "prime," the net loss to the total amount of available, suitable agricultural land in the State is considered marginal. This is a private-sector endeavor which will attempt to construct homes to be affordable to La'ie residents, including the income group which falls below 80 percent of the median. At least 60 percent of the homes are intended to meet or exceed the current State affordability requirements. To achieve the goal, alternative construction and development methods will be studied, including self-help construction. Assistance from State and Federal housing construction and financing programs will also be sought where appropriate.

6.2 HAWAII STATE FUNCTIONAL PLANS

The State Functional Plans translate the broad goals and objectives of the Hawai'i State Plan into detailed courses of action. The relationship of the proposed DP Land Use Map amendments to the relevant State Functional Plan objectives, policies and implementing actions is described below.

State Agriculture Functional Plan

Objective H: Achievement of productive agricultural use of lands most suitable and needed for agriculture."

"Policy H(2): Conserve and protect important agricultural lands in accordance with the Hawai'i State Constitution."

"Action H(2)(c): Administer land use district boundary amendments, permitted land uses, infrastructure standards, and other planning and regulatory functions on important agricultural lands and lands in agricultural use, so as to ensure the availability of agriculturally suitable lands and promote diversified agriculture."

"Objective I: Achievement of efficient and equitable provision of adequate water for agricultural use."

"Policy I (1): Expand agricultural water resources state-wide."

"Action I (1)(b): Monitor, evaluate, and increase efforts to use non-potable water for agricultural irrigation."

Discussion: The discussion of the proposed DP Amendments' consistency with State Plan objectives and policies for agriculture also addresses their consistency with Objective H and its applicable policy and implementing action.

Irrigation water is currently provided in La'ie by a combination of rainfall and several non-potable wells. These wells draw upon the shallow, brackish water aquifer which is separated from the deeper artesian aquifer by a dense basalt layer. Long range plans for the wastewater reclamation facility include tertiary wastewater effluent treatment and re-use for agricultural purposes. It is the applicant's intention, provided the required government approvals can be obtained, to make this reclaimed wastewater available for agricultural irrigation. Wastewater treatment plans are discussed further in Section 4.17.2. Groundwater issues are discussed further in Section 4.5.

State Housing Functional Plan

Objective A: "Homeownership for at least sixty percent, or roughly 248,500 households by the year 2000."

Policy A (2): "Encourage increased private sector participation in the development of affordable for-sale housing units."

Implementing Action A (2) (a): "Create and offer incentives to private developers for providing affordable for-sale housing units."

Policy A (3): "Ensure that (1) housing projects and (2) projects which impact housing provide a fair share /adequate amount of affordable homeownership opportunities."

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Implementing Action A (3) (a): "Impose realistic and fair housing conditions on projects seeking land use re-designations, general or development plan amendments, re-zoning, SMA permits and building permits."

Policy A (5): "Use alternative approaches in providing affordable housing for sale."

Implementing Action A (5) (a): "Lobby the legislature and county councils to appropriate funds to support the development of affordable housing through self-help efforts."

Objective B: "Sufficient amount of affordable rental housing units by the year 2000 so as to increase the State's rental vacancy rate to at least 3%."

Policy B (2): "Encourage increased private sector participation in the development of affordable rental housing."

Implementing Action B (2)(a): "Offer developers tax incentives, financing tools and other incentives to make the development of affordable rental housing projects possible."

Implementing Action B (2)(c): "Effectively use new and existing federal, state and county funds to finance the development of affordable rental housing."

Discussion: The primary aim of the proposal to develop ±450 new housing units in La'ie is to, through private sector initiative, increase the supply of affordable for-sale and rental housing. A minimum of 60 percent of the units will be affordable, and many of these will be offered at lower prices than past government approvals have required. A wide variety of alternative approaches to housing construction and financing will have to be employed if a significant number of these units are to be affordable for the large number of La'ie families who are now "doubled-up" in existing housing. Any tax incentives and financing tools, which the State has to offer will be very helpful to realizing the purpose of this proposal.

State Recreation Functional Plan

None of the policies or implementing actions in this Functional Plan address issues relative to the specific elements of the proposed DP Amendments. Parks and recreation facilities have historically been provided in La'ie through the cooperation of the primary landowner. The DP Amendments include a proposal that the current park site on Po'ohaili Street be designated Parks and Recreation.

State Transportation Functional Plan

Objective I. B: "Reduction of travel demand through zoning and decentralization initiatives."

Policy I.B.1: "Close the gap between where people live and work through decentralization, mixed zoning, and related initiatives."

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Implementing Action I.B.1.c: *"Promote the development of homes near jobs. Examples are residential condominiums in the Kakaako area to allow employees to live close to their downtown offices and employee housing built by resort developers in close proximity to resorts."*

Discussion: The requested DP amendments promote the development of homes near existing and future jobs in the Ko'olauloa DP Area. A 1979 community survey indicated that 80 percent of La'ie residents work in La'ie. New jobs are expected to result from expansion of the Polynesian Cultural Center and the small proprietors, manufacturers, and service-oriented vendors expected to occupy the proposed light industrial area. Other forces for change in the Ko'olauloa DP Area include the forthcoming development of Kuilima Resort. The proposed Residential designation in La'ie is sufficient to build approximately 450 homes. This request is consistent with the decentralization concept and would provide added housing in closer proximity to existing and future jobs in La'ie and at the Kuilima Resort.

State Tourism Functional Plan

"Objective II.A: *Development and maintenance of well-designed visitor facilities and related developments which are sensitive to the environment, sensitive to neighboring communities and activities, and adequately serviced by infrastructure and support services."*

"Policy II.A.8: *Encourage the development of hotels and related facilities within designated visitor destination areas with adequate infrastructure and support services before development of other possible visitor destinations."*

"Action II.A.8.a: *Ensure that all proposed tourism development projects conform to the following guidelines:*

- *cluster hotels and resort condominium developments to provide open space and promote energy conservation;*
- *use regional sewerage systems rather than individual private systems;*
- *ensure adequate infrastructure, support services, and labor supply;*
- *ensure a mix of visitor accommodations including full service hotels and condominium apartments;*
- *ensure setbacks from the shoreline for access which facilitates and encourages public use of those areas;*
- *provide for an adequate number of affordable dwelling units to accommodate employee households;*
- *minimize loss of public recreational opportunities;*
- *minimize environmental impacts from marinas; and*
- *reflect the Hawai'ian motif and environment.*

Discussion: The PCC expansion and the Resort amenities site are the tourism-related projects within these proposed DP Amendments. They involve improvements to enhance the viability of existing and already planned facilities in a designated resort destination. These land uses, along with the proposed Residential area, are encouraged

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by the above-mentioned State Functional Plan policy and implementing action.

Already planned improvements to the existing La'ie Wastewater Reclamation Facility include the provision of sufficient capacity to treat wastewater from developments in the DP Amendment areas, as well as from the existing La'ie community. Subject to governmental review and approval of the La'ie Wastewater Facilities Plan and EIS, the necessary infrastructure will be constructed to service the requested DP Amendments. Available information indicates that the local potable and non-potable aquifers have ample capacity to meet the needs of the proposed DP Amendments. These issues are discussed in greater detail in Sections 4.5 and 4.17.1.

Improvements at the proposed Resort site will be designed to encourage public access and use of the shoreline via the site, which separates the highway from the shoreline. Public access will be assured to a greater degree than would be provided given the existing Residential zoning.

The proposed BYU Mauka residential area will effectively provide improved housing conditions for visitor industry (i.e. PCC or hotel) employees, and the potential for homeownership without leaving the area. A majority of La'ie residents are employed by the Polynesian Cultural Center; the proposed housing is expressly proposed to meet current pent-up demand for housing in La'ie. (A community survey in 1987 indicates that household size is far greater in the La'ie area than in other areas on O'ahu.) The affordable housing area is intended to meet and exceed current State standards for affordability, in an effort to build homes that are truly affordable to existing La'ie residents. New housing opportunities in La'ie will enable future employees of the approved Resort to live and work within the same community, which is consistent with the life and work-styles of a majority of La'ie residents.

State Health Functional Plan

The State Health Functional Plan focuses primarily on public health programs under the jurisdiction of the State Health Department. Several of the implementing actions relate to operating Department of Health permit programs to which the developments in the proposed DP Amendment areas will be subject. These include reviewing private wastewater treatment systems, discharges to the air or groundwater, new sources of drinking water, and air conditioning/mechanical ventilation systems for buildings that are used by the public. These developments will comply with all necessary permit requirements of the Department of Health.

State Historic Preservation Functional Plan

Almost all of the policies and implementing actions in the State Historic Preservation Functional Plan are directed at State agencies, especially the Department of Land and Natural Resources (DLNR) Historic Preservation Office. An archaeological survey of each DP amendment request parcel has been conducted by Paul H. Rosendahl, Ph.D., Inc.. The findings of the survey have been reviewed by DLNR.

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State Conservation Land Functional Plan

The subject properties do not include any conservation lands. Consequently, the implementing actions of the State Conservation Functional Plan do not pertain to the proposed amendments.

State Water Resources Development Functional Plan

This functional plan primarily affects State operations. The remaining functional plans – State Education, State Higher Education and State Energy – are not directly relevant to the proposed amendments.

6.3 CITY AND COUNTY OF HONOLULU GENERAL PLAN

The following discussion provides an assessment of how the proposed DP amendments conform to and implement applicable General Plan objectives and policies.

6.3.1 Population

Objective B: *"To plan for future population growth."*

Objective B, Policy 2: *"Provide adequate support facilities to accommodate future growth in the number of visitors to O'ahu."*

Discussion: The PCC proposed expansion and the Resort amenities area will enhance and increase the viability of existing and approved visitor support facilities to accommodate future visitor growth, and thus will help to implement this policy.

Objective C: *"To establish a pattern of population distribution that will allow the people of O'ahu to live and work in harmony."*

Objective C, Policy 3: *"Manage physical growth and development in the urban-fringe and rural areas so that:*

- a. An undesirable spreading of development is prevented; and*
- b. Their population densities are consistent with the character of development and environmental qualities for such areas."*

Objective C, Policy 4: *"Seek a year 2010 distribution of O'ahu's residential population which would be in accord with the following table:*

<u>Location</u>	<u>% of Year 2010 Island-wide Population</u>
...	...
Ko'olauloa	1.3% - 1.4%"

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Discussion: The requested DP Amendments are based, in part, on community surveys conducted in 1979 and 1987 and on community input provided during the development of a Draft La'ie Master Plan between 1987 and 1990. The types of development proposed in the DP Amendments essentially mirror the types of land uses which are present in the community today. The land uses are intended to be consistent with the existing community character and perpetuate opportunities to live and work within the community, which a majority of La'ie residents enjoy today. At least 60 percent of the proposed new residential neighborhood is planned to meet or exceed the State and City and County requirements for affordability. Densities and designs in the new residential neighborhood will be of a character that reflects and is consistent with the environment in which the La'ie community exists. Continued community participation in the planning process will further assure that Policy 3 is fulfilled.

The requested DP amendments include a single family and low density apartment residential area which is intended to provide approximately 450 new dwelling units in La'ie. This will increase the population capacity of the Ko'olauloa Development Plan area by approximately 1,300 people, or 0.1 percent of the island-wide population (Department of General Planning estimate).

With respect to the population distribution guidelines in Policy 4, data provided by the Department of General Planning indicates that the current population capacity of residentially zoned land within the Ko'olauloa Development Plan Area exceeds the upper range (1.4 percent) of the of the DP Area's portion of the projected 2010 population, without the proposed affordable housing area. Thus, the proposed addition of 0.1 percent to the current Ko'olauloa population capacity will slightly increase an already existing inconsistency with this policy.

However, several other factors relevant to the population issue must also be considered when evaluating the consistency of the proposed population increase with the overall intent of the General Plan. These are:

- The existing population in La'ie is experiencing serious overcrowded living conditions. The results of a community survey of 225 La'ie households in 1987 (±30 percent random sample) found that La'ie households are much more crowded than is the case for O'ahu as a whole. This assessment is corroborated by recent 1990 survey, which indicates that over 55 percent of La'ie households contain five or more persons.
- 36 percent of the residences covered in the 1987 survey had one or more households who were "doubled-up" with the primary occupant and indicated they would move out if affordable homes were available in the area.
- The majority of La'ie residents care more about having jobs and affordable housing than about keeping La'ie "like it is now", according to the 1987 community survey.

The new residential area is planned primarily to meet the needs of the existing population, rather than accommodate island-wide population growth. By relieving current overcrowded housing conditions, the new residential area can significantly

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improve living conditions for a large number of La'ie residents. The added housing will also provide opportunities to live in La'ie for families who work or otherwise have "roots" in the community, and want to live there but cannot find a place to buy or rent.

This increase in the residential development capacity of La'ie must also be considered in light of General Plan housing and other applicable objectives and policies. These are discussed in detail below.

6.3.2 Economic Activity

Objective A: "To promote employment opportunities that will enable all the people of O'ahu to attain a decent standard of living".

Objective A, Policy 1: "Encourage the growth and diversification of O'ahu's economic base".

Discussion: Approvals are already in place for projects within the Ko'olauloa DP Area which promise substantial economic growth for this region. The La'ie DP Amendments are largely responsive to the economic and demographic trends which will result from the expansion of the Kuilima Resort. The proposed light industrial areas and long-term expansion plans for PCC are an indirect and induced effect of the projected economic environment -- i.e., they respond to the need for supporting services that will result from the increased numbers of visitors staying at this Resort.

The BYUH expansion area does not fall into this category, and is intended to amend the DP Land Use Map to correctly reflect areas which are currently "owned" and partially utilized by the University. Student population growth is not anticipated, according to the current policies for BYUH administration. However, it is expected that currently unused portions of this area will be needed in the future to better serve the existing student body.

Objective B: "To maintain the viability of O'ahu's visitor industry."

Objective B, Policy 6: "Permit the development of secondary resort areas in West Beach, Kahuku, Makaha and La'ie."

Objective B, Policy 7: "Manage the development of secondary resort areas in a manner which respects existing lifestyles and the natural environment, and avoids substantial increases in the cost of providing public services in the area."

Objective B, Policy 9: "Encourage the visitor industry to provide a high level of service to visitors."

Discussion: There are approximately four acres along Kamehameha Highway, next to the Laniloa Lodge, which have been zoned Resort for nearly 20 years. As indicated in the Development Plan Special Provisions for Ko'olauloa, "resort facilities (in La'ie) shall be limited to 300 visitor units within the area designated for resort use." The redesignation to Resort of the 2.6-acre site directly across the highway from the already

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zoned area is proposed to provide this secondary resort with a corridor to the ocean where amenities such as a swimming pool, restrooms, changing areas, showers, equipment storage, lifeguard facilities and a snack bar can be provided. The attractiveness of this feature will both improve the viability of the approved resort and enhance the visitor experience, and thus improve the level of service to O'ahu visitors using the resort.

Subsequent detailed site planning for the resort parcel, with public input, will further ensure that this development will be sensitive to the natural environment and existing lifestyles of La'ie residents.

Objective C: *"To maintain the viability of agriculture on O'ahu."*

Objective C, Policy 5: *"Maintain agricultural land along the Windward, North Shore, and Waianae coasts for truck farming, flower growing, aquaculture, livestock production, and other types of diversified agriculture."*

Objective C, Policy 8: *"Encourage the more efficient use of non-potable water for agricultural use."*

Discussion: The proposed Development Plan amendments, if approved, will reduce by ±193 acres the ±660 acres of applicant-owned lands in La'ie which are potentially suitable for agricultural production. Of the ±193 acres, approximately 30 percent of the land is actually being used for agricultural purposes at this time. The amount of active agricultural land varies among the three alternative sites. As discussed previously with respect to State Plan objectives and policies for agriculture, withdrawal of this small area from agricultural use should not adversely affect either the existing levels or the potential for growth of diversified agriculture.

Irrigation water is currently provided by a combination of rainfall and non-potable (brackish water) wells. Re-use of treated wastewater effluent is another potential source which will be made available by the applicant, provided the necessary government approvals can be obtained.

6.3.3 Natural Environment

Objective A: *"To protect and preserve the natural environment."*

Objective A, Policy 3: *"Retain the Island's streams as scenic, aquatic, and recreation resources."*

Objective A, Policy 4: *"Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation."*

Objective B: *"To preserve and enhance the natural monuments and scenic views of O'ahu for the benefit of both residents and visitors."*

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Objective B. Policy 1: "Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands."

Objective B. Policy 2: Protect O'ahu's scenic views, especially those seen from highly developed and heavily travelled areas."

Discussion: The impacts of the proposed DP Amendments on the natural environment are addressed in Section 4.0 of this report. Impacts to streams and ponds (i.e. surface water), groundwater, land forms and existing vegetation are all assessed. Flood and erosion hazards are also considered. Mitigative measures are presented which off-set potential impacts of the DP Amendments. No significant adverse impacts are expected for the adverse environmental features described above.

The 2.6-acre Resort site is a developed parcel which currently separates the highway from the shoreline. Given that only hotel-related recreational amenities are proposed for this site, public views to and along the shoreline through this site will be enhanced with the requested DP designation. The proposed Resort designation will assure both pedestrian and visual access to the shoreline to a greater degree than would be provided given the existing Residential zoning. Visual impacts of the requested DP Amendments are discussed further in Section 4.15.

6.3.4 Housing

Objective A: "To provide decent housing for all the people of O'ahu at prices they can afford."

Objective A. Policy 3: Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities."

Objective A. Policy 5: Make full use of State and Federal programs that provide financial assistance for low-and moderate-income homebuyers."

Objective A. Policy 9: Encourage the preservation of existing housing which is affordable to low- and moderate-income persons.

Objective A. Policy 11: Encourage the construction of affordable homes within established low-density communities by such means as "ohana" units, duplex dwellings, and cluster development."

Objective A. Policy 12: Encourage the production and maintenance of affordable rental housing."

Objective C: "To provide the people of O'ahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities."

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Objective C, Policy 2: *Encourage the fair distribution of low- and moderate-income housing throughout the Island."*

Objective C, Policy 3: *Encourage residential development near employment centers."*

Discussion: Several of the policies above speak to the issue of location, encouraging the fair distribution of affordable homes throughout the island, and within established low-density communities, reasonably close to employment opportunities, recreation, commercial centers and adequate infrastructure. The residential component of the proposed DP Amendments implements these policies.

Most of the existing residents of La'ie already live reasonably close to their employment, and to neighborhood recreation and a commercial center, although in (overall) crowded conditions. A 1979 community survey indicated that 80 percent of La'ie residents work in La'ie. New jobs in La'ie are expected to result from expansion of the Polynesian Cultural Center and the infusion of new businesses that will locate in the proposed light industrial area. Much greater job growth will occur in the Ko'olauloa DP Area as a result of the forthcoming development of Kuilima Resort. The proposed new housing in La'ie will help to relieve the serious overcrowding that exists in the community and to provide needed affordable homes in proximity to both La'ie's existing employment base and future jobs in at the Kuilima Resort.

A variety of approaches to reducing the cost of housing will be employed in order to make the new units affordable to La'ie residents. The discussion of the consistency of these proposals with Hawai'i State Plan objectives and policies related to housing is also applicable to the above policies.

In further support of these proposals, it should be noted that the resulting increase in supply of affordable for-sale and rental housing in La'ie will help to counter the "seller's market" which exists when demand exceeds supply. This will help to preserve the affordability of existing housing which is occupied by low- and moderate-income persons.

6.3.5 Transportation and Utilities

Objective A: *To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel."*

Objective A, Policy 5: *"Improve roads in existing communities to reduce congestion and eliminate unsafe conditions."*

Objective B: *"To meet the needs of the people of O'ahu for an adequate supply of water and for environmentally-sound systems of waste disposal."*

Objective B, Policy 1: *"Develop and maintain an adequate supply of water for both residents and visitors"*.

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Objective B. Policy 5: "Provide safe, efficient, and environmentally sensitive waste-collection and waste-disposal services".

Objective B. Policy 6: "Support programs to recover resources from solid-waste and recycle wastewater."

Objective C: "To maintain a high level of service for all utilities."

Objective C. Policy 2: "Provide improvements to utilities in existing neighborhoods to reduce substandard conditions."

Discussion: County policies directed at providing utility and infrastructure improvements in *existing* neighborhoods and communities are not addressed directly by the requested DP Amendments and this report, which assesses impacts and mitigative measures for proposed new developments. However, these DP Amendments are only a portion of a greater effort by the applicant and the residents of La'ie to create a long-term land use plan for the entire community, including the existing residential areas. An integral part of this effort is an analysis of the costs and feasibility of upgrading existing services and infrastructure within the community. A background summary and status of the La'ie Master Plan is included in Section 1.5. Discussions between members of the community and the applicant which are aimed at finalizing the Draft Master Plan for La'ie will resume following public review of the EIS.

An assessment of potable water resources is included in Section 4.5. The applicant will develop the necessary water sources to serve all elements of the requested DP Amendments.

In an effort to provide "safe, efficient, and environmentally sensitive waste-collection and waste-disposal services," Zions Securities is preparing a Wastewater Facilities Plan for La'ie which includes an upgrading and expansion of the existing wastewater reclamation facility. With implementation of this plan, the facility will have more than sufficient capacity to treat wastewater from developments in the proposed DP Amendment areas. The wastewater treatment systems will generate high quality effluent water which may be safely re-used for agricultural irrigation, which is clearly encouraged in the General Plan and the State Functional Plan for Agriculture. These plans are discussed in greater detail in Section 4.4.

Solid waste will be removed from the proposed development areas and disposed at an appropriate City and County sanitary landfill or other solid waste disposal facility.

6.3.6 Physical Development and Urban Design

Objective A: "To coordinate changes in the physical environment of O'ahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located."

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Objective A. Policy 2: "Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities."

Objective A. Policy 4: "Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks, and emergency facilities that are intended to directly serve the development."

Objective D: "To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live."

Objective D. Policy 4: Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.

Discussion: Although the DP Amendments propose to redesignate approximately 193 acres of Agriculture-designated lands, less than 30 percent of these lands are currently used for agricultural purposes. Of the approximately 660 acres owned by Property Reserve, Inc. which may be suitable for agricultural production, ±465 acres would remain available for small to moderate size agricultural pursuits. The property owner will continue to use much of this land for diversified agricultural production, maintaining an environment which is supportive of farming-oriented lifestyles.

La'ie is, as the General Plan policy describes, a small town in a country setting, containing a variety of land uses ranging from small hotel/resort, university, a resident/visitor attraction, the Hawai'i Temple, a school, commercial center and a long established residential community. Long-term planning, with input from members of the La'ie community, is proposed to ensure the long-term viability and success of each of these existing land uses. The addition of a residential neighborhood will provide needed homes for overcrowded residents and future generations who prefer the small town lifestyle of La'ie.

Objective D. Policy 5: "Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas."

Discussion: The requested DP amendments have been conceived with community input, to satisfy the desires and needs of the existing La'ie community. They essentially mirror the existing land uses in La'ie, to be compatible with the community character. The proposed Industrial areas recognize that light industrial activities presently occur in La'ie. The need for these land uses is expected to increase along with anticipated economic growth in the Ko'olauloa DP Area. Continued communication with the La'ie Community Association and other community organizations will ensure that project designs are compatible with the existing community.

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6.3.7 Culture and Recreation

Objective A: "To foster the multiethnic culture of Hawai'i."

Objective A. Policy 1: "Encourage the preservation and enhancement of Hawai'i's diverse cultures."

Objective A. Policy 12: "Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawai'i made by the City's various ethnic groups."

Objective B: "To protect O'ahu's cultural, historic, architectural, and archaeological resources."

Objective B. Policy 2: "Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural and archaeological significance."

Objective C: "To foster the visual and performing arts."

Objective D: "To provide a wide range of recreational facilities and services that are readily available to all residents of O'ahu."

Objective D. Policy 1: "Develop and maintain community-based parks to meet the needs of the different communities on O'ahu."

Objective D. Policy 6: "Provide convenient access to all beaches and inland recreation areas."

Objective D. Policy 9: "Require all new developments to provide their residents with adequate recreation space."

Discussion: The PCC already provides a significant forum for the implementation of these objectives and policies. Through visual and performing arts, PCC offers a cultural facility to visitors and residents which fosters an understanding of the contributions made to Hawai'i by the O'ahu's many Polynesian ethnic groups. Through approval of the incremental expansion of the PCC, the City and County will enhance its ability to provide a high quality experience for both visitors and residents

A study has been prepared which identifies sites of archaeological significance within the proposed DP areas. This report is included as Appendix J, and summarized in Section 4.12. Treatment of these sites will proceed as approved by the Historic Sites Section of the State Department of Land and Natural Resources.

Consistent with policies above, the proposed Parks and Recreation designation over the Po'ohaili Street parcels (3.6 acres) and their subsequent dedication to the City and County of Honolulu will assure the long-term availability of this site as a recreation resource within the La'ie community.

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With respect to convenient access to all beaches, the proposed 2.6-acre Resort site is anticipated to enhance public views to the shoreline through this site, given that only recreational amenities are proposed. A pedestrian access will also be provided through the site for public use. This is a public benefit which would not occur with the existing Residential designation.

6.4 CITY AND COUNTY OF HONOLULU KO'OLAULOA DEVELOPMENT PLAN

The following discussion provides an assessment of how the various elements of the proposed DP amendments for La'ie will conform to and implement the Development Plan (DP) for the Ko'olauloa area.

6.4.1 Development Plan Common Provisions

Section 32-1-4. General Urban Design Principals and Controls

(1) Public Views: *"The design and siting of all structures shall reflect the need to maintain and enhance available views of significant landmarks. No development shall be permitted that will block important public views."*

Discussion: The proposed DP Amendments do not include development in an area where structures would block or impact views of significant landmarks. Some of the most scenic views of the Ko'olau Mountains and the windward shoreline are from La'ie Point. All of the proposed DP Areas are at elevations that would not be visible from this Point. Further, mountain and ocean views along Kamehameha Highway will not be impeded as a result of the planned development areas. Views toward the shoreline from the proposed Resort site will be improved, as compared to the potential structures permitted under the existing Residential zoning. An assessment of visual impacts is provided in Section 4.15.

(2) Open Space: *"The City's mountains, hills, shoreline and streams, shall be considered as major scenic, open space and recreational resources. Adequate public access to these resources shall be incorporated as part of developments adjacent to them."*

Existing natural stream beds and drainage-ways shall be retained wherever possible. Where further channelization must occur, materials that are harmonious with the setting, such as stone, shall be used whenever feasible."

Discussion: As previously discussed, plans for the proposed 2.6-acre Resort site include the provision of an additional public access to the shoreline.

Surface, ground and coastal water quality impacts of the proposed DP Amendments are addressed in Sections 4.5, 4.6 and 4.7. In brief, there are no anticipated significant impacts to water resources. Already planned improvements to the La'ie wastewater reclamation facility will resolve past problems and preclude future adverse effects upon downstream surface water quality.

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Existing natural stream beds and drainage ways will be retained in the project design where they pass through proposed development areas. Any channelization will utilize materials that are natural in color or appearance, where feasible. Drainage issues are discussed further in Section 4.6.

(3) Vehicular and Pedestrian Routes: "Landscaping shall be provided along major vehicular arterials and collector streets as a means to increase the general attractiveness of the community and the enjoyment of vehicular travel for visitors and residents."

Discussion: A collector road is proposed within each alternative residential area. Landscaping will be provided along any new roadways, in accord with City and County landscaping standards for public roadways.

(6) Existing Built-Up, Single Family Residential Areas: "New development in existing communities shall generally be limited to that which is compatible with or enhances the desired physical and social character and lifestyle. New residential development in rural areas shall be compatible with the general rural character of the area."

Discussion: A recurring theme in the Ko'olauloa Division is the desire to maintain a rural atmosphere. However, the communities in the region are composed of so many diverse peoples and cultures, the notion of country living may vary considerably.

A "country" lifestyle involves a close-knit community for some residents, but a fairly independent mode of living for others. Community residents value their country surroundings, and people living in the country areas report a sense of community, too. However, communities in the study area were founded on various economic activities, and there is a history of third- and fourth-generation families seeking preservation of their particular community as a home for the next generation. The requested DP Amendments propose new land uses which perpetuate the existing land use pattern in a manner complementary to the existing community character and consistent with stated community needs.

The nature and scope of the DP amendments is compatible with the general character and lifestyles of a majority of existing La'ie community residents. Working closely with the community, the development areas will be designed in a manner in with the community's physical characteristics and surrounding rural environment. The character of the BYUH and PCC expansions will be similar in nature to the existing facilities.

(8) Rural Areas: Rural areas are characterized by a preponderance of open and agricultural lands with limited development clustered in small, low density residential areas which have a strong sense of community and country-like environment. Large-scale agricultural operations of small farms are major economic activities and constitute the predominant land use. Business centers are generally modest in size, low in intensity of use and primarily oriented to meeting the day-to-day shopping and service needs of the surrounding area's residents.

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The location and character of new development in rural areas shall be consistent with the above-described characteristics of such areas and be guided by the following principles and controls:

(A): The visual attractiveness that distinguishes rural from urban and country from city shall be maintained.

(B): In designing areas for development, primary consideration shall be given to the protection and preservation of good agricultural land and uses, the shoreline, streams and wetlands, the mountains and watershed areas, ridgelines and steeply sloping areas and other natural resources and environments.

(C): Single-family dwellings at low densities shall be the predominant form of housing in residential areas. Clustering of dwellings shall be encouraged in order to promote the preservation of important natural areas and open spaces, the establishment of agricultural operations and economy in the provision of utilities and services.

(D): Development along the shoreline and makai of arterial highways that are within 1,000 feet of the shoreline shall be generally limited to parks, agricultural operations, and single-family dwellings. Private developments shall include public shoreline accessways at intervals of approximately one-half mile.

(E): Appropriately located sites shall be provided for community-based economic activities which utilize locally available raw materials and the skills of craftspeople living in the area.

(F): Commercial development shall be characterized by extensive landscaping and designs compatible with the rural character of the area.

(G): Design standards for streets and other infrastructure improvements shall reflect the reduced demands of lower density developments and be compatible with the desired country-like environment of rural communities."

Discussion: The preceding discussion with respect to compatibility of project design with the community character and surrounding rural environment applies as well to these principles and controls.

The only development proposed *makai* of an arterial highway (the 2.6-acre resort amenities site on the *makai* side of Kamehameha Highway) will be of a much lower density than typically occurs in a residential development. It will also provide a major view corridor and a public access to the shoreline, both of which would not be required under the current residential zoning.

A major reason for establishing a light industrial area in La'ie is to provide a place where local craftspeople and other small businesses can locate. Many such businesses already exist in the area, but are forced to operate out of their homes or other less appropriate locations due to the absence of a light industrial park.

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Design standards for streets and other infrastructure will be tailored for consistency with the rural character of the existing community, provided adjustments can be obtained to the urban standards normally required by government agencies. In particular, reduced standards for street construction will be sought in order to reflect a country-like environment and reduce the cost of the affordable homes.

Section 4.0 summarizes the anticipated environmental impacts resulting from the requested DP Amendments, including assessment of agricultural lands, the shoreline, streams, wetlands, slopes and other natural resources. This EIS analyzes one proposed and two alternative residential housing sites as part of the process to select the best housing site, based upon a comprehensive review of environmental impacts and development costs.

Predominantly single-family homes, but also some multi-family dwellings are to be included in the proposed affordable housing area in order to conserve land for agricultural uses and minimize costs for utilities and services.

Section 32-1.5. General Principles and Controls for Parks, Recreation and Preservation Areas

(B)(iii): Parks and Recreation Areas: "Suburban and new development areas shall include land for open space and recreation purposes at a minimum of two acres per thousand persons."

Discussion: The existing Po'ohaili Street Park, while slightly undersized at 3.6 acres, is acceptable as a neighborhood park. An 18-acre community park is already planned for La'ie, just *mauka* of the current terminus of Po'ohaili Street. It is already designated on the Ko'olauloa DP Land Use Map. The BYU Mauka site, which has been selected from the three alternatives as the proposed new housing area, is 1/4 to 1/2 mile from this planned park.

As can be seen, the total area already planned for neighborhood and community parks in La'ie is 22 acres, or 4 acres more than what is required. There are also extensive outdoor recreational facilities (playing fields, tennis courts, swimming pool, etc.) on the BYUH Campus for use by the ±2,000 students enrolled at the University, as well as by faculty, staff and their families. Given the extent of the existing and planned facilities, and given the large size of the community park and its proximity to the planned new residential area, we believe that there is no need to plan for additional parks in La'ie. Nonetheless, a playground facility is planned adjacent to the school site for outdoor recreational use.

Section 32-1.10. Social Impact of Development

(b) Social Impact Factors: "In evaluating an proposed development, the [General Plan] objectives relating to the distribution of social benefits shall be considered. The following factors shall be examined as they pertain to such objectives:

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- (1) **Demographic: Whether the development will:**
 - (A) *Increase or decrease the residential population.*
 - (B) *Increase or decrease the visitor population.*
 - (C) *Change the character or culture of the neighborhood.*

- (2) **Economic: Whether the development will affect:**
 - (A) *The rate and pattern of economic growth and development.*
 - (B) *Public costs and revenues.*
 - (C) *The availability and diversity of jobs in the development plan area..*
 - (D) *The principal economic activities on O'ahu.*

- (3) **Housing: Whether the development will affect:**
 - (A) *The range of available housing choices.*
 - (B) *Speculation in land and housing.*
 - (C) *Property values of existing homes.*
 - (D) *The provision of housing for low to moderate income and gap group families.*

- (4) **Public Service: Whether the development will affect:**
 - (A) *Medical facilities.*
 - (B) *Educational facilities.*
 - (C) *Recreational facilities.*
 - (D) *Transportation facilities.*
 - (E) *Police and fire protection.*
 - (E) *Public utilities facilities.*

- (5) **Physical; Environmental: Whether the development will affect:**
 - (A) *The natural environment.*
 - (B) *Existing natural monuments, landmarks and scenic views.*
 - (C) *Open space.*
 - (D) *The aesthetic quality of the area."*

Discussion: The consistency of the proposed DP Amendments with each of the social impact factors listed above is addressed in Section 4.0, as well as by the discussions provided earlier in this Section. Please refer to the appropriate sub-sections for detailed discussions of these issues.

6.4.2 Development Plan Special Provisions

Section 32-7.1 Area Description

"The land use pattern shown on the land use map provides for the preservation of the predominantly rural character of Ko'olauloa by allowing only limited single-family

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residential development and confining further tourist oriented development to the Kahuku Point-Kawela Bay area.

Further development within the Ko'olauloa area, particularly in the Kahuku Point-Kawela Bay area, is to be sensitive to the delicate coexistence between the natural scenic, recreational, and agricultural resources of the area. This is to be accomplished by minimizing adverse impacts on and preserving important agricultural lands and public views, maintaining public access to recreational areas, and providing building designs which reflect the rural character of the area. Residents are to continue to be offered the opportunity to develop social patterns and lifestyles within a rural setting as expressed by neighborhoods or small housing clusters which are defined by open space boundaries and which blend into the surrounding landscape with as little disruption as possible to the scenic quality of the area.

The existing balance between the single-family residential character of La'ie-Kahuku Town and the tourist oriented activities of the Polynesian Cultural Center and the Kahuku Sugar Mill, is to be maintained so that those resort and commercial activities do not dominate. "

Discussion: Consistent with the provision above, the DP Amendments for La'ie propose only a limited amount of residential development, of an affordable nature which will meet the needs of La'ie community residents. This additional housing will also help to maintain the existing balance between the single-family residential character and tourist oriented activities in La'ie-Kahuku Town.

The DP Amendments request an incremental expansion of the long-standing Polynesian Cultural Center and 2.6-acre shoreline amenities area to increase the attractiveness and viability of the existing ±4 acre Resort zoned parcel, which has been designated as a secondary resort for approximately 20 years. These DP Amendments do not propose further tourist oriented development outside of the Kahuku-Kawela Bay area; rather, they will enhance existing and approved visitor facilities, as is encouraged by State and City and County policies.

Furthermore, the DP Amendments have been evaluated for impacts on the environment to ensure that future plans are sensitive to the delicate co-existence between the natural, scenic, recreational and agricultural resources of the area. In general, the overall intent of these Special Provisions is met through these proposals.

Section 32-7-2. Urban Design Principles and Controls for Ko'olauloa

(a) Specific Urban Design Considerations

(1) Open Space: "The visibility, preservation, enhancement and accessibility of open space areas, as described in Section 32.-1.A of the development plan common provisions, shall be given high priority in the design of adjacent and nearby development in Ko'olauloa. These areas include, but are not limited to, the slopes of the Ko'olau mountain range, streams and the shoreline, Kaliu Waa, Kahana Bay, Sacred Falls, La'ie Point, and the Crouching Lion."

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(2) Public Views: *"Panoramic and continuous views from public places of the coast and the sea, as well as views of the expansive Kahuku plain, shall also be protected.*

The subordinate role of the built environment with respect to the natural environment and agricultural activities shall be emphasized by the identification and protection of panoramic public views of the shore, streams, mountains and agricultural fields.

Kamehameha Highway provides the traveler with an exceptionally scenic experience. Development adjacent to the highway shall reflect the need to preserve the current panoramic roadway views of the sea, the coastline, the Ko'olau mountains and lateral ridges, inner valleys, and landmarks.

Important views to be protected include, but are not limited to the following:

Panoramic mauka, makai and coastal views from La'ie Peninsula."

Discussion: Public views from Kamehameha Highway and La'ie Point are assessed in Section 4.15. The panoramic views from La'ie Point will not be affected by the requested DP Amendments. Proposed development areas adjacent to the highway will not impede or intrude upon views of the sea, the mountains or other area landmarks. Perimeter landscaping is recommended as a mitigative measure for new land uses proposed which are adjacent to the highway, even though significant scenic views are not affected. The only site on the *makai* side of the highway is the 2.6-acre Resort amenities area. The leisure and recreational amenities proposed for this site will have less visual impact on ocean views than the existing Residential designation and zoning.

32-7-2 (b) (2). Principals and Controls for Special Areas - La'ie Resort Area

"Resort facilities shall be limited to 300 visitor units within the area designated for Resort use."

Discussion: The proposed DP amendment to increase the Resort-designated area by 2.6 acres is intended for leisure and recreational amenities only. The current limit of 300 visitor units is not affected and will not be exceeded.

6.5 HAWAII COASTAL ZONE MANAGEMENT PROGRAM

The objectives of the Hawai'i Coastal Zone Management Program, Section 205A-2, HRS, are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values, and recreational opportunities. The objectives of the program are also to reduce coastal hazards and to improve the review process for activities proposed within the coastal zone.

Part of the area covered by the proposed DP amendments (approximately 23 acres) lies within the City and County of Honolulu Special Management Area. This includes a ±16-acre portion of the ±21-acre PCC expansion area, the 2.6-acre Resort amenities site,

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the 0.3-acre corner commercial site, the 0.5-acre shopping center commercial site, and both of the ±2-acre Industrial sites.

The following are the applicable objectives and policies of the Hawai'i Coastal Zone Management Program (CZM) and an assessment of how the proposed DP Amendments relate to them. Analysis of the short and long term impacts of these amendments are included in Section 4.0 of this EIS.

Recreational Resources

Objective (1): "Provide coastal recreational opportunities accessible to the public."

Policy (1)(B): "Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

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

Discussion: Access to coastal recreational opportunities will not be impeded by the proposed DP Amendments. The only site within the study area located *makai* of Kamehameha Highway and along the shoreline is the proposed 2.6-acre Resort amenities site. A public access to the shoreline will be included in the design of the amenities.

The current residential zoning of this parcel would allow for as many as 15 or more single-family dwellings and each could be built to a height of 25 feet. If a residential subdivision was constructed at this site, these would be private homes and public access would not be guaranteed. Public views of the ocean would also be restricted by the subdivision. The proposed Resort designation will assure public access to a greater degree than exists under the existing Residential designation and zoning.

Historic Resources

Objective (2): "Protect, preserve and, where desirable, restore those natural and man made historic and pre-historic resources in the coastal zone management area that are significant in Hawai'ian and American history and culture."

Policy (2)(A): "Identify and analyze significant archaeological resources."

Policy (2)(B): "Maximize information retention through preservation of remains and artifacts or salvage operations."

Discussion: As previously noted, a comprehensive archaeological reconnaissance survey has been performed for each area being considered for DP Amendment. This is included as Appendix J and is summarized in Section 4.11.

Two archaeological sites were identified within the SMA and located on or near proposed DP Amendment areas. At the northeast corner of the proposed Resort parcel,

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a site was assessed as significant, solely for information content. No further work is recommended. At the boundary of the ±2-acre Industrial area near Kahawainui Stream, a burial site was identified. Further data collection and preservation "as is" is recommended.

The recommendations for data recovery, preservation and interpretive development will be reviewed and approved by the State Department of Land and Natural Resources - Historic Preservation Division. Appropriate actions will be taken to preserve significant resources.

Scenic and Open Space Resources

Objective (3): "Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources."

Policy (3)(B): "Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline."

Policy (3)(D): "Encourage those development which are not coastal dependent to locate in inland areas."

Discussion: The only site within the study area located *makai* of Kamehameha Highway is the proposed 2.6-acre Resort amenities site. All other requested DP Amendment sites are located mauka of the highway and will not impact existing public views to and along the shoreline. The 2.6-acre Resort site is a flat, developed site; alteration of landforms is not an issue. The site currently separates the highway from the shoreline. Given that only hotel-related recreational amenities (i.e., no major structures) are proposed for this site, public views to and along the shoreline through this site will be enhanced with the requested DP designation. It is acknowledged that uses permitted under resort designation are generally more intrusive than those permitted under the residential designation. However, it is intended that the allowable uses for this particular site be restricted through a unilateral agreement. This agreement would limit the uses to private outdoor recreational activities and related accessory facilities. These activities will be significantly less intrusive than the roughly 15 dwelling units that could be built on this site under the existing residential zoning. Pedestrian and visual access to the shoreline will be assured to a greater degree through such an agreement.

6.6. CITY AND COUNTY OF HONOLULU SPECIAL MANAGEMENT AREA

The Review Guidelines of Section 33-3.2 of the Revised Ordinances of Honolulu are used by the Department of Land Utilization and the City Council for the review of developments proposed in the Special Management Area. These Guidelines are derived from Section 205A-26, HRS. Approximately 23 acres of the proposed DP amendments are located within the Special Management Area. The SMA includes a ±16-acre portion of the approximately 21-acre PCC expansion area, the 2.6-acre resort amenities site, the

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0.3-acre corner commercial site, the 0.5-acre shopping center commercial site and both of the ±2-acre Industrial sites.

The applicable Review Guidelines and the consistency of the proposed DP Amendments with them is discussed below.

"(1) All development in the special management area shall be subject to reasonable terms and conditions set by the Council in order to ensure that:

(A) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;

(B) Adequate and properly located public recreation areas and wildlife preserves are reserved;

(C) Provisions are made for solid and liquid waste treatment, disposition, and management which will minimize adverse effects upon special management area resources; and

(D) Alterations to existing land forms and vegetation, except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of earthquake."

Discussion: Increased accessibility for public recreational purposes will be achieved through the proposed 2.6-acre Resort site. Access to public beaches and parks will not be otherwise be affected by the uses proposed.

A playground is provided alongside the new school site within the proposed residential area in order to meet public recreation needs within the immediate neighborhood. The Egg Farm alternative residential area is also near to the 18-acre community park site, and the La'iemalo'o alternative residential area is across the street from the 15.5-acre Kokololio Beach Park (formerly the site of the CYO Camp and Kakela Park). No known significant wildlife preserves will be disturbed by these proposals.

Improvements to La'ie's Wastewater Reclamation Facility to upgrade the quality of treatment to a tertiary level, and to increase its capacity to 1.5 million gallons per day, are already underway. When they are completed, the treatment plant will have ample capacity to service all of the potential new developments, as well as the existing community. These plans are discussed in greater detail in Section 4.17.

Steep lands, areas within flood hazard zones and other potentially sensitive sites were generally avoided in the selection of sites for the proposed DP Amendment areas, in order to minimize the potential for adverse effects on water resources and scenic and recreational areas, as well as the potential danger of floods and landslides when these sites are developed. Project designs and construction practices will also follow all

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applicable laws and regulations intended to minimize the potential for these occurrences.

Water resources, drainage issues and soils character are all assessed relative to the requested DP Amendments in Section 4.0. Please refer to the appropriate sub-sections for more detailed discussion of these issues.

"(2) No development shall be approved unless the Council has first found that:

(A) The development will not have any substantial, adverse environmental or ecological effect except such as adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interests. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options;

(B) The development is consistent with the objectives and policies set forth in Section 33-3.1 and area guidelines contained in Section 205A-26, Hawai'i Revised Statutes; and

(C) The development is consistent with the County General Plan, development plans, zoning and subdivision codes and other applicable ordinances."

Discussion: Cumulative impacts are addressed in Section 4.19 of this EIS. The consistency of the proposed DP amendments with the objectives and policies set forth in Section 205A-2, HRS, the area guidelines set forth in Section 205A-26, HRS, the General Plan for the City and County of Honolulu, and the Development Plan for Ko'olauloa was described earlier in this section of this document. Upon receipt of requested zone change applications and subdivision approvals, the applicant will observe the applicable regulations of the Land Use Ordinance (LUO), subdivision codes and other applicable ordinances.

"(3) The Council shall seek to minimize, where reasonable:

(A) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;

(B) Any development which would reduce the size of any beach or other area usable for public recreation;

(C) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach;

(D) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;

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(E) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land."

Discussion: The land uses proposed within the SMA will not impact any water bodies or access to them, nor will they affect any beach or other area in the SMA which is usable for public recreation. The proposal to provide resort amenities on a 2.6-acre site between Kamehameha Highway and the shoreline will maintain a substantial view corridor from the highway toward the sea, and preclude it being blocked off by the currently permitted residential development.

Wastewater and drainage systems will be designed to avoid any significant adverse impacts on water quality or on areas of open water, fishing areas and wildlife habitats in the SMA. The proposed ±2-acre Industrial area will affect a portion of an area that has been identified as potential wetland based upon the type of vegetation found at the site. A more refined delineation of these areas will be required by the Army Corps of Engineers to determine the precise scope of the wetland. This area was studied by both Bruner and Char (Appendices G and H), no significant adverse impacts to wetlands or wildlife are expected to result from the potential loss of these isolated sites.

The only existing agricultural use of land within the SMA which will be affected is a grove of plumeria trees on part of the proposed PCC Expansion area. If appropriate, these trees will be replanted or replaced with a new grove of trees within the remaining agricultural area.

SECTION 7 - Unresolved Issues

7.0 SUMMARY OF UNRESOLVED ISSUES

Since 1987, public informational meetings and individual interviews have provided substantial input on issues and concerns relative to the proposed La'ie Master Plan, certain components of which are included in the requested DP Amendments. Issues raised which pertain to the requested DP Amendments have been addressed in this Environmental Impact Statement, although several issues may be considered as unresolved at present. These issues are listed below, along with a brief discussion regarding the different opinions that exist on these issues.

1. **Access Roadway to Proposed BYUH Mauka Residential Area:** There are several different ways to provide access to this site. Each has its merits and will be analyzed in greater detail prior to subsequent stages of planning.
2. **Housing Prices:** The application and EIS address the intended market for the housing and the types of programs that will be used to make it feasible to build the housing at the intended price ranges. Specific programs which define the housing product and expected sales/rent prices have not been developed, but will be provided for review prior to the approval of zoning.
3. **Relief of Overcrowding:** The requested Residential and Low Density Apartment areas are proposed to meet specific public policy objectives to provide affordable housing on Oa'hu. Additionally, the new homes are intended to relieve the currently overcrowded housing conditions in La'ie. The specific housing programs and strategy for achieving this goal has not been developed, but will be provide for review prior to the approval of zoning.
4. **Permanent Method of Effluent Disposal:** It is tentatively proposed that the tertiary treated effluent from the La'ie Wastewater Treatment Facility be re-used for irrigation of agricultural lands. However, plans for this disposal method have not been finalized and approved. This will be pursued by the applicant under the direction of the State Department of Health.
5. **Ownership of Water and Sewer Systems:** Water and sewer infrastructure for the requested new development areas in La'ie will be designed to meet City and County standards. However, dedication of water and sewer infrastructure is not possible as long as these improvements are connected to privately owned and operated systems. Plans for the improvement of the existing water and wastewater systems in Laie have not yet been prepared. The issue of if and when ownership of the new water and sewer improvements will be transferred to the City is unresolved until such time as these plans are completed and the City agrees to accept dedication of the entire system.

SECTION 8 - References

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Agricultural Experiment Station

Water Resources Associates, February 1992
Groundwater Resources Summary for the La'ie Master Plan EIS, La'ie, O'ahu, HI.
Honolulu, HI

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SECTION 9 -Comments and Responses

LAIE DEVELOPMENT PLAN AMENDMENTS
•Final Environmental Impact Statement•

9.0 COMMENTS AND RESPONSES

Listed below are the agencies and organizations who submitted letters with comments, or stating that they have no comments, on the Notice of Preparation for the Laie Development Plan Amendments Application and Environmental Assessment and the Draft Environmental Impact Statement (EIS). This list is followed by the written comments received and responses.

	<u>Comments on NOP*</u>	<u>Comments on Draft EIS</u>
A. STATE AGENCIES		
DLNR/Director	X	X
DLNR/Historic Preservation Division	X	X
DLNR/Division of Water Resource Management	X	
Department of Agriculture	X	X
Department of Education	X	X
Department of Health	X	X
Department of Transportation	X	
Housing, Finance and Development Corp.	X	X
UH Environmental Center		X
Land Use Commission		X
Office of Environmental Quality Control		X
DBED/Energy Division		X
Department of Defense		X
Accounting/Public Works		X
B. CITY AND COUNTY AGENCIES		
Board of Water Supply	X	
Department of Public Works	X	X
Departments of Parks & Recreation	X	X
Department of Transportation Services	X	X
Police Department	X	X
Fire Department		X
Department of General Planning		X
C. OTHER ORGANIZATIONS AND INDIVIDUALS		
US Army Engineer District		X
US Department of Agriculture/Soils Conservation Service		X

LA'IE DEVELOPMENT PLAN AMENDMENTS
•Final Environmental Impact Statement•

9.1 Notice of Preparation: Comments and Responses

LA'IE DEVELOPMENT PLAN AMENDMENTS
•Final Environmental Impact Statement•

	<u>Comments on NOP*</u>	<u>Comments on Draft EIS</u>
HECO		X
Laie Community Association		X
Hui Malama 'Aina 'o Laie	X	
Independent Association of La'ie Residents	X	
Hands Around Windward Oa'hu	X	
Hawaii Laieikawai Association	X	X
Koolauloa Neighborhood Board #28	X	X
Kahalu'u Neighborhood Board #29		X
DOD/Department of the Navy		X

* Notice of Preparation

JOHN WAIHEE
GOVERNOR OF HAWAII



JAN 13 1992

GROUP 70
LIMITED

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

MAHABU TAGOMORI
Dan T. Kochi
AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

REF: OCEA: SKK

FILE NO.: 92-345
DOC. NO.: 2379E

JAN 10 1992

Mr. Kari Kilstrom, Planner
Group 70 Limited
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

SUBJECT: Environmental Assessment for Laie Development Plan
Amendments - Koolauloa, Oahu

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.

Brief Description:

The proposal involves amendments to the Laie Development Plan involving approximately 360 acres to permit the construction of 450 dwelling units, expansion of the Polynesian Cultural Center, additional parking, amenities for a future hotel, and other supporting facilities as well as upgrading of the sewage treatment plant. No information about the potential environmental impact of these activities was provided in the documentation received.

DIVISION OF AQUATIC RESOURCES COMMENTS:

A major stream system, Kahawainui, runs through the project area. A thorough biological reconnaissance of the aquatic organisms presently in the system should be performed as part of the Environmental Impact Study. The Hawaii Stream Assessment Report ranks the stream as of limited value, however we believe this reflects an absence of a competent biological survey. Collections

LA'IE DEVELOPMENT PLAN AMENDMENTS
•Final Environmental Impact Statement•

	<u>Comments on NOP*</u>	<u>Comments on Draft EIS</u>
HECO		X
Laie Community Association		X
Hui Malama 'Aina 'o Laie	X	
Independent Association of La'ie Residents	X	
Hands Around Windward Oa'hu	X	
Hawaii Laieikawai Association	X	X
Koolauloa Neighborhood Board #28	X	X
Kahalu'u Neighborhood Board #29		X
DOD/Department of the Navy		X

* Notice of Preparation

JOHN WAIHEE
GOVERNOR OF HAWAII



JAN 13 1992

GROUP 70
LIMITED

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

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HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

REF:OCEA:SKK

FILE NO.: 92-345
DOC. NO.: 2379E

JAN 10 1992

Mr. Kari Kilstrom, Planner
Group 70 Limited
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

SUBJECT: Environmental Assessment for Laie Development Plan
Amendments - Koolauloa, Oahu

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Brief Description:

The proposal involves amendments to the Laie Development Plan involving approximately 360 acres to permit the construction of 450 dwelling units, expansion of the Polynesian Cultural Center, additional parking, amenities for a future hotel, and other supporting facilities as well as upgrading of the sewage treatment plant. No information about the potential environmental impact of these activities was provided in the documentation received.

DIVISION OF AQUATIC RESOURCES COMMENTS:

A major stream system, Kahawainui, runs through the project area. A thorough biological reconnaissance of the aquatic organisms presently in the system should be performed as part of the Environmental Impact Study. The Hawaii Stream Assessment Report ranks the stream as of limited value, however we believe this reflects an absence of a competent biological survey. Collections

early in the century and resident at the Bishop Museum as well as a 1939 thesis suggest that the stream system should contain a diverse aquatic biota. Aquatic insects, especially the damsel flies (Megalagrion sp.) should be included in the new biological reconnaissance survey.

HISTORIC PRESERVATION DIVISION CONCERNS:

The applicant states that an archaeological inventory survey of historic sites at each element of the development plan amendment package and at all three of the residential site alternatives will be prepared by a qualified archaeologist and will be included in the Draft EIS. We look forward to reviewing this archaeological inventory survey report which, if acceptable, will locate all historic sites, collect enough information to determine their significance, and assess the effect of the development plan amendments on any significant sites that may be present.

DIVISION OF WATER RESOURCE COMMENTS:

The EA recognizes the need to address potable water and drainage requirements in the EIS. Because of the area's past history of severe flooding, particular attention should be given to the accommodation of increased runoff which the project will generate. Also, in accordance with the State Water Code, all contemplated water well development and alterations of gulches or streams will require appropriate permits from the State Commission on Water Resource Management.

Thank you for your cooperation in this matter. Please feel free to call me or Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,


WILLIAM W. PATY

cc: DGP



21 February 1992

William W. Paty, Director
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Paty:

Thank you for your January 10, 1992 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

A. Division of Aquatic Resources

In direct response to your comments, the applicant retained the services of Environmental Technologies International, Inc., to conduct a biological stream reconnaissance for the Kahawainui Stream. Their findings are included in the Draft EIS. The stream was surveyed on January 24 and 28, 1992, from the ocean to its origin in the Ko'olau Mountains. The reconnaissance found three of the five indigenous Hawaiian 'o'opu fish species. None of the native endemic 'o'opu found within the Kahawainui Stream are currently listed as threatened or endangered by the Federal Government. No endemic damselflies were captured or visually sighted. Aquatic insect diversity and numbers were extremely low throughout the entire Kahawainui Stream.

B. Historic Preservation Division

There were twenty-three archaeological sites identified during the survey, sixteen of which are located within the study area. Since only one of the three residential areas will be selected for the DP Amendment Request, the maximum number of sites which may be affected by the proposed DP Amendments is between 10 and 13. Of the sixteen sites within the study area, the provisional significance assessment indicates that only four sites are preliminarily recommended for preservation. Further data analysis will yield final recommendations for the general treatment of these four archaeological sites. The remaining 12 sites will be treated according to recommendations provided by the consulting archaeologist, subject to the approval of the State Department of Natural Resources, Historic Preservation Division.

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

Linda M. Aniya
Derrick T. Seiki
Ralph E. Portmore, AICP
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Paul P. Chorney, AIA
Stephen H. Yuen, AIA
Dean H. Kitamura, AIA
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Anne Theiss, AIA, ASID
Stephen E. Callo, CPA
Bradford A. Wellstead, AIA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

C. Division of Water Resource Comments

1. Potable Water Requirements; Water Source Development

The proposed development plans will require an expansion of the existing water system regardless of the alternative housing scheme chosen. An additional source capable of delivering 300,000 gpd will be needed to adequately meet the combined needs of the requested DP Amendments. Given pumping rates from the existing well sources, an additional two well source locations would be required. Of the two new wells, one would sit idle as a stand-by system. Plans for water well development must be reviewed and approved by the State Commission on Water Resource Management, prior to implementation.

These issues are further addressed in Section 4.5 of the Draft EIS.

2. Runoff from Development

Drainage mitigative measures are proposed in Section 4.7 of the Draft EIS and call for storm water runoff controls within the proposed DP Amendment Areas so that no additional burden is placed upon existing drainage facilities in Laie. Control of runoff from the development areas will be achieved through the construction of storm drainage facilities, swales, detention basins and dry wells within the new development areas. If flooding continues to occur in existing developed areas of Laie (and other areas adjoining the DP Areas), it will not be the result of the new projects.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom
ap

Kari Kilstrom
Planner

JOHN WAIHEE
GOVERNOR OF HAWAII

RECEIVED
JAN 02 1992

GROUP 70
LIMITED



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

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

DEPUTIES

KEITH W. AHUE
MANABU TAGOMORI
DAN T. KOCHI

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

December 23, 1991

Kari Kilstrom, Planner
Group 70 Ltd.
924 Bethel Street
Honolulu, Hawaii 96813-4398

LOG NO: 4178
DOC NO: 0479T

Dear Ms. Kilstrom:

SUBJECT: Environmental Assessment for Laie Development Plan
Amendments - Zion Securities Corporation
La'ie, Ko'olauloa, O'ahu
TMK: 5-5 various

Thank you for the opportunity to review this document. It is stated that an archaeological inventory survey of historic sites at each element of the development plan amendment package and at all three of the residential site alternatives will be prepared by a qualified archaeologist and will be included in the Draft EIS. We look forward to reviewing this archaeological inventory survey report which, if acceptable, will locate all historic sites, collect enough information to determine their significance, and assess the effect of the development plan amendments on any significant sites that may be present.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Hibbard".

DON HIBBARD, Administrator
State Historic Preservation Division

TD:jle



GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Scaman, AIA, ASID
Robert K.L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihci, AIA, CSI
Linda M. Aniya
Derrick T. Selki
Ralph E. Portmore, AICP
Edward T. Green
Paul P. Chorney, AIA
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George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

21 February 1992

Don Hibbard, Administrator
State Historic Preservation Division
State of Hawaii
Department of Land and Natural Resources
33 So. King, 6th Floor
Honolulu, Hawaii 96813

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Hibbard:

Thank you for your December 23, 1991 letter regarding the above-referenced Environmental Assessment. An archaeology inventory survey has been done by Paul H. Rosendahl, Ph.D., Inc. (PHRI) for all components of this DP Amendment Application. There were twenty-three archaeological sites identified during the survey, sixteen of which are located within the study area. Since only one of the three residential areas will be selected for the DP Amendment Request, the maximum number of sites which may be affected by the proposed DP Amendments is between 10 and 13.

Of the sixteen sites within the study area, the provisional significance assessment indicates that only four sites are preliminarily recommended by PHRI for preservation. Further data analysis will yield final recommendations for the general treatment of these four archaeological sites. The remaining 12 sites will be treated according to recommendations provided by the consulting archaeologist, subject to the approval of the State Department of Natural Resources, Historic Preservation Division.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom dp

Kari Kilstrom
Planner

RECEIVED

10 1991

JOHN WAIHEE
GOVERNOR OF HAWAII

GROUP 70
LIMITED



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

P. O. BOX 373
HONOLULU, HAWAII 96809

DEC 9 1991

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

DEPUTIES

MANABU TAGOMORI
DAN T. KOCHI

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

Ms. Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813

Dear Ms. Kilstrom:

This is in regards to your request for comments on the proposed Draft EIS for the LAIE DEVELOPMENT PLAN AMENDMENTS.

The EA recognizes the need to address potable water and drainage requirements in the EIS. Because of the area's past history of severe flooding, particular attention should be given to the accommodation of increased runoff which the project will generate. Also, in accordance with the State Water Code, all contemplated water well development and alterations of gulches or streams will require appropriate permits from the State Commission on Water Resource Management.

Sincerely,


KAZUO G. AKITA
Manager-Chief Engineer

TN:GSM:ko



21 February 1992

Kazuo G. Akita, Manager-Chief Engineer
Division of Water Resource Management
State of Hawaii
Department of Land and Natural Resources
P.O. Box 373
Honolulu, Hawaii 96809

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Akita:

Thank you for your December 9, 1991 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

A. Potable Water Requirements; Water Source Development

The proposed development plans will require an expansion of the existing water system regardless of the alternative housing scheme chosen. An additional source capable of delivering 300,000 gpd will be needed to adequately meet the combined needs of the requested DP Amendments. Given pumping rates from the existing well sources, an additional two well source locations would be required. Of the two new wells, one would sit idle as a stand-by system. Plans for water well development will be submitted to the State Commission on Water Resource Management for review and approval prior to implementation. The groundwater aquifer from which drinking water is obtained has sufficient capacity to serve this additional demand.

These issues are further addressed in Section 4.5 of the Draft EIS.

B. Runoff from Development

Mitigative measures are proposed in Section 4.7 of the Draft EIS which call for storm water runoff controls within the proposed DP Amendment Areas so that no additional burden is placed upon existing drainage facilities in Laie. Control of runoff from the development areas will be achieved through the construction of storm drainage facilities, swales, detention basins and dry wells within the new development areas. If flooding continues to occur in existing development areas of Laie (and other areas adjoining the DP areas), it will not be the result of the new projects.

- Francis S. Oda, AIA, AICP
- Norman G. Y. Hong, AIA
- Sheryl B. Scaman, AIA, ASID
- Robert K. L. Wong, AIA
- Hiroshi Hida, AIA
- Roy H. Nihel, AIA, CSI

- Linda M. Aniya
- Derrick T. Seiki
- Ralph E. Portmore, AICP
- Edward T. Green
- Paul P. Chorney, AIA
- Stephen H. Yuen, AIA
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- James I. Nishimoto, AIA
- Jen-Chih "Jack" Lee, AIA
- Michael A. Gami
- Eric G. Crispin, AIA
- Danilo M. Herrera

Letter to Division of Water Resource Management - Kazuo G. Akita
21 February 1992
Page 2

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information..

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom *dk*

Kari Kilstrom
Planner

JOHN WAIHEE
GOVERNOR



YUKIO KITAGAWA
CHAIRPERSON, BOARD OF AGRICULTURE

ILIMA A. PIIANAIA
DEPUTY TO THE CHAIRPERSON

FAX: 548-6100

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96823-2159

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

December 23, 1991

Kari Kilstrom
Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

SUBJECT: Amendment to Koolauloa Development Plan Land Use Map

The Department of Agriculture has received the Environmental Assessment for Laie Development Plan Amendments which you sent to us recently. Although we have no comments at this time, we do anticipate significant potential impact from this project due to the potential displacement of agricultural activities. Thus, we would like to reserve our comments for the draft Environmental Impact Statement, when the Agricultural Impact Analysis is anticipated to be available.

Thank you for the opportunity to comment.

Sincerely,


YUKIO KITAGAWA
Chairperson

c: Dept. of General Planning
Office of Environmental Quality





21 February 1992

Yukio Kitagawa, Chairperson
State of Hawaii
Department of Agriculture
1428 So. King Street
Honolulu, Hawaii 96814-2512

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Kitagawa:

Thank you for your December 23, 1991 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

The proposed Development Plan amendments, if approved, will reduce by ± 210 acres the ± 660 acres of applicant-owned lands in Laie which are potentially suitable for agricultural production. Of the ± 210 acres, approximately less than 20 percent of this land is actually being used for agricultural purposes at this time. The amount of actively used agricultural land varies slightly between the three alternative residential sites. Withdrawal of this small area from agricultural use should not adversely affect either the existing levels or the potential for growth of diversified agriculture in Laie. Approximately 450 acres would remain available for agricultural uses.

On a State-wide level, the proposal is not expected to adversely affect the growth of diversified agriculture. This is because production of diversified crops such as those grown in Laie and elsewhere on Oahu has been steadily shifting from Oahu to the Neighbor Islands, due to lower costs of production. An extensive amount of prime agricultural land and water has been freed from sugar and pineapple production because of past plantation closings and reductions in operations, with most of this land and water remaining available for diversified agriculture activities.

Given the outlook for low sugar prices, it is possible that additional lands will be made available on Oahu, as well as on the Neighbor Islands, for diversified agriculture. Those sugar operations which are forced to close would make their lands available for profitable replacement crops, to the extent that such crops are available.

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

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Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Letter to Department of Agriculture, Yukio Kitagawa, Chairperson
21 February 1992
Page 2

Another reason for the absence of any serious adverse effects is the relatively small amount of agricultural land, compared to the available and growing supply, that is required to grow proven and promising crops in Hawaii. This supply greatly exceeds the amount of land required to achieve a realistic level of food and animal-feed self-sufficiency and to increase exports.

Potential impacts on agriculture are addressed in Section 4.4 of the Draft EIS. The consistency of the requested DP Amendments with applicable State Plan objectives and policies, and with the provisions of the Agriculture Functional Plan, is discussed in Sections 6.1 and 6.2.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom ep

Kari Kilstrom
Planner

JOHN WAIHEE
GOVERNOR



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

CHARLES T. TOGUCHI
SUPERINTENDENT

RECEIVED
JAN 14 1992

GROUP 70
LIMITED

OFFICE OF THE SUPERINTENDENT

December 26, 1991

Ms. Kari Kilstrom, Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813

Dear Ms. Kilstrom:

SUBJECT: Application and Environmental Assessment
Laie Development Plan Amendments
Koolauloa District, Island of Oahu

Our review of the subject assessment indicates that the proposed plan will have a severe impact on the public schools in the area. Based upon the 550 residential units listed in the permit application, the subject project will have the following enrollment impact:

<u>Schools</u>	<u>Grades</u>	<u>Students</u>
Laie Elementary	K-6	140
Kahuku Intermediate	7-8	32
Kahuku High	9-12	55

Both schools are operating beyond capacity and the Department cannot assure the availability of classrooms to accommodate the projected 227 students from this development. Legislative appropriations for additional classroom facilities will be required.

The 227 students projected from this development will require nine classrooms at a cost of approximately \$2,088,315. We will request that the County require the developer to contribute a fair share for the construction of needed classroom facilities. The developer's fair share will be 50 percent of the cost or \$1,044,157.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Ms. Kari Kilstrom

-2-

December 26, 1991

The developer has set aside two possible school sites in the development plan. The Department requires an elementary school site to have a minimum of eight (8) useable acres when it is located next to a public park. Without a park, a twelve-acre site is needed to meet all the zoning requirements and educational specifications for a new elementary school. School sites should be located away from the main roadway because of noise and safety concerns and be somewhat rectangular in shape to effectively use the land area.

If the need for an intermediate school site is determined to be more desirable by the Department, a total of 12 to 18 acres is required. We request that the developer contact the Department to discuss possible future plans.

Should there be any questions, please call the Facilities Branch at 737-4743.

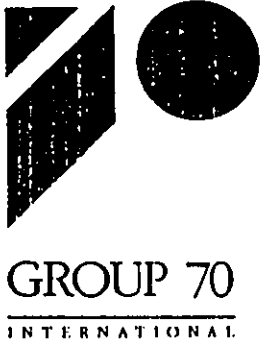
Sincerely,



Charles T. Toquchi
Superintendent

CTT:jl

cc: A. Suga
S. Loo



21 February 1992

Charles T. Toguchi, Superintendent
State of Hawaii
Dept. of Education
P. O. Box 2360
Honolulu, Hawaii 96804

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K.L. Wong, AIA
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June Fukushima-Lee, ASID
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Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Toguchi:

Thank you for your December 26, 1991 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

A. Projected Enrollment

Your letter refers to "550 residential units listed in the permit application." However, only 450 units are proposed for the new residential neighborhood that is part of the DP Amendment Application. (There is also a potential to accommodate an estimated 100 new residential units on already zoned land in Laie. This has nothing to do with the application.)

Using your assumptions on average student population per household, the proposed 450 housing units are expected to generate 115 students at the elementary level (Grades K-6), 26 students in intermediate school (Grades 7-8), and 45 students in high school (Grades 9-12). These figures are based upon 82 percent (450/550) of the student projections provided in your comment letter.

The target market for at least 60% of these new homes will be Laie residents who are currently living in overcrowded housing conditions and have expressed an interest in owning or renting an affordable home in Laie. Given the doubling-up of families in more than one-third of Laie's residential units, and the stated desire on the part of these existing residents to move in to the proposed new housing, we feel that the actual school facilities requirements for this proposal will be less than your projections indicate. We respectfully request that they be re-examined to better account for these site-specific circumstances.

B. Affordability of the Proposed Residential Units

The purpose of proposing the development of approximately 450 new dwelling units in Laie is to implement State and City and County policies with respect to the provision of affordable housing. Prices of many of the affordable units will have to be below the normally required levels (30% affordable to households with incomes between 80% and 120% of the median, and another 30% for households with incomes between 120% and 140% of the median) in order to be within the reach of Laie families.

The State Housing Functional Plan includes objectives, policies and implementing actions to promote the private sector participation in the development of affordable housing. Relevant statements include:

Objective A: "Homeownership for at least sixty percent, or roughly 248,500 households by the year 2000."

Policy A (2): "Encourage increased private sector participation in the development of affordable for-sale housing units."

Implementing Action A (2) (a): "Create and offer incentives to private developers for providing affordable for-sale housing units."

Policy A (3): "Ensure that (1) housing projects and (2) projects which impact housing provide a fair share/adequate amount of affordable homeownership opportunities."

Implementing Action A (3) (a): "Impose realistic and fair housing conditions on projects seeking land use re-designations, general or development plan amendments, re-zoning, SMA permits and building permits."

Objective B: "Sufficient amount of affordable rental housing units by the year 2000 so as to increase the State's rental vacancy rate to at least 3%."

Policy B (2): "Encourage increased private sector participation in the development of affordable rental housing."

Implementing Action B (2)(a): "Offer developers tax incentives, financing tools and other incentives to make the development of affordable rental housing projects possible."

It is the applicant's intent to provide as many affordable residential units as possible, and at the lowest possible sales prices/rental levels, within the proposed new residential neighborhood. The ability to achieve this intent will be strongly affected by the availability of incentives, and by the degree to which the imposed conditions are limited to those which are realistic and fair.

We are not aware of any recently approved development, especially one with the primary intent of providing affordable housing, which was required to provide funds for the construction of classrooms. Requiring a contribution of over \$1,000,000 from this project will severely impact the applicant's ability to provide housing to families with the income levels that are prevalent in Laie. This condition strikes us as neither realistic nor fair. It is certainly a strong disincentive to private sector participation in the provision of affordable housing. We urge you to reconsider the imposition of this condition, or at least significantly restructure it to better fit the particular circumstances of this proposal.

C Size of School Site

The proposed residential neighborhood includes an eight-acre school/playground site. The addition of four acres for school or park facilities as suggested in your letter may be accommodated at this preliminary stage of planning. However, it will either require the housing density to be increased significantly, or reduce the number of housing units that could be provided. Both of these would adversely affect project viability. We would like to discuss the matter of school-site acreage in relation to the issues mentioned above with you at your earliest convenience.

We wish to work with the Department closely to develop enrollment projections and project approval conditions which are appropriate for a proposal of this nature. I will call you to arrange a meeting to discuss this application and educational facilities issues following distribution of the Draft EIS.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866), if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom *ap*

Kari Kilstrom
Planner

JOHN WAIHEE
GOVERNOR OF HAWAII



RECEIVED
JAN 10 1992

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

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

GROUP 70
LIMITED

In reply, please refer to:

January 3, 1992

91-446/epo

Ms. Kari Kilstrom, Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813

Dear Ms. Kilstrom:

Subject: Laie Development Plan Amendments
Application and Environmental Assessment
Egg Farm Area, BYU Mauka Area, Laiemalo'o Area, Oahu
TMK: 5-5-05:Por. 1, 11, Por. 18, 20, Por. 21, Por. 24;
5-5-07:Por. 1; 5-5-05:Por. 23; 5-5-06:Por. 1;
5-5-07:Por. 1; 5-5-01:12; 5-5-06:Por. 1, Por. 11;
5-5-06:Por. 5, 32; 5-5-17:5, 6; 5-5-06:Por. 1,
Por. 5, Por. 10, Por. 30; 5-5-09:12; 5-5-14:7,
Por. 24; 5-5-02:10, 11, 20; 5-5-05:Por. 18;
5-506:Por. 5, 33, and 5-504:Por. 3, Por. 7;
5-5-05:Por. 23; 5-506:Por. 1, Por. 5, Por. 10;
5-5-08:Por. 1

Thank you for the opportunity to review and comment on the subject project. We have examined the application and environmental assessment and have the following comments to offer.

Wastewater

Our concern is that of proper treatment and disposal of wastewater generated at the project sites. The plan states that ±6 acres are set aside for the site of the Laie Wastewater Treatment Plant expansion. As the areas are proposed to be sewerred, we have no objections to the proposed development plan provided that all of the subject projects and areas are connected to the wastewater facility. We also support the concept of land reclamation and irrigation of nearby agricultural areas utilizing the treated effluent.

The developer must coordinate all projects in the proposed development plan to assure the availability of additional treatment capacity and adequacy for the project. Please be aware, that inadequate treatment capacity is not a reasonable justification for use of individual wastewater systems.

Ms. Kari Kilstrom
January 3, 1992
Page 2

91-446

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

Noise

Our concerns are directed to potential noise problems occurring in areas designated for mixed use. Integration of recreational, commercial, and industrial land uses with residential areas will result in negative environmental impacts. Mitigative measures toward minimizing these impacts should be implemented within such planned mixed use areas.

If you should have any questions on this matter, please contact Mr. Jerry Haruno of the Noise and Radiation Branch at 586-4700.

Very truly yours,



JOHN C. LEWIN, M.D.
Director of Health

c: Wastewater Branch
Noise and Radiation Branch



GROUP 70
INTERNATIONAL

21 February 1992

John C. Lewin, M.D., Director of Health
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Dr. Lewin:

Thank you for your January 3, 1991 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

A. Wastewater

The Laie Wastewater Facilities Plan/Draft EIS is currently under preparation by Aqua/Waste Engineers and James H. Pederson, Planning Consultant. The design assumptions account for wastewater generated by: present demand, new service to existing un-sewered portions of Laie, stormwater infiltration, and future growth of the Laie community. The long-term upgrade and expansion plan will be implemented following State Department of Health review and approval. The plan proposes a design capacity of 1.5 MGD, which will exceed the necessary design flows to meet moderate growth projections for the year 2010. The moderate growth projections include and exceed the wastewater requirements projected for the subject DP Amendments.

The land uses proposed by the DP Amendments are planned to be connected to the upgraded wastewater treatment system, as allowed by the phased expansion of the treatment facility. No individual wastewater treatment systems are proposed. Wastewater Facilities are addressed in the Laie DP Amendments Draft EIS, Section 4.17.

B. Noise Concerns

The Laie DP Amendments Draft EIS (Section 4.13) includes an assessment of possible short and long-term noise impacts of the requested DP Amendments. Short-term noise impacts are expected during the construction phase of any of the proposed land uses. Existing residences located along Kamehameha Highway will experience higher noise levels in the future due to an increase in traffic associated with island-wide ambient traffic growth, new

- Francis S. Oda, AIA, AICP
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- Jen-Chih "Jack" Lee, AIA
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- Danilo M. Herrera

Letter to DLNR - John C. Lewin
21 February 1992
Page 2

developments planned near Laie, and the eventual development of the proposed DP request areas for their respective land uses. Projects on currently vacant sites proposed for DP Amendments will cause an increase in noise levels to be experienced at adjoining areas. Specific noise studies and mitigation plans will be prepared for individual projects once site plans are designed in later stages of planning.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom
DP

Kari Kilstrom
Planner

JOHN WAIHEE
GOVERNOR



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

REX D. JOHNSON
DIRECTOR
DEPUTY DIRECTORS
JOYCE T. OMINE
AL PANG
JEANNE K. SCHULTZ
CALVIN M. TSUDA

IN REPLY REFER TO:

HWY-PS
2.0408

JAN 21 1992

GROUP 70
LIMITED

Ms. Kari Kilstrom, Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

Laie Development Plan Amendments (Property Reserve, Inc.)
to Koolauloa Development Plan Land Use Map, Laie, Oahu,
TMK: 5-5-various plots and parcels

Thank you for your letter of November 25, 1991, requesting our
review of the proposed development plan amendments and
environmental assessment.

We have the following comments:

1. The Traffic Impact Study being prepared for the Environmental Impact Statement should include an impact analysis of the entire proposed development on Kamehameha Highway and propose mitigation measures.
2. The developer may be required to dedicate setbacks along the Kamehameha Highway right-of-way for future highway widening and participate in regional roadway improvements on a prorata basis.
3. We reserve further comments until we review the Traffic Impact Study.

Very truly yours,

T. HARANO
Chief
Highways Division



21 February 1992

T. Harano, Chief
State of Hawaii
Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K.L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

Dear Mr. Harano:

Linda M. Aniya
Derrick T. Seiki
Ralph E. Portmore, AICP
Edward T. Green
Paul P. Chorney, AIA
Stephen H. Yuen, AIA
Dean H. Kitamura, AIA
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James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Thank you for your letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

1. Traffic Impact Study

The Draft EIS includes a traffic impact assessment which evaluates the potential short term and long term impacts of the requested DP Amendments upon Kamehameha Highway and recommends mitigative measures. The report is discussed in Section 4.0 of the Draft EIS and included in the Appendix, for reference.

2. Kamehameha Highway Improvements

The requested DP Amendments include several parcels along Kamehameha Highway which can be designed to accommodate the highway widening plans of the State Department of Transportation.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom

Kari Kilstrom
Planner

JOHN WAIHEE
GOVERNOR



JOSEPH K. CONANT
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION

IN REPLY REFER TO:

91:PPE/5299jt

RECEIVED
DEC 9 1991

SEVEN WATERFRONT PLAZA, SUITE 303
500 ALA MOANA BOULEVARD
HONOLULU, HAWAII 96813
FAX (808) 587-0600

GROUP 70
LIMITED

December 5, 1991

Ms. Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

Re: Application and Environmental Assessment for the Proposed
Laie Development Plan Amendments

Thank you for the opportunity to review the subject report.

We note that at least 60% of the proposed new housing is intended to be affordable to residents of Laie and that further information will be provided in the draft EIS. We therefore request that a copy of the draft EIS be forwarded to us for further review.

Sincerely,

A handwritten signature in dark ink, appearing to read "Joseph K. Conant".

Joseph K. Conant
Executive Director



21 February 1992

Joseph K. Conant, Executive Director
Housing Finance and Development Corporation
State of Hawaii
Department of Budget and Finance
Seven Waterfront Plaza, Suite 303
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Francis S. Oda, AIA, AICP
Norman G.Y. Hong, AIA
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Hitoshi Hida, AIA
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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Conant:

Thank you for your December 5, 1991 letter regarding the above-referenced Environmental Assessment. The Draft EIS provides further information and discussion with regard to affordable housing for Laie residents, especially in Section 6.0 "Relationships of the Proposed Action to Land Use Plans, Policies and Controls for the Affected Area".

Please call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom pp

Kari Kilstrom
Planner

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET

HONOLULU, HAWAII 96843



JAN 22 1992

OFFICE OF
GENERAL
COUNSEL

FRANK F. FASI, Mayor

WALTER O. WATSON, JR., Chairman
MAURICE H. YAMASATO, Vice Chairman
JOHN W. ANDERSON, JR.
SAM CALLEJO
REX D. JOHNSON
MELISSA Y.J. LUM

KAZU HAYASHIDA
Manager and Chief Engineer

January 17, 1992

Ms. Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

Subject: Your Letter of November 25, 1991 Regarding the Zions Securities Corporation's Environmental Assessment and Proposed Development Plan Amendments for Laie

Thank you for the opportunity to review the proposed Laie Development Plan amendments and environmental assessment. We have no objections to the project.

We have the following comments on the environmental assessment:

1. Treated wastewater irrigation.

Disposal of treated wastewater effluent through irrigation should not be allowed because of the possibility of groundwater aquifer contamination. Because the Laie area has valuable high quality water, high priority should be given to ensure the protection of the aquifer. Also, the possible adverse effects of saturated soil conditions from the effluent recharge should be addressed. Saturated soil conditions can cause flooding during normal rainfall, vermin, and odor problems. The area's existing method of sewage disposal by ground injection should be improved to alleviate oversaturated soil conditions and groundwater contamination.

2. Proper management of water resources.

In order to promote the proper management of water resources, Zions Securities Corporation should account for the use of their numerous wells and maintain levels of withdrawal as authorized by the State Department of Land and Natural Resources. Any leaking, abandoned, or unused wells should be repaired or sealed. Zions Securities Corporation should also indicate what their future plans are for the existing wells located in the designated development areas.



Ms. Kari Kilstrom
Page 2
January 17, 1992

3. The effect of the increased water demand on the existing supply.

The proposed development's effect on the existing water supply of other users in the service area cannot be determined until a concise hydrologic study is done to identify, quantify, and inter-relate the available groundwater in the Laie area. Additional data is needed to verify any adverse effects from the increased water demands on the area's existing supply.

4. Adequacy of existing water supply facilities.

The existing Zions Securities water system will require major improvements in order to adequately provide for the existing and proposed fire and average daily water demands. Our preliminary water system study indicates that large transmission mains, major distribution system improvements, a 2.5 million gallon reservoir, replacement wells, disinfection treatment systems, and many fire hydrants need to be installed to upgrade the water system up to Board of Water supply Standards.

Please allow us to review and comment on the forthcoming EIS, which should include a water master plan for the existing system improvements and additional facilities required for the proposed developments. If you have any questions, please contact George Kuo at 527-5235.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer



21 February 1992

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

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Hayashida:

Thank you for your January 17, 1992 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

1 (a): Improvements to the Area's Existing Method of Sewage Disposal

Interim disposal of effluent from the Laie Wastewater Reclamation Facility (WWRF) will utilize a recently installed sub-surface drainfield makai of the (UIC) line and above the basalt cap on the potable fresh water aquifer. This drainfield will be put into operation following requisite State Department of Health approvals. Prior to entering the drainfield, the wastewater will receive a tertiary level of treatment, followed by ultraviolet disinfection. The drainfield is designed so that the treated wastewater effluent percolating into the ground from the drainfield will exceed the quality of the tertiary filtered and ultraviolet disinfected water that will be delivered to it. This new infiltration field will allow the water to gravity-flow back into the ground, where it can be naturally absorbed. The infiltration field has been purposefully located makai of the Board of Water Supply's UIC line and downstream from Laie's drinking water supply (even though the treated effluent water is expected to exceed drinking water quality after field filtration). Zions Securities Corporation has installed twelve groundwater monitoring wells in and around the Laie community to obtain background water quality measurements as well as data from the infiltration field. Semi-monthly sampling data from these wells will be provided to the State Department of Health to document the performance of the infiltration field.

1 (b): Disposal of Treated Wastewater Effluent Through Irrigation

Given the proposed state-of-the-art improvements for the exiting Wastewater Treatment Facility (i.e. tertiary level of treatment followed by ultraviolet disinfection), re-use of a portion of the treated effluent for agricultural irrigation is considered to be a safe and water conserving practice. This

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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Cliff "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

method is being studied as a feasible disposal technique, following conditions set forth in the Consent Decree.

The Laie Wastewater Facility Plan (WWFP) prepared by Aqua/Waste Engineers, proposes further study of effluent re-use for nearby agricultural irrigation. The subsurface drainfield has been designed to accommodate the balance of the effluent, as a "back up" system. Possible adverse effects of saturated soil conditions from too much effluent recharge will be avoided through utilization of the proposed dual system for effluent disposal. An environmental assessment of the impacts of the expanded facility will be included in a Draft EIS, currently under preparation by Aqua/Waste Engineers and James Pedersen, Planning Consultant. This document will be submitted to the State Department of Health as the reviewing agency.

The Draft EIS for the Laie DP Amendments includes more detailed discussion of these issues in Section 4.5.

2. Management of Water Resources

Zions Securities Corporation is in the process of updating its inventory and evaluation of all wells within its properties. The identified wells are being categorized as potable water system wells or "good", "poor" and "to be sealed" irrigation wells. Consistent with the suggestions made in your letter, any leaking, abandoned or unused wells will be repaired or sealed. Future plans for the existing wells located in the designated development areas, if any, will be disclosed upon completion of the comprehensive well inventory and assessment.

3. Effect of Increased Water Demand on Existing Supply

A review of available reports and information concerning the existing water supply in the service area has been prepared by Water Resource Associates. Short of a detailed hydrologic study, the report considers the potential quantity of available, developable groundwater resources within the study area in relation to projected water requirements, and other data specific to Laie's existing water sources. A hydrologic study may be prepared, if necessary, at a later stage of the planning process.

4. Adequacy of Existing Water Supply Facilities

The water system in Laie is privately owned and operated by Zions Securities Corporation. Installation of the existing water system in Laie began in 1927. This system included Old Laie and Laniloa residential areas, as well as the Hawaii Temple. Expansion of the system occurred with the development of New Laie in 1958, the development of the Polynesian Cultural Center in 1962, the construction of the Laie Shopping Center in 1972, and the expansion of the Polynesian Cultural Center in 1975. As with many older and

Letter to Board of Water Supply - Kazu Hayashida
21 February 1992
Page 3

incrementally developed communities, the present water system does not meet current Board of Water Supply standards, as indicated in your letter.

The Draft EIS focuses upon the environmental impacts and infrastructure requirements of the new, proposed development areas. Please note, however, that the requested DP Amendments are only part of a larger master planning process for the Laie community. The Draft Laie Master Plan is included in the Appendix of the Draft EIS and discusses proposed upgrading and expansion of the water system within the existing portions of the community.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom sp

Kari Kilstrom
Planner

RECEIVED
DEC 20 1991

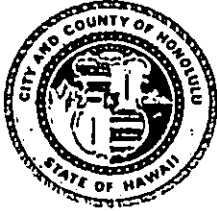
DEPARTMENT OF PUBLIC WORKS

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

GROUP 70
LIMITED



SAM CALLEJO
DIRECTOR AND CHIEF ENGINEER

C. MICHAEL STREET
DEPUTY DIRECTOR

ENV 91-270

December 19, 1991

Ms. Kari Kilstrom, Planner
Group 70 Limited
924 Bethel Street
Honolulu, Hawaii 96813

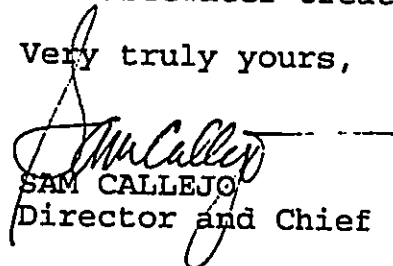
Dear Ms. Kilstrom:

Subject: Environmental Assessment (EA)
Laie Development Plan Amendments
TMK: Various

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

1. For newly paved roadways, the minimum pavement width should be 40 feet wide with a minimum right-of-way width of 56 feet.
2. The area is served by a private wastewater treatment system.

Very truly yours,


SAM CALLEJO
Director and Chief Engineer



GROUP 70
INTERNATIONAL

- Francis S. Oda, AIA, AICP
- Norman G.Y. Hong, AIA
- Sheryl B. Seaman, AIA, ASID
- Robert K.L. Wong, AIA
- Hitoshi Hida, AIA
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- Jen-Chih "Jack" Lee, AIA
- Michael A. Gami
- Eric G. Crispin, AIA
- Danilo M. Herrera

21 February 1992

Sam Callejo, Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Callejo:

Thank you for your December 19, 1991 letter regarding the above-referenced Environmental Assessment. The following is in response to your comments.

A. Roadway Widths

Roadway type and location within the DP Amendment areas are yet to be determined. Your indicated minimum pavement width of 40 feet seems excessive for a residential neighborhood, especially in a rural area. The added cost of constructing such a wide road will also adversely affect the applicant's ability to provide affordable housing. In any event, plans for all new roadways will be submitted to your department for review and approval at the appropriate time.

B. Wastewater Treatment Plant

Thank you for confirming that the Laie area is currently served by a private wastewater treatment facility. This facility will be expanded to serve the developments that will occur if the requested DP amendments are approved.

Please call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

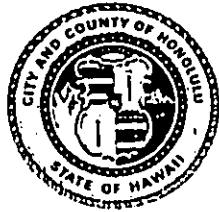
GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom DP

Kari Kilstrom
Planner

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

RECEIVED

REC 2.11 JOSEPH M. MAGALDI, JR.
DIRECTOR

GROUP 70 AMAR SAPPAL
LIMITED DEPUTY DIRECTOR

TE-6162
PL91.1.406

December 18, 1991

Mr. ~~Ralph~~ Portmore
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Mr. Portmore:

Subject: Laie Development Plan Amendments
Application and Environmental Assessment
TMK: 5-5-05: Portion 1, 11, Portion 18, 20,
Portion 21

This is in response to your letter of November 25, 1991
requesting our review and comments on the subject application.

We understand that a Traffic Impact Study will be conducted which
will address both the potential individual and cumulative impacts
of the proposed Development Plan Amendments and will be included
in the Draft Environmental Impact Statement. We will provide
comments after review of the study.

Should you have any questions, please contact Wayne Nakamoto of
my staff at 523-4190.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Magaldi".

JOSEPH M. MAGALDI, JR.
Director



21 February 1992

Joseph M. Magaldi, Jr., Director
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Magaldi:

Thank you for your December 18, 1991 letter concerning the above-referenced Environmental Assessment. The Draft EIS includes a traffic impact assessment which evaluates the potential short term and long term impacts of the requested DP Amendments upon Kamehameha Highway and recommends mitigative measures. The report is discussed in Section 4.0 of the Draft EIS and included in the Appendix, for reference.

Please call me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom pp

Kari Kilstrom
Planner

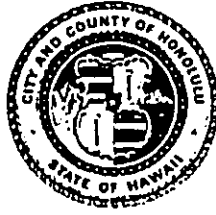
- Francis S. Oda, AIA, AICP
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- George I. Atta, AICP
- Jeffrey H. Overton, AICP
- James I. Nishimoto, AIA
- Jen-Chih "Jack" Lee, AIA
- Michael A. Gami
- Eric G. Crispin, AIA
- Danilo M. Herrera

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET
HONOLULU HAWAII 96814 - AREA CODE (808) 943-3111

FRANK F. FASI
MAYOR



MICHAEL S. NAKAMURA
CHIEF

HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE **ES-LK**

December 16, 1991

RECEIVED
DEC 19 1991

GROUP 70
LIMITED

Ms. Kari Kilstrom, Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

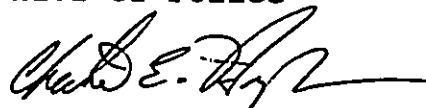
Dear Ms. Kilstrom:

The amendment application and environmental assessment for the proposed Laie development acknowledged that this project will place some additional demands on police service in the area. We have no additional comments to make at this time.

Thank you for the opportunity to review the proposal.

Sincerely,

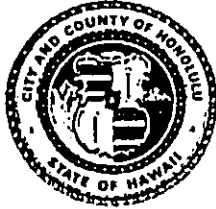
MICHAEL S. NAKAMURA
Chief of Police

By 
CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1455 SOUTH KING STANIA STREET
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FRANK P. FASI
MAYOR



MICHAEL S. NAKAMURA
CHIEF

HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE SG-LK

January 15, 1992

RECEIVED
JAN 21 1992

GROUP 70
10/1/92

Ms. Danielle Putnam, Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Putnam:

Subject: Laie Development Plan Amendments

We have reviewed the DGP Summary Sheet and Laie Master Plan map for the above-referenced project and have no objections to the amendments requested.

We do not foresee the project requiring the creation of a new police beat in the area or substantially increasing calls for police services in the area.

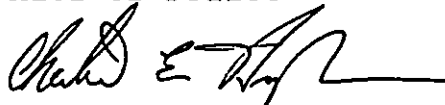
However, we can definitely expect the project to increase the traffic on the already limited two-lane Kamehameha Highway. We recommend that in the final site selection process, consideration be given to a location that can have safe entries to and exits from the main highway. We also ask that additional measures be established to ensure traffic and pedestrian safety.

Please keep us abreast of any further development on this project.

Thank you for the opportunity to provide comments.

Sincerely,

MICHAEL S. NAKAMURA
Chief of Police

By 
CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau



21 February 1992

Michael S. Nakamura, Chief of Police
Police Department
City and County of Honolulu
1455 South Beretania Street
Honolulu, Hawaii 96814

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Nakamura:

Thank you for your December 16, 1991 and January 15, 1992 letters regarding the above-referenced Environmental Assessment. The following is in response to your comments.

Increased traffic on Kamehameha Highway is discussed in the Traffic Impacts section of the Draft EIS. In the final site selection process for the residential area, pedestrian and vehicular safety will be taken into consideration. The need for the installation of traffic signals at the various key intersections with Kamehameha Highway will be assessed as future traffic volumes build.

Thank you for your comments. Please call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom *ep*

Kari Kilstrom
Planner



HUI MALAMA 'AINA 'O LAIE

P.O. Box 607 Laie, Hawaii 96762

(808) 848-8255 (808) 293-5827

RECEIVED
DEC 21 1991

President:

Dawn K. Wasson
55-740 Kamehameha Hwy.
Laie, Hawaii 96762 P.O. Box 512

Honorary Members:

Emit Woffgramm
48-162 Waiahole Valley Rd.
Kaneohe, Hawaii 96744
Epenesa Purcell
P.O. Box 390
Laie, Hawaii 96762
Loie M. Fiani
45-627 Kulukeoe Place
Kaneohe, Hawaii 96744

GROUP TO
LIMITED

December 18, 1991

Office of Environmental Quality Control
220 South King Street 4th Floor
Honolulu, Hawaii 96813

re: Laie Development Plan Amendments - Ko'olauloa District, Island
of O'ahu

Gentlemen:

In keeping with the provisions of HRS 341 and 343 and Chapter 200, Department of Health Administrative Rules, we hereby respond to the public notice given for the above captioned matter.

1. We wish to be recognized as an interested party so that we may make such representations as may be necessary in our judgment at all future proceedings connected with this matter.

2. Particular note should be taken of the fact that the applicant in this case was one of two defendants in a Federal Clean Water Act lawsuit (filed in the United States District Court, District of Hawai'i, August 30, 1990, Civil No. 90-00638 HMF). Although a settlement was reached in this matter in September 1990 and a Consent Decree memorializing the terms of that settlement were signed by Chief Judge Harold Fong on December 7, 1990, the remediation measures contained therein have not yet been implemented. In particular, the clean up of the polluted wetlands, streams and nearby ocean areas has not even begun. Problems associated with newly discovered sources of pollution have not been addressed. A proposed drainfield designed to be an area into which .5 mgd of effluent might be discharged as an interim measure, has, after more than a year, failed to receive all the necessary approvals. Although some improvements have been made to the sewage treatment plant now owned by Defendant Zions Securities, those improvements fall far short of those contemplated in the Consent Decree.

All of the foregoing issues taken together would seem to suggest that contemplation of further development in an area beset by so many problems (including, particularly, continuing violations of Federal laws arising from the continued discharge of effluent into what the Clean Water Act calls "waters of the United States") ought to be deferred until, at least, the existing crop of quite serious problems are resolved.

3. Since we are not required at this time to make detailed comments on the proposed changes outlined in the OEQC Bulletin and the document entitled "Application and Environmental Assessment" submitted by the applicant, Zions Securities Corporation, on behalf of the purported landowner, Property Reserve, Inc., we shall merely set out in outline some of our concerns:

(a) Taken as a whole the proposed developments represent a disguised plan for urbanization of the area;

(b) Many of the environmental impacts: noise, air quality, impact on surrounding environment, matters relating to historic and archaeological sites appears to be deliberately understated;

(c) Impacts on natural features: water, flood plain management, wetlands protection, coastal zone management etc. appears also to be wholly inadequate;

(d) The "hazards" section appears to be simplistic and so narrowly conceived as to be meaningless;

(e) No consideration is given by the purported property owners' agent that this is an area in which there are serious disputes about water rights notice of which has been given by our Kuleana land/water rights group to Zions Securities which sells water in La'ie without a PUC license to do so;

(f) The proposed developments will have a profound impact on the lifestyle of Kuleana landowners - nowhere in the applicant's document is any consideration given to this issue;

(g) Traffic and related impacts are vastly understated;

(h) Projected population increases and consequential impacts are inadequate;

(i) Once again, as appears now to be customary for every developer, the now familiar hollow promise of "affordable" housing is dangled as an inducement for public acceptance of the developers' proposals. Without the slightest indication of how much in dollars and cents the "affordable" housing will actually cost this whole proposal has to be written off as a hoax, somewhat like those stories of the Indian rope trick which many have heard about but no one has ever seen;

(j) The solid waste section, against the background provided in 2 hereof, is either a lie or so contrived as to be mere fodder for consumption by an unsuspecting and ignorant public;

(k) The reasons advanced for rezoning of agricultural and other lands are puerile and without merit;

(l) The requirements of ordinance 84-111, in our view, have not been met;

(m) By and large the Environmental Assessment is seriously defective in other ways;

We reserve all of our rights to further oppose the developments outlined in the documents which are supplementary to the notice published in the OEQC Bulletin of November 23, 1991.

Sincerely

Dawn Wasson

Dawn K. Wasson
President

CC:

City and County of Honolulu,
Department of General Planning,
650 South King Street, 8th Floor
Honolulu, Hawai'i 96813
Attention: Melvin Murakami (527-6020)

Zions Securities Corporation,
55-510 Kanehameha Highway
Laie, Hawai'i 96762

✓ Group 70 International,
924 Bethel Street,
Honolulu, Hawai'i 96813
Attention: Kari Kilstrom (523-5866)



21 February 1992

Ms. Dawn Wasson, President
Hui Malama Aina O'Laie
P.O. Box 607
Laie, Hawaii 96762

Subject Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii

Dear Ms. Wasson:

This is in response to your December 18, 1991 letter to the Office of Environmental Quality Control regarding the above application and Environmental Assessment. Your request to be consulted on matters pertaining to the subject EIS is recognized. The following is in response to specific comments made in your letter.

Item 2: Consent Decree

The DP Amendments will have no discernable impact upon the proposed Sewage Treatment Plant (STP) expansion as mandated by the Consent Decree in Hui Malama Aina O Laie vs. Brigham Young University-Hawaii Campus, et al., Civil No. 90-00638 HMF, U.S.D.C., Hawaii, filed December 7, 1990 ("Consent Decree"). There is also no connection between these amendment requests and the basis for the lawsuit.

Zions Securities Corporation has spent a considerable amount of money in upgrading the STP to tertiary treatment standards, as called for by the Consent Decree, and will continue with its upgrading program. That program is not the subject of the DP Amendments; however, the effects of the STP expansion and of the disposition of tertiary treated effluent to the sub-surface drainfield are discussed in the Draft EIS. All aspects of the sewage treatment plant expansion and related matters are additionally discussed in the Laie Wastewater Reclamation Facility Plan/Draft EIS scheduled for submission April 1, 1992.

In brief, the approval of the Department of Health and the Gearheart/Finney team referred to in the Consent Decree was all that remained prior to the rerouting of effluent from the marsh through the tertiary treatment filters and to the drainfield. That approval has now been given, and with the filing of the appropriate report in District Court by the Gearheart/Finney team referred to in the Consent Decree, the interim tertiary treatment and disposal

Francis S. Oda, AIA, AICP
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Jen-Chih "Jack" Iec, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

of effluent into the subsurface drainfield is expected to begin by about March 1, 1992.

Regarding the issue of marsh clean-up work, the Consent Decree establishes the process by which the marsh disposal area clean-up is to be performed, including the preparation of a comprehensive baseline study by the Gearheart/Finney team. The report upon which the clean-up activities of the marsh disposal area will be based has not yet been delivered to Zions Securities Corporation. Once it is, Zions intends to follow through with the recommendations of the Gearheart/Finney study, in accordance with the Consent Decree.

With respect to the issue of overall compliance with the Consent Decree, Zions is unaware of any aspect of it with which it is not in compliance. The District Court maintains continuing jurisdiction of the matter and the Consent Decree incorporates a comprehensive arbitration mechanism for disputes of issues arising under the Consent Decree. If any party to the Consent Decree believes that Zions is or will be in violation thereof, then that party is entirely free to follow through with those mechanisms in the Consent Decree.

The further development contemplated by these proposed DP Amendments would not begin to occur until well after all improvements required under the Consent Decree are completed, and the STP is brought into full compliance with the NFDES Permit. Expansion of the STP under the Consent Decree will be coordinated to precede and be available as needed for the development proposed by the DP Amendments. Consequently, we see no reason for deferring the consideration of the DP Amendments.

Item 3 (a) - Urbanization

We do not share your opinion that "taken as a whole the proposed developments represent a disguised plan for urbanization of the area". Rather, the DP Amendments for Laie propose only a limited amount of residential development, of an affordable nature which is primarily intended to meet the needs of area residents who are living in overcrowded conditions. This additional housing will also help to maintain the existing balance between the single-family residential character and tourist-oriented activities in Laie-Kahuku Town.

They also request only an incremental expansion of the long-standing Polynesian Cultural Center and 2.6-acre shoreline amenities area to increase the attractiveness and viability of the existing ±4-acre Resort zoned parcel, which has been designated as such for approximately 20 years. These DP Amendments do not propose further tourist oriented development outside of the Kahuku-Kawela Bay area; rather, two of the requested DP

Amendments will enhance existing and approved visitor facilities, as is encouraged by State and City and County policies.

The proposed light industrial areas are in response to residents' expressed desires for a place where such uses as an auto repair shop, local crafts and dance studios, and a small home improvement center can be located. These areas would also provide a location for locally-run small businesses and needed community services that do not have to be located in a retail shopping center.

Item 3(b), (c), (d): Environmental Issues

The assessment of environmental issues which you outline in your letter in items 3(b), (c), and (d) has been expanded in the Draft EIS. Please refer to Section 4.0 for this information.

Item 3(e): Water Rights

Zions Securities Corporation is not aware of any outstanding disputes, serious or otherwise, concerning water or water rights in the Laie community. As a vital component of our planning, there have, of course, been ongoing discussions with the community regarding many issues, including water. But none could be characterized as "serious disputes." There have been some disputes in the past about the matters mentioned below, but to our knowledge they have been resolved.

The most visible dispute in the area has concerned possible stream contamination by the sewage treatment plant during periods of heavy rains. That matter did involve court action, but has been resolved by mutual agreement with the local community groups involved and the Sierra Club Legal Defense Fund. A Consent Decree was entered into under which Zions will be upgrading its plant. The community groups were significant beneficiaries of the financial settlement of that action. Nothing in the proposed project will in any way alter the Consent Decree or the settlement reached. Indeed, the upgrading of the wastewater treatment facilities consistent with the Consent Decree is an integral part of the plan. This is made clear in the Draft EIS.

There was a dispute several years ago between Zions and yourself, concerning non-payment of water user fees. This too was settled by mutual agreement of the parties.

Last year you requested some information from Zions concerning existing wells and other water-related matters. Zions promptly responded by providing copies of available reports and information to you. Zions has had no further inquiry.

Dr. J. M. Anthony wrote to Zions in October of 1990 stating there were "serious disputes" regarding water rights in Laie. The timing of that letter coincided with a petition to designate Windward Oahu as a Water Management Area. The existence of "serious disputes" is one of the statutory criteria for designation. Zions invited Dr. Anthony to identify those areas of dispute, if any. However, no response was ever received.

Zions is further aware that anyone has seriously claimed that Zions is selling water without authority. It is well known that Zions has been providing water services to occupants of the community. Zions or affiliated entities own the source wells, and have sought to recoup some of the costs and expenses incurred in the pumping, storage, and transmission of groundwater, through user charges. It is possible that disputes may arise in the future with respect to the amounts of these charges. Disputes may arise with respect to some residents who may not have paid their water bills. In any event, Zions will be bringing these services within the purview of the State Public Utilities Commission. Zions is not using surface water resources to meet the community's water needs.

Item 3(f): Lifestyles

The requested DP Amendments should not significantly impact the "lifestyle of *Kuleana* landowners" for the following reasons:

- A. The requested Amendments do not under any of the alternatives require the development over *kuleanas* or other property not owned by the developers of the land being developed.
- B. The requested Amendments will not deny required access to *kuleanas* by *kuleana* owners. Such access to *kuleanas* will not be gated, blocked, or otherwise impaired to *kuleana* owners.
- C. The requested Amendments will not fill or destroy any streams, or divert any stream away from *kuleanas*, or dam or cut off stream waters from *kuleanas* served by streams.
- D. The requested Amendments should not affect or obstruct the exercise of any other traditional, legally recognized, rights of *kuleana* owners.
- E. Other effects of the requested DP Amendments upon *kuleana* lands are as described in the Draft EIS. They are similar or identical to expected impacts upon other lands surrounding *kuleanas*.

Item 3(g): Traffic

Traffic impacts of the requested DP Amendments are addressed in the Draft EIS, Section 4.12. While the proposed land uses are expected to contribute

some additional traffic on Kamehameha Highway, previously approved projects within the Koolauloa DP Area, plus assumed island-wide growth, are the primary contributors of long-term increases in traffic along the Highway. The traffic study is included in the Draft EIS, along with mitigative measures proposed to off-set potential traffic impacts.

Item 3(h): Population

Development of approximately 450 residential units on one of the alternative residential sites is intended primarily to alleviate existing overcrowded housing conditions, rather than to attract new residents to the area. A community-wide public opinion survey (Community Resources, Inc., 1987) indicated a "pent-up" demand in Laie for some 365 housing units. Consequently, many existing Laie residents are expected to move out of Laie's overcrowded existing housing stock into the new single-family homes and apartments. The net increase in Laie's population at the time the residential subdivision is built should be considerably less than the total number of people who will be living in the new homes.

The City and County Department of General Planning has estimated a potential population increase of 1,294 persons would result from development of the proposed residential area. However, as noted above, it is anticipated that this population increase will be lower. Furthermore, the timely completion of housing construction by 1998 will precede the job increase generated by approved visitor industry developments at the Kuilima Resort. Therefore, without any major new source of employment in the area, less reason will exist for persons outside of the Koolauloa region to move to Laie.

Population impacts are discussed in Section 4.16 of the Draft EIS. The relationship of the requested Development Plan Amendments to General Plan Population Guidelines is discussed in Section 6.3.1.

Item 3 (i): Affordable Housing

Your supposition that the proposal to construct affordable housing in Laie is a "hollow promise" and a "hoax" is unfortunate and, we believe, without foundation.

The requested Residential and Low Density Apartment designations are specifically proposed to meet a critical housing shortfall within the Laie community. Laie households are much more crowded than is the case for Oahu as a whole. In a 1987 survey, more than 36 percent of the existing residences in Laie were found to be occupied by multiple households. One or more of these "extra" families (a total of about 50 percent of all Laie households) indicated that they would move out if homes were available in the area at prices they could afford.

The requested DP amendments will designate approximately 54 to 58 acres as Residential and 8 to 10 acres as Low Density Apartments for the development of approximately 450 new dwelling units. The target market for at least 60 percent of these new homes will be Laie residents who are currently living in overcrowded housing conditions and have expressed an interest in owning or renting an affordable home in Laie. This plan is consistent with State and City and County policies with respect to the provision of affordable housing in new developments. On average, Laie households earn far less than the median family income on Oahu. As a result, prices of many of the affordable units will be below the normally required levels in order to be within reach of Laie families.

A variety of approaches will have to be used in order to feasibly provide housing that will be affordable to the families living in overcrowded conditions in Laie. These include government programs which help reduce the costs of constructing and financing new housing, and/or private efforts such as self-help or owner-built housing. A study describing the various options, many of which will have to be used in combination with each other in Laie, is provided in the Draft EIS. This study was prepared in 1987, when the Zions Securities and the Laie community began to seriously discuss the feasibility of providing truly affordable housing. The proposed DP Amendment for a new residential area is an outgrowth of those discussions.

The DP Amendment is the first in a long series of steps which must be taken in order to obtain the necessary governmental approvals to build new homes. At this point in the process, it is premature to calculate specific price ranges for these units. Later in the planning process, State and City and County agencies will require the applicant to provide detailed information.

Item 3(j): Solid Waste

The anticipated impacts and mitigation measures related to the increase in solid waste generated by the requested DP amendments is discussed in Section 4.17.3 of the Draft EIS. It is estimated that these projects will generate 3.0 to 4.0 tons per day of solid waste.

Item 3(k): Rezoning Agricultural Land

At this time, a policy decision on the part of the City and County of Honolulu is all that is being pursued by the applicant; changes to the existing zoning designations are not being pursued at this time. Please refer to Section 3.0 of the Draft EIS for a discussion of the governmental approvals required to implement the proposed land uses described by the requested DP Amendments. In any event, the previously explained reasons for these amendments, and the analysis in Section 6.0 of their consistency with State

Letter to Hui Malama Aina O'Lele - Dawn Wasson
21 February 1992
Page 7

and City and County policies and plans, demonstrate that the requested DP redesignation of Agricultural lands has considerable merit.

Items 3(l): Ordinance 84-111

The applicant has made every possible effort to comply with the notification requirements of Ordinance 84-111. If you are aware of any specific oversight that may have occurred, please contact our office so that we may respond in a timely fashion.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom DP

Kari Kilstrom
Planner

INDEPENDENT ASSOCIATION OF
LA'IE RESIDENTS

General Delivery
La'ie Post Office
La'ie, Hawai'i 96762

December 21, 1991

Office of Environmental Quality Control
220 SouthKing Street, 4th Floor
Honolulu, Hawai'i 96813

Dear Sirs:

re: La'ie Development Plan Amendments--Ko'olauloa District, Oa

Please note that we write to indicate our interest in being recognized as a party which wishes to be consulted on all phases of the proposed EIS concern the above captioned matter.

We reserve the right to retain counsel or an appropriately qualified consultant to represent us in connection with the above matter as and when the occasion should warrant such representation.

May we say at the outset that the range of changes proposed on behalf of purported property owner, Property Reserve, seem to have far reaching consequences for La'ie and the Windward Coast and the General Plan itself. We are deeply troubled by the proposed changes and we intend to vigorously oppose them.

Sincerely yours


Egenesia Purcell (Mrs.)
Coordinator

cc Dept of General Planning, C & C of Honolulu
Group 70 International
✓ Zions Securities Corp. as agents for Property Reserve



21 February 1992

Epenesa Purcell, Coordinator
Independent Association of Laie Residents
General Delivery
Laie, Hawaii 96762

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

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Paul P. Chorney, AIA
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George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mrs. Purcell:

This is in response to your December 21, 1991 letter to the Office of Environmental Quality Control regarding the above-referenced Environmental Assessment.

Your request to be consulted on matters relating to the subject EIS is recognized. With respect to the consequences of the proposed DP Amendments for Laie and the windward coast, a Draft EIS has been prepared to address the potential environmental impacts of the proposal. The Draft EIS also discusses the relationship of the proposal to the City and County General Plan. Please refer to Sections 4.0 and 6.0 of the Draft EIS for more detailed information in these two areas.

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom *pp*

Kari Kilstrom
Planner

HANDS AROUND WINDWARD O'AHU

(A citizens' group dedicated to the protection of O'ahu's Windward Coast for future generations)

P.O. BOX 720, KA'A'AWA, HAWAI'I 96730

RECEIVED DEC 24 1991

December 22, 1991

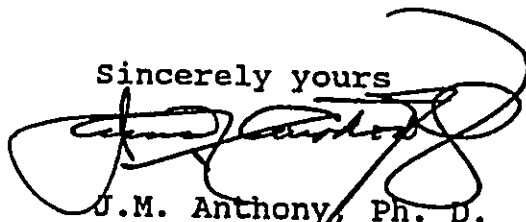
The Director, Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, Hawai'i 96813

re: La'ie Development Plan Amendments - Ko'olauloa District, Island of O'ahu

Dear Sir:

We write to indicate our interest in being recognized as a consulted party in all matters concerning the above captioned matter as it moves through the EIS labrynth. We look forward to being fully informed about this particular matter and any issue related to it.

Sincerely yours



J.M. Anthony, Ph. D.
Consultant

cc: Dept. of General Planning, C & C of Honolulu
Group 70 International
✓Agents for Property Reserve: Zions Securities



21 February 1992

J.M. Anthony, Ph.D., Consultant
Hands Around Windward O'ahu
P.O. Box 720
Kaaawa, Hawaii 96730

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K.L. Wong, AIA
Hiroshi Hida, AIA
Roy H. Nihei, AIA, CSI

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Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Anthony:

This is in response to your December 22, 1991 letter to the Office of Environmental Quality Control regarding the above-referenced Environmental Assessment. Your request to be consulted on matters relating to the subject EIS is recognized.

We look forward to working with you on this proposal. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom
ap

Kari Kilstrom
Planner

CYNTHIA
THIELEN

RECEIVED
DEC 23 1991

GROUP 70
LIMITED

ATTORNEY AT LAW

December 23, 1991

345 Queen Street
Suite 700
Honolulu, Hawaii
96813

Telephone
808/599-4141
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HAND DELIVER

City and County of Honolulu
Department of General Planning
650 South King Street, 8th Floor
Honolulu, HI 96813
Attn: Melvin Murakami

Group 70 International
924 Bethel Street
Honolulu, HI 97913
Attn: Kari Klistrom

Zions Security Corporation
55-510 Kamehameha Highway
Laie, Hawaii 96762
Attn: Lucky Fonoimoana

Office of Environmental
Quality Control
220 S. King St., 4th Floor
Honolulu, HI 96813

Re: Laie Development Plan Amendments:
Application and Environmental Assessment

To the above parties:

We are submitting comments on behalf of the Hawai'i-La'ieikawai Association, Inc. on the above-referenced Environmental Assessment ("EA") and Application to Amend the Koolauloa Development Plan ("DP") Land Use Map and Public Facility Map. Zions Securities Corporation ("Zions") is the applicant and manager for the landowner, Property Reserve, Inc.

In apparent recognition that the proposed action will have a significant effect upon the environment as defined in Chapter 343, Hawaii Revised Statutes ("HRS"), the applicant intends to prepare

an Environmental Impact Statement ("EIS"). These comments are addressed to the EA and should be considered by Zions in its preparation of the Draft EIS.

Pursuant to Section 11-200-15, HAR, the Hawai'i-La'ieikawai Association, Inc. requests to become a consulted party in the EIS process and to make written comments regarding the environmental effects of the proposed action.

A. THE DEVELOPMENT

Zions proposes to amend the DP Land Use Map to redesignate up to 220 acres on the windward side of Oahu in Laie from agricultural and from residential to more intensive use:

1. +106 acres from Agricultural to Public Facility;
2. 21 acres from Agricultural to Commercial;
3. 2.6 acres from Residential to Resort;
4. +15 acres from Agricultural/Public Facility to Industrial;
5. Between 62-68 acres from Agricultural to Residential;
6. 3.6 acres from Residential to Parks and Recreation;
7. +3 acres industrial reconfiguration; and
8. +0.5 acres from Residential to Commercial.

This application for DP amendments is a thinly veiled plan to urbanize the Laie area, an area where de minimis growth is

projected up to the year 2010 under the General Plan of the City and County of Honolulu.

B. COMMENTS ON THE EA AND DP APPLICATION

The EA and DP application are defective in that they do not adequately identify potential impacts, evaluate their potential significance, indicate further areas of study, set forth the information "necessary to assure adequate discussion and disclosure of environmental impacts," adequately describe the proposed action's "technical, economic, social and environmental characteristics," or adequately identify and summarize major impacts and alternatives considered. Section 11-200-9(b) and 11-200-10, of Title 11, HAR.

The EA fails to address the following adequately:

1. Conflict with the General Plan of the City and County of Honolulu.

Laie is located in the Koolauloa Development Plan area on the northern half of Oahu's windward coast. Koolauloa is designated as "rural" by the General Plan. Physical Development and Urban Design, Objective O, Policy 4, sets forth the objective and policy of the General Plan applicable to this rural area:

Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a

small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.

The proposed DP amendments are contrary to the objectives and policies of the General Plan.

2. Urbanization of a Rural Area.

The Hawaii State Plan, Chapter 226, HRS, Part III, established priority guidelines for population growth and land resources. Section 226-104(b) sets forth the priority guideline for regional growth distribution and land resource utilization:

Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.

Section 226-13(b)(7), HRS, established the objective and policy to "[e]ncourage urban developments in close proximity to existing services and facilities." The EA ignores the clear directive of the Hawaii State Plan: keep rural areas rural and direct additional urban growth to already urbanized areas.

3. Removal of 212 Acres from Agricultural Use.

The Constitution of the State of Hawaii declares the "State shall conserve and protect agricultural lands, promote diversified

agriculture, increase agricultural self-sufficiency and assure the availability of agriculturally suitable lands." The Hawaii State Plan and the State Agricultural Functional Plan implement this constitutional mandate.

Section 226-103, HRS, of the Hawaii State Plan establishes priority guidelines to promote the growth and development of diversified agriculture:

(1) Identify, conserve, and protect agricultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural . . . uses of such lands. (Emphasis added.)

The objective and policy is to "[f]acilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses." Section 226-7(a)(12), HRS.

The Hawaii State Agricultural Functional Plan - Land and Water (1991) translates the objectives and policies of the State Plan into a detailed course of action:

H(2) Policy: Conserve and protect important agricultural lands in accordance with the Hawaii State Constitution.

The EA does not address the constitutional conflict or the conflict

with the Hawaii State Plan and State Agricultural Functional Plan.

4. The Hawaii Coastal Zone Management Program, Chapter 205A, HRS.

The purpose of the CZM is to preserve and protect Hawaii's fragile coastal zone through stringent and knowledgeable management of the coastal zone and its resources. The EA claims the "proposed DP amendments will have only distant relationships to the coastal ecosystem." This self-serving conclusion is not supported by facts or analyses.

The Draft EIS should examine and disclose the short and long-term impacts of Zions' proposed 37 acre development in the coastal zone. As mandated by the CZM program, this information must be "in terms understandable to the general public to facilitate public participation in the planning and review process." Section 205A-3(c)(7)(C).

5. The Special Management Area ("SMA") Chapter 33, Revised Ordinances of Honolulu ("ROH").

Chapter 22, ROH, requires Zions to disclose fully all potential environmental or ecological effects of its proposed development to permit the Authority to examine the potential cumulative impact upon the SMA. The draft EIS should contain this information.

6. Development Plan Special Provisions for Koolauloa.

The DP Special Provisions for Koolauloa preserve the predominantly rural character of the area and prevent the tourist-oriented resort and commercial activities (the Polynesian Cultural Center and Kahuku Sugar Mill) from dominating. Specifically, the DP Special Provisions state:

The land use pattern shown on the land use map provides for the preservation of the predominantly rural character of Koolauloa by allowing only limited single-family residential development and confining further tourist oriented development to the Kahuku Point-Kawela Bay area.

The EA does not disclose or address this provision.

The DP Special Provisions continue:

Further development within the Koolauloa area, particularly in the Kahuku Point-Kawela Bay area, is to be sensitive to the delicate coexistence between the natural scenic, recreational, and agricultural resources of the area. This is to be accomplished by minimizing adverse impacts on and preserving important agricultural lands and public views, maintaining public access to recreational areas, and providing building designs which reflect the rural character of the area. Residents are to continue to be offered the opportunity to develop social patterns and life styles within a rural setting as expressed by neighborhoods or small housing clusters which are defined by open space boundaries and which blend into the surrounding landscape with as little disruption as possible to the scenic quality of the area.

The draft EIS should address the conflict between Zions' proposed

DP amendments and these Special Provisions for Koolauloa.

7. Consent Decree Entered in a Settlement of Hui Malama Aina o Laie, et al. v. Brigham Young University, Civil No. 90-00638.

The applicant, Zions, is a party to the Consent Decree entered in settlement of the above case. The EA fails to disclose the basis for the lawsuit: Defendants discharge of pollutants from their Laie sewage treatment plant in violation of the terms of the Plant's National Pollution Discharge Elimination System ("NPDES") permit No. HI0020478. Pursuant to the settlement terms, Zions, et al. is required to (1) clean up the marsh disposal area; (2) construct a new sewage treatment plant, and (3) analyze the drainfield disposal option. The EA fails to disclose or address these environmental issues.

The draft EIS should identify, adequately describe and evaluate the environmental impacts of urbanizing an area where the sewage treatment plant serving the area has not been brought into compliance with the NPDES permit. The draft EIS further should address the cleanup of the marsh disposal area, status of cleanup and environmental effects of urbanizing nearby area before cleanup is concluded.

8. Outline of Additional Concerns:

- a. Many of the environmental impacts such as noise, air quality, impact on surrounding environment, matters relating to historic and archaeological sites are understated;
- b. The identification and evaluation of impacts on natural features including water, flood plain management, wetlands protection, coastal zone management etc. is inadequate;
- c. The "hazards" section appears to be simplistic and so narrowly conceived as to be meaningless;
- d. No consideration is given by Zions that this is an area in which there are serious disputes about water rights, notice of which has been given by one Kuleana land/water rights group to Zions Securities, and the authority of Zions to sell water also is not disclosed;
- e. The impact of the proposed developments on the lifestyle of Kuleana landowners is not addressed;
- f. Traffic and related impact are vastly understated;

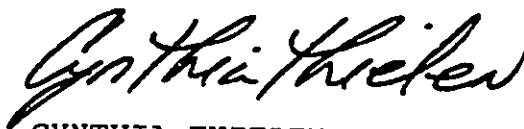
- g. Projected population increases and consequential impacts are inadequately addressed;
- h. The now familiar hollow promise of "affordable" housing is dangled as an inducement for public acceptance of the developers' proposals without the slightest indication of how much in dollars and cents the "affordable" housing will actually cost;
- i. In light of the Consent Decree discussed above, the solid waste section is seriously misleading; and
- j. The reasons advanced for rezoning of agricultural and other lands lack merit.

Please address your response to these comments to the following:

The Hawai'i-La'ieikawai Association, Inc.
P.O. Box 720
Ka'a'awa, HI 96730

A copy of your response should be forwarded to this office.

Very truly yours,



CYNTHIA THIELEN

CT/sn

cc: The Hawai'i-La'ieikawai Association, Inc.



21 February 1992

The Hawai'i-La'ieikawai Association, Inc.
P.O. Box 720
Ka'a'awa, Hawai'i 96730

**Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii**

To whom it may concern:

A letter written by Cynthia Thielen, Esq. on behalf of the Hawai'i-Laieikawai Association, Inc. was received by this office on December 23, 1991 regarding the above application. The following is in response to item B of that letter, entitled "Comments on the EA and DP Application".

1. Conflict with the General Plan of the City and County of Honolulu

We do not believe that the Laie DP Amendments conflict with the spirit and intent of the referenced City and County General Plan Objective D, Policy 4 for "Physical Development and Urban Design" which reads as follows:

"Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses."

Although the DP Amendments propose to redesignate approximately 210 acres of Agriculture-designated lands, less than 20 percent of these lands are currently used for agricultural purposes. Of the approximately 660 acres owned by Property Reserve, Inc. which may be suitable for agricultural production, ±450 acres would remain available for small to moderate size agricultural pursuits. The property owner will continue to use much this land for diversified agricultural production, maintaining an environment which is supportive of farming-oriented lifestyles.

Laie is, as the General Plan policy describes, a small town in a country setting, containing a variety of land uses ranging from small hotel/resort, university, a resident/visitor attraction, the Hawaii Temple, a school, commercial center and a long established residential community. Long-term planning, with input from members of the Laie community, is proposed to ensure the long-

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Eric G. Crispin, AIA
Danilo M. Herrera

term viability and success of each of these existing land uses. The addition of a residential neighborhood will provide needed homes for overcrowded residents and future generations who prefer the small town lifestyle of Laie.

2. Urbanization of a Rural Area

Reference is made to Section 226-104 (b)(1) of the Hawaii State Plan, which reads as follows:

"Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles."

Despite the its rural setting, the DP Amendments are consistent with this directive. First, this proposal is of too small a magnitude to be considered inconsistent with the established City and County policy of directing urban growth primarily (but not exclusively) to Ewa and Central Oahu. Second, there are adequate support facilities available in Laie to serve the proposed land uses or which can be provided with reasonable expenditures by the developer. The upgrading of the sewage treatment plant which is currently underway includes an expansion of its treatment capacity. Once completed, it will be able to treat wastewater from the proposed developments, as well as from the existing community. The applicant will develop the necessary water sources and distribution system improvements to serve all elements of the requested DP Amendments. Infrastructure issues are discussed in greater detail in the Draft EIS, Section 4.17. Urban growth and lifestyle issues are further addressed in Section 4.16 and 6.0 of the Draft EIS.

3. Removal of 212 Acres from Agricultural Use

References are made to the Hawai'i State Constitution and State Plan with respect to protecting suitable for diversified agriculture. Specifically, a priority guideline of the State Plan is quoted as follows:

"Identify, conserve and protect agricultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural ... uses of such lands."

As stated in your letter, the State Functional Plan for Agriculture contains the following policy:

"Policy H(2): Conserve and protect important agricultural lands in accordance with the Hawaii State Constitution."

Through a master planning process and working with members of the Laie community, the applicant has identified lands most suitable for long-term, incremental expansion of existing land uses within the community and new, desired land uses to serve stated community needs. The applicant has also identified lands which are best suited for continued diversified agricultural production and is in the process of creating a farming organization to promote the continued use of these lands for economically viable, environmentally sound agriculture. A more detailed description of the anticipated impacts to agriculture on a State level is provided in the Draft EIS, Section 4.4.

You also cite in your letter the State Plan policy to "[f]acilitate the transition of agricultural lands in uneconomically nonfeasible agricultural production to economically viable agricultural uses" [Section 226-7(a)(12), HRS]. We understand this to provide direction to governmental agencies with responsibilities in the area of agriculture, not to private landowners, and do not see its relevance to the requested DP amendments.

In summary, the discussions contained in the Draft EIS demonstrate that, overall, the requested DP amendments are consistent with the Hawaii State Plan and the applicable Functional Plans. Consequently, there is no constitutional conflict which needs to be addressed.

4. The Hawaii Coastal Zone Management Program

There are several objectives of the State's Coastal Zone Management Program which are implemented through the proposed DP Amendments, as follows:

Recreational Resources: "Provide coastal recreational opportunities accessible to the public."

Scenic and Open Space Resources: "Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources."

Historic Resources: "Protect, preserve and, where desirable, restore those natural and man made historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and culture."

Access to coastal recreational opportunities will not be impeded by the proposed DP Amendments. The only site within the study area located *makai* of Kamehameha Highway and along the shoreline is the proposed 2.6-acre Resort amenities site. Provision for public access to the shoreline will be included in the design of the amenities. The current residential zoning permits construction of as many as 15 or more single-family dwellings, each up to 25 feet in height. These would be private homes and public access to the beach through this new subdivision would not be

guaranteed. The proposed Resort designation will assure public access to a greater degree than exists under the existing Residential designation and zoning.

The proposal for the 2.6-acre Resort site will improve the quality of coastal scenic resources by providing improved pedestrian and visual access to the shoreline. The site currently separates the highway from the shoreline. Given that only hotel-related recreational amenities (i.e., no lodging units) are proposed for this site, public views to and along the shoreline through this site will be enhanced with the requested DP designation.

A comprehensive archaeological reconnaissance survey has been performed for each area being considered for DP Amendment. A summary report of the findings and recommended treatments is included in the Draft EIS. Within the SMA, two archaeological sites were identified, located on or near proposed DP Amendment areas. At the northeast corner of the proposed Resort parcel, a site was assessed as significant, solely for information content. No further work is recommended. At the boundary of the ±16-acre Industrial area near Kahawainui Stream, a burial site was identified. Further data collection and preservation "as is" is recommended. The recommendations for data recovery, preservation and interpretive development will be reviewed and approved by the State Historic Preservation Office. Appropriate actions will be taken to preserve significant resources.

Of the 214-220 acres proposed for re-designation, approximately 37 acres lie within the SMA, including the light-industrial areas, the corner-commercial site, the resort area and a portion of the PCC expansion area. Section 4.0 of the Draft EIS addresses the short and long-term environmental impacts of the ± 37 acres located within the SMA as part of the overall impact assessment.

5. The Special Management Area

The Draft EIS fully discloses potential impacts of the requested DP Amendments, including those which lie within the Special Management Area (SMA). The SMA Review Guidelines touch on issues such as adequate access to coastal or recreation areas, views toward the sea from the State highway, and impacts to water and other natural resources within the special management area. These issues are addressed in Section 4.0 of the Draft EIS. The DP Amendments are consistent with the applicable Review Guidelines, as discussed in Section 6.6 of the Draft EIS.

6. Development Plan Special Provisions

The stated concern in the letter is with the tourist-oriented/commercial activities "dominating" the rural community character of Laie in the future. The referenced DP Special Provision is as follows:

"The land use pattern shown on the land use map provides for the preservation of the predominantly rural character of Koolauloa by allowing only limited single-family residential development and confining further tourist oriented development to the Kahuku Point-Kawela Bay area."

"Further development within the Koolauloa area, particularly in the Kahuku Point-Kawela Bay area, is to be sensitive to the delicate coexistence between the natural scenic, recreational, and agricultural resources of the area. This is to be accomplished by minimizing adverse impacts on and preserving important agricultural lands and public views, maintaining public access to recreational areas, and providing building designs which reflect the rural character of the area. Residents are to continue to be offered the opportunity to develop social patterns and lifestyles within a rural setting as expressed by neighborhoods or small housing clusters which are defined by open space boundaries and which blend into the surrounding landscape with as little disruption as possible to the scenic quality of the area."

The following paragraph was omitted from the reference, however it, too, is relevant to the long-term master plan for Laie:

"The existing balance between the single-family residential character of Laie-Kahuku Town and the tourist oriented activities of the Polynesian Cultural Center and the Kahuku Sugar Mill, is to be maintained so that those resort and commercial activities do not dominate. "

Consistent with the provision above, the DP Amendments for Laie propose only a limited amount of residential development, of an affordable nature which is primarily intended to meet the needs of area residents who are living in overcrowded conditions. This additional housing will also help to maintain the existing balance between the single-family residential character and tourist oriented activities in Laie-Kahuku Town.

The DP Amendments request an incremental expansion of the long-standing Polynesian Cultural Center and 2.6-acre shoreline amenities area to increase the attractiveness and viability of the existing ±4-acre Resort zoned parcel, which has been designated as such for approximately 20 years. These DP Amendments do not propose further tourist oriented development outside of the Kahuku-Kawela Bay area; rather, two of the requested DP Amendments will enhance existing and approved visitor facilities, as is encouraged by State and City and County policies.

The DP Amendments have been studied to assess impacts on the environment to ensure future plans are sensitive to the delicate co-existence between the natural, scenic, recreational and agricultural resources of the area. In general, the overall intent of these Special Provisions is met through these proposals.

7. Consent Decree Entered in a Settlement of Hui Malama Aina o Laie, et al. v. Brigham Young University

The DP Amendments will have no discernable impact upon the proposed Sewage Treatment Plant (STP) expansion as mandated by the Consent Decree in Hui Malama Aina O Laie vs. Brigham Young University-Hawaii Campus, et al., Civil No. 90-00638 HMF, U.S.D.C., Hawaii, filed December 7, 1990 ("Consent Decree"). There is also no connection between these amendment requests and the basis for the lawsuit.

Zions Securities Corporation has spent a considerable amount of money in upgrading the STP to tertiary treatment standards as called for by the Consent Decree, and will continue with its upgrading program. That program is not the subject of the DP Amendments; however, the effects of the STP expansion and of the disposition of tertiary treated effluent to the sub-surface drainfield are discussed in the Draft EIS. All aspects of the STP expansion and related matters will also be discussed in the Laie Wastewater Reclamation Facility Plan/Draft EIS scheduled for submission April 1, 1992.

In brief, the approval of the Department of Health and the Gearheart/Finney team referred to in the Consent Decree was all that remained prior to the rerouting of effluent from the marsh through the tertiary treatment filters and to the drainfield. That approval has now been given, and with the filing of the appropriate report in District Court by the Gearheart/Finney team referred to in the Consent Decree, the interim tertiary treatment and disposal of effluent into the subsurface drainfield is expected to begin by about March 1, 1992.

Regarding the issue of marsh clean-up work, the Consent Decree establishes the process by which the marsh disposal area clean-up is to be performed, including the preparation of a comprehensive baseline study by the Gearheart/Finney team. The report upon which the clean-up activities of the marsh disposal area will be based has not yet been delivered to Zions Securities Corporation. Once it is, Zions intends to follow through with the recommendations of the Gearheart/Finney study, in accordance with the Consent Decree.

In response to the comment that Zions is "urbanizing an area where the sewage plant serving the area has not been brought into compliance with the NFDES permit", Zions has indicated, as stated in the Draft EIS (Section 4.17.2), that expansion of the existing facility under the Consent Decree will be coordinated to precede and be available as needed for the development proposed by the DP Amendments.

With respect to the issue of overall compliance with the Consent Decree, Zions is unaware of any aspect of it with which it is not in compliance. The District Court maintains continuing jurisdiction over the matter, and the

Consent Decree incorporates a comprehensive arbitration mechanism for disputes of issues arising under the Consent Decree. If any party to the Consent Decree believes that Zions is or will be in violation thereof, then that party is entirely free to follow through with those mechanisms provided in the Consent Decree.

8. Additional Concerns

Items 8a-c: Environmental Impacts.

Potential environmental impacts such as noise, air quality, archaeology, groundwater, surface water, flooding and wetlands are all addressed in the Draft EIS, Section 4.0. We do not agree that these assessments are understated, inadequate, simplistic or meaningless; however, we will leave it to the accepting agency to make this determination. It is not possible to respond more specifically to your assertions given the absence of any specifics in your letter.

8d. Water rights

Zions Securities Corporation is not aware of any outstanding disputes, serious or otherwise, concerning water or water rights in the Laie Community. As a vital component of our planning, there have, of course, been ongoing discussions with the community regarding many issues, including water. None of these discussions could be characterized as "serious disputes." There have been some disputes in the past about the matters mentioned below, but to our knowledge they have been resolved.

The most visible dispute in the area has concerned possible stream contamination by the sewage treatment plant during periods of heavy rains. That matter did involve court action, but has been resolved by mutual agreement with the local community groups involved and the Sierra Club Legal Defense Fund. A Consent Decree was entered into under which Zions will be upgrading its plant. The community groups were significant beneficiaries of the financial settlement of that action. Nothing in the proposed project will in any way alter the Consent Decree or the settlement reached. Indeed, the upgrading of the wastewater treatment facilities consistent with the Consent Decree is an integral part of the plan. This is made clear in the Draft EIS.

There was a dispute several years ago between Zions and Dawn Wasson, a Laie resident, concerning her non-payment of water user fees. This too was settled by mutual agreement of the parties.

Ms. Wasson last year requested some information from Zions concerning existing wells and other water-related matters. Zions promptly responded by

providing copies of available reports and information to her. Zions has had no further inquiry.

A Dr. J. M. Anthony wrote to Zions in October of 1990 stating there were "serious disputes" regarding water rights in Laie. The timing of that letter coincided with a petition to designate Windward Oahu as a Water Management Area. The existence of "serious disputes" is one of the statutory criteria for designation. Zions invited Dr. Anthony to identify those areas of dispute, if any. However, no response was ever received.

Zions is further unaware that anyone has seriously claimed that Zions is selling water without authority. It is well known that Zions has been providing water services to occupants of the community. Zions or affiliated entities own the source wells, and have sought to recoup some of the costs and expenses incurred in the pumping, storage, and transmission of groundwater, through user charges. It is possible that disputes may arise in the future with respect to the amounts of these charges. Disputes may arise with respect to some residents who may not have paid their water bills. In any event Zions will be bringing these services within the purview of the State Public Utilities Commission. Zions is not using surface water resources to meet the community's water needs.

8e. Lifestyles

The requested DP Amendments should have no noticeable impact upon the "lifestyle of *Kuleana* landowners" for the following reasons:

- A. The requested DP Amendments do not under any of the alternatives require the development over *kuleanas* or other property not owned by the developers of the land being developed.
- B. The requested Amendments will not deny required access to *kuleanas* by *kuleana* owners. Such access to *kuleanas* will not be gated, blocked, or otherwise impaired to *kuleana* owners.
- C. The requested Amendments will not fill or destroy any streams, or divert any stream away from *kuleanas*, or dam or cut off stream waters from *kuleanas* served by streams.
- D. The requested Amendments should not affect or obstruct the exercise of any other traditional, legally recognized, rights of *kuleana* owners.
- E. Other effects of the requested DP Amendments upon *kuleana* lands are as described in the Draft EIS. They are similar or identical to expected impacts upon other lands surrounding *kuleanas*.

8f. Traffic

Traffic impacts of the requested DP Amendments are addressed in the Draft EIS, Section 4.0. While the proposed land uses are expected to contribute some additional traffic on Kamehameha Highway, previously approved projects within the Koolauloa DP Area plus assumed island-wide growth are the primary contributors of long-term increases in traffic along the Highway. The traffic study is included in the Draft EIS, along with mitigative measures proposed to off-set potential traffic impacts.

8g. Population

Development of approximately 450 residential units on one of the alternative residential sites is intended primarily to alleviate existing overcrowded housing conditions, rather than to attract new residents to the area. A community-wide public opinion survey (Community Resources, Inc., 1987) indicated a "pent-up" demand in Laie for some 365 housing units. Consequently, many existing Laie residents are expected to move out of Laie's overcrowded existing housing stock into the new single-family homes and apartments, hence, the net increase in Laie's population at the time the residential subdivision is built could be considerably less than the total number of people who will be living in the new homes.

The City and County Department of General Planning has estimated a potential population increase of 1,294 persons would result from development of the proposed residential area. However, as noted above, it is anticipated that this population increase will be lower. Furthermore, the timely completion of housing construction by 1998 will precede the job increase generated by approved visitor industry developments at the Kullima Resort. Therefore, without any major new source of employment in the area, less reason will exist for persons outside of the Koolauloa region to move to Laie.

Population impacts are discussed in Section 4.16 of the Draft EIS. The relationship of the requested Development Plan Amendments to General Plan Population Guidelines is discussed in Section 3.1.

8h. Affordable housing

Your supposition that the proposal to construct affordable housing in Laie is a "hollow promise" is unfortunate and, we believe, without foundation. The requested Residential and Low Density Apartment designations are specifically proposed to meet a critical housing shortfall within the Laie community. Laie households are much more crowded than is the case for Oahu as a whole. In a 1987 survey, more than 36 percent of the existing residences in Laie were found to be occupied by multiple households. One or more of these "extra" families (a total of about 50% of all Laie households)

indicated that they would move out if homes were available in the area at prices they could afford.

The requested DP amendments will designate approximately 54 to 58 acres as Residential and 8 to 10 acres as Low Density Apartments for the development of approximately 450 new dwelling units. The target market for at least 60% of these new homes will be Laie residents who are currently living in overcrowded housing conditions and have expressed an interest in owning or renting an affordable home in Laie. This plan is consistent with State and City and County policies with respect to the provision of affordable housing in new developments. On average, Laie households earn far less than the median family income on Oahu. As a result, prices of many of the affordable units will be below the normally required levels in order to be within reach of Laie families.

A variety of approaches will have to be used in order to feasibly provide housing that will be affordable to the families living in overcrowded conditions in Laie. These include government programs which help reduce the costs of constructing and financing new housing, and/or private efforts such as self-help or owner-built housing. A study describing the various options, many of which will have to be used in combination with each other in Laie, is provided in the Draft EIS. This study was prepared in 1987, when the Zions Securities and the Laie community began to seriously discuss the feasibility of providing truly affordable housing. The proposed DP Amendment for a new residential area is an outgrowth of those discussions.

The DP Amendment is the first in a long series of steps which must be taken in order to obtain the necessary governmental approvals to build new homes. At this point in the process, it is premature to calculate specific price ranges for these units. Later in the planning process, State and City and County agencies will require the applicant to provide detailed information.

8i. Solid Waste

The increase in solid waste generated by the requested DP Amendments is discussed in Section 4.17 of the Draft EIS. It is estimated that these projects will generate 3.0 to 4.0 tons per day of solid waste.

8j. Rezoning of agricultural lands

At this time, a policy decision (DP Amendment) on the part of the City and County of Honolulu is all that is being pursued by the applicant; changes to the existing zoning designations are not being pursued at this time. Please refer to Section 3.0 of the Draft EIS for a discussion of the governmental approvals required to implement the proposed land uses described by the requested DP Amendments. In any event, the previously explained reasons for these amendments, and the analysis in Section 6.0 of their consistency

Letter to The Hawai'i-La'ieikawai Association, Inc.
21 February 1992
Page 11

with State and City and County policies and plans, demonstrate that the requested DP redesignation of Agricultural lands has considerable merit.

Thank you for your comments and attention to this proposal. We welcome an opportunity to meet with the Hawai'i-La'ieikawai Association, Inc. to discuss any of the DP Amendment requests. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom dp

Kari Kilstrom
Planner



KOOLAULOA NEIGHBORHOOD BOARD NO. 28
(Kohuku, Laie, Hauula, Punaluu, Kaaawa-Kahana)

110 HAUULA SATELLITE CITY HALL • 06-010 KUKUNA ROAD • HAUULA, HAWAII 96717
GROUP 70
LIMITED

RECEIVED
JAN 24 1992

January 21, 1992

Memorandum

TO: Ralph Portmore
Group 70
924 Bethel St.
Honolulu, Hawai'i 96813

FR: Creighton Mattoon, Chair Neighborhood Board #28 *cl*

RE: Laie Development Plan Amendments, Application and
Environmental Assessment

The Neighborhood Board would like to remain a consulted party as this project moves forward. The Board would like to thank you for your presentation at the Board meeting in January. We have the following very broad comments to offer at this time.

The Board is concerned about the proximity of the industrial area to grave sites and existing residential areas. We specifically are concerned about drainage, landscaping and affordability of these areas for local businesses.

The Board would like to see numbers that address the need for housing in the area generally, separated from the need for student housing.

The Board needs more information on the ratio of proposed rental units to sale units and the respective prices of these units.

The Board would urge that the kuleana land owners in the area be contacted and consulted.

Some discussion must take place on the impact of these proposed density increases on the rural designation of the area.

The Board understands that only one of the three proposed housing areas will be developed if the applicant is successful in their pursuit of a DP amendment. Thank you for the opportunity to comment and the Board looks forward to working with you in the future.



Oahu's Neighborhood Board System-Established 1973



GROUP 70
INTERNATIONAL

21 February 1992

Creighton Mattoon, Chair
Koolauloa Neighborhood Board No. 28
c/o Hauula Satellite City Hall
54-010 Kukuna Road
Hauula, Hawaii 96717

**Subject Laie Development Plan Amendments
 Environmental Assessment
 Laie, Koolauloa, Oahu, Hawaii**

Dear Chairman Mattoon:

Thank you for your January 21, 1991 letter regarding the above-referenced Environmental Assessment.

Your request to be consulted on matters relating to the subject EIS is recognized. The following is in response to your comments.

A. Industrial Area

Environmental issues such as drainage and cultural or historical sites are considered in the Draft EIS. The grave site(s) mentioned in your letter were identified on the border of the proposed ±16 acre light industrial area, near Kahawainui Stream. The consulting archaeologist has recommended preservation of this site. Should the adjoining area be approved for light industrial use, site planning will include appropriate measures to preserve and provide access to this cultural feature.

The smaller light industrial area is approximately 2 acres in size. Roughly one acre is currently used for light industrial/warehousing purposes across the street from the existing cemetery. The DP Amendment proposes to make conforming the existing use as well as permit some expansion *makai* of the existing land use. The proximity of this *makai* area to residences across the street is acknowledged. The applicant intends to mitigate any potential adverse impacts through appropriate setbacks of the industrial uses and the provision of landscaping along the street frontage, and through lease restrictions which preclude potentially disruptive activities from locating in the *makai* area.

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Hiroshi Hida, AIA
Roy H. Nihei, AIA, CSI

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Derrick T. Seiki
Ralph E. Portmore, AICP
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Stephen H. Yuen, AIA
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Stephen E. Callo, CPA
Bradford A. Wellstead, AIA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Landscaping and setbacks will also be provided along the *makai* boundary of the ±16-acre industrial area in order to buffer it from the adjoining residences.

Lease rents for the proposed light industrial sites have not been established at this preliminary planning stage. However, the proposal for a light industrial area stems directly from community needs expressed in a community survey in 1987 and from many inquiries received by Zions Securities Corporation to lease lands for the types of land uses permitted in light industrial areas. It is the applicant's intent to set lease rents at a level which will accommodate local business persons and allow the types of activities which serve the long-term needs of community residents to locate in the area.

B. Need for Housing in Laie

The need for housing within the Laie community, as voiced through the 1987 community survey, does not include student housing for BYU-Hawaii. Development of approximately 450 residential units on one of the alternative residential sites is intended primarily to alleviate existing overcrowded housing conditions, rather than to attract new residents to the area. A community-wide public opinion survey (Community Resources, Inc., 1987) indicated a "pent-up" demand in Laie for some 365 housing units. Consequently, many existing Laie residents are expected to move out of Laie's overcrowded existing housing stock into the new single-family homes and apartments. The net increase in Laie's population at the time the residential subdivision is built should be considerably less than the total number of people who will be living in the new homes.

The City and County Department of General Planning has estimated a potential population increase of 1,294 persons would result from development of the proposed residential area. However, as noted above, it is anticipated that this population increase will be lower. Furthermore, the timely completion of housing construction by 1998 will precede the job increase generated by approved visitor industry developments at the Kuilima Resort. Therefore, without any major new source of employment in the area, less reason will exist for persons outside of the Koolauloa region to move to Laie.

C. Ratio of Rental/For-Sale Housing Units

Although planning for the Residential and Low Density Apartment housing units is at a preliminary stage, we have included estimated numbers of for-sale and rental dwelling units in the application for each of the three residential neighborhood alternatives, as follows:

Egg Farm Residential Alternative:
100 Low Density Apartment Units (22%)
350 For-Sale Units (78%)

BYU Mauka Residential Alternative:
90 Low Density Apartment Units (20%)
360 For-Sale Units (80%)

La'iemalo'o Residential Alternative:
Same as BYU Mauka, above

D. Consultation with *Kuleana* Land Owners

We recognize the diversity of opinion among *kuleana* landowners regarding future land uses within the community. We have been and will continue to make efforts to meet with individual *kuleana* landowners and organizations representing such owners, to discuss the requested DP Amendments.

E. Rural Designation

The General Plan of the City and County of Honolulu, under Objective D, Policy 4 of the Physical Development and Urban Design section, states that "rural areas ... are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to large size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses."

Laie is, as the General Plan policy describes, a small town in a country setting, containing a variety of land uses ranging from hotel/resort, university, a resident/visitor attraction, the Hawaii Temple, a school, commercial center, a long established residential community, and relatively small size agricultural pursuits. Long-term planning, with input from members of the Laie community, is proposed to ensure the long-term viability and success of each of these existing land uses. The addition of a residential neighborhood will provide needed homes for overcrowded residents and future generations who prefer a small town lifestyle. The scale and densities proposed for the residential area are consistent with the existing Laie community. Even with the proposed changes, approximately 450 acres of suitable land will remain available for agricultural use.

The Draft EIS evaluates the consistency of the proposed DP Amendments with a variety of State and City policies which are concerned with preserving the character and nature of the existing rural communities. Please refer to Section 6.0 of the Draft EIS for more detailed discussion of this issue.

Letter to Koolauloa Neighborhood Board No. 28
21 February 1992
Page 4

Thank you for your comments. Please feel free to call either me or Danielle Putnam (523-5866) if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom op

Kari Kilstrom
Planner

LAIE DEVELOPMENT PLAN AMENDMENTS
•Draft Environmental Impact Statement•

LIST OF PREPARERS

This Draft Environmental Impact Statement has been prepared by the planners and environmental analysts at GROUP 70 INTERNATIONAL, INC. Architects/Planners/Interior Designers, 924 Bethel Street, Honolulu, Hawaii 96813, Telephone (808) 523-5866. The GROUP 70 INTERNATIONAL staff involved in the preparation of this document included:

Francis S. Oda, AIA, AICP	Chairman of Group 70
Ralph Portmore, AICP	Vice President
Jeffrey H. Overton, AICP	Senior Planner
Kari Kilstrom	Project Manager, Planner
Danielle Putnam	Planner
Edith Masaki	Graphics
Donna Prelli	Graphics
Wendy Reeves	Production

Several technical consultants to GROUP 70 INTERNATIONAL were employed to provide specific assessments of environmental factors for this project. These consultants, their company affiliation (if any), and their specialty are listed below:

John Kirkpatrick, Ph.D. Paul Kiikoro	Community Resources, Inc.	Economics/ Demographics
Dennis M. Reid, P.E. Ron Neely, P.E.	Aqua/Waste Engineers	Drainage, Water & Wastewater
Phillip Bruner, Ph.D.	Consultant	Birds and Mammals
Winona P. Char	Char & Associates	Botanical/Wetland
Alan Walker, Ph.D.	Paul H. Rosendahl, Ph.D., Inc.	Archaeology
Randall S. Okaneku, P.E.	The Traffic Management Consultant	Traffic
Ron Englund, M.S.	Environmental Technologies International, Inc.	Freshwater Biology
Dan Lum	Water Resources, Inc.	Water Resources

JOHN WAINEE
GOVERNOR OF HAWAII



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

APR 06 1992

DEPUTIES
John P. Keppeler, II
Dona L. Hanaike

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 821
HONOLULU, HAWAII 96809

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

REF:OCEA:KCK

APR 3 1992

FILE NO.: 92-536
DOC. ID.: 439

Ms. Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Dear Ms. Kilstrom:

Subject: Draft Environmental Impact Statement for the Proposed
Development Plan Amendments - La'ie, Koolaupoko, Oahu, Hawaii

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

Brief Description: Twelve development plan amendments are requested to accommodate a Master Plan which has been developed with community input. In an effort to achieve consensus with the community, one of three potential areas for residential development will be selected following public review and discussion of each option.

Division of Aquatic Resources Comments:

A biological reconnaissance of the Kahawainui Stream was apparently performed in response to earlier comments on correspondence related to this project, because a bioreconnaissance report is listed in the technical appendices to the draft EIS. This report was not among the materials available for review, however, and no evaluation of its significance can be made. The available materials do suggest that the project might also impact the Waialele and Koloa Streams and their estuary south of Laie, depending upon the option selected. We have recent unconfirmed reports that the Koloa Stream supports significant populations of endemic gobies. Waialele Stream is normally dry in its lower reaches but may support native aquatic species populations at higher elevation. We have not surveyed either stream. To meet the developer's commitment to review and discussion of each option prior to selection of the development area, biological reconnaissances of the Koloa and Waialele Streams should also be performed.

Division of Land Management Comments:

The Development Plan Amendments should place considerable pressure on existing government/private facilities/infrastructure - i.e., roads, sewers, waterlines, drainage, etc, and thus, the developers should be fully aware of the responsibility of absorbing the cost of upgrading the support facilities serving the subject petition areas.

Office of Conservation and Environmental Affairs Comments:

Section 2.0, page 28, under 'Resort Amenities' does not specify what type of resort/recreation facilities would be developed on this 2.6 parcel. The general nature of the applicant's proposal, at this point in time, does not relieve him/her of any necessary EIS reporting requirements.

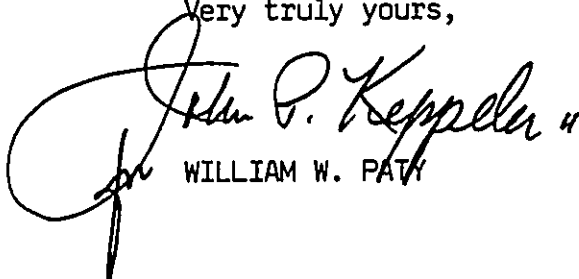
Resort development within this parcel of land could lead to activities, especially of commercial nature, that may have an impact on the shoreline and nearshore environment, as well as on passive use of the area. The EIS should be more specific regarding types of and intensity of commercial recreation activities proposed so that any potential impacts can be identified and mitigated.

We are also concerned over the cumulative impacts of this proposal on public facilities, infrastructure and the environment in the La'ie/Kahuku area, especially regarding drainage into the nearshore environment and traffic congestion along the two lane highway. We therefore suggest that any mitigation plans recommended by the developer/applicant and/or the County and State be made conditions of any development plan amendment approval.

Also, our Department's Historic Preservation Program and Water Resource Management Division will respond in a subsequent letters.

Thank you for your cooperation in the matter. Please feel free to call Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,


WILLIAM W. PATY

JOHN WAIHEE
GOVERNOR OF HAWAII



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

DEPUTIES

JOHN P. KEPPELER, II
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STATE PARKS
WATER AND LAND DEVELOPMENT

REF:OCEA:KCK

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 621
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APR 13 1992

File No: 92-536
Doc. ID: 527

Ms. Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4397

RECEIVED
APR 13 1992

GROUP 70
LIMITED

Dear Ms. Kilstrom:

Subject: Additional Comments for the Proposed Development Plan
Amendments - La'ie, Koolaupoko, Oahu, Hawaii

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the submitted biological reconnaissance report for the Kahawainui Stream and have the following comments.

DIVISION OF AQUATIC RESOURCES COMMENTS:

Earlier comments referred to a biological reconnaissance of the Kahawainui Stream which was performed but not available for review. The report has subsequently been received and reviewed. It is of good quality and provided the information requested. Three of the five endemic freshwater fish species were found, and significant recruitment was observed, along with a variety of alien species. The report indicated that the stream, as suspected, was of higher quality than suggested by available data. Appropriate mitigative measures to reduce sedimentation during the construction phase were recommended-- keeping heavy equipment away from the stream area, maintaining a buffer zone around the stream, and sediment catch-basins or berms, along with revegetation of the streamside area with native Hawaiian plants immediately after construction. Implementation of these recommendations should be required. The DEIS and comments from Group 70 also suggested the Waialele Stream but not the Koloa Stream might be impacted by the project. Waialele Stream is normally dry in its lower reaches but may support native aquatic species populations at higher elevation. All of the native fish species and many of the invertebrates have a diadromous life cycle which requires migration between the ocean and higher elevation stream habitats. Development in the lower reaches may affect this migration pattern, even though these reaches may normally be dry. Because no biological survey information is available for the Waialele Stream, a biological reconnaissance of its upper reach should also be performed.

Ms. K. Kilstrom

-2-

File No: 92-526

Thank you for your cooperation in this matter. Please feel free to call Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, or Bill Devic of our Aquatic Resources Division, at 587-0100, should you have any questions.

Very truly yours,

John P. Keppeler
William W. Pazy



20 April 1992

Mr. William W. Paty
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olaupua, Oahu, Hawaii**

Dear Mr. Paty:

Thank you for your April 3, 1992 and April 13, 1992 letters regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Division of Aquatic Resources (initial comments): The biological reconnaissance report prepared for Kahawainui Stream was performed in response to comments raised by the Division of Aquatic Resources on the Environmental Assessment for the proposed DP Amendments. At that time we responded in a timely fashion to engage an aquatic consultant to address your concerns. This report was included in the Draft EIS as Appendix I, entitled "Biological Stream Reconnaissance for the Kahawainui Stream at La'ie, Oahu", prepared by Environmental Technologies, Inc. (ETI) (February 1992). The full EIS document was delivered to DLNR on February 24, and its fate from that point is unknown.

Apparently, Mr. Bill Devick of the Division of Aquatic Resources did not receive a copy of this part of the Draft EIS. Mr. Devick brought this matter to the attention of ETI, who sent a copy of the Biological Stream Reconnaissance report directly to Mr. Devick. In addition, Group 70 provided a copy of Section 4.9 of the Draft EIS concerning wildlife to Mr. Devick by FAX, which includes a summation of the significant findings of the stream reconnaissance. It is unfortunate that the individual at DLNR who requested this study was not offered the opportunity to review this document through the normal channels. In the future we will send a copy of such special reports directly to the Division of Aquatic Resources.

The initial DLNR comments on the potential impacts to stream ecology were limited to the Kahawainui Stream. At that time, the complete project plans were available for review. However, there was no request to include other streams in the study, such as Waialele Stream and Koloa Stream (also known as La'iemal'o Stream as identified in the EIS). There was ample opportunity

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- Norman G. Y. Hong, AIA
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- Hitoshi Hida, AIA
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- Jeffrey H. Overton, AICP
- James I. Nishimoto, AIA
- Jen-Chih "Jack" Lee, AIA
- Michael A. Gamu
- Eric G. Crispin, AIA
- Danilo M. Herrera

to express this concern at the earlier stage, at which time we were directly responsive to your request.

We realize that DLNR has not surveyed either of these streams. Your comment mentions that aquatic species populations may occur in the upper reaches of Wailele Stream. The BYU Mauka residential site has been selected as the preferred alternative site for residential development. It is anticipated that runoff from this new residential area will enter Wailele Stream, but only in its lower reaches and contained within proper drainage controls. It will not affect the upper reaches. Some normal urban runoff constituents would be expected to eventually enter this stream as a result of the BYU Mauka residential area. Natural, urban and agricultural runoff constituents are currently entering this stream, as does La'iemalo'o Stream which combines with Wailele Stream in the lowest reach, forming a muliwai.

Other streams found in La'ie which would be affected if the La'iemalo'o site was developed are Koloa (La'iemalo'o), A'akaki'i and Kokololio Streams. However, development of this site is no longer proposed, and these streams will not be affected by the proposed DP Amendments. It is for this reason that we believe additional studies of the other streams is not warranted.

Division of Aquatic Resources (follow-up comments): We appreciate the follow-up comments provided by your Division. The mitigative measures recommended to reduce sedimentation during the construction phase have been incorporated into the Final EIS. These recommended measures include: keeping heavy equipment away from the stream area, establishment of sediment catch-basins or berms, and revegetation of the streamside area with native Hawai'ian plants after construction.

The proposed DP Amendments will not result in any development which would impact the upper reaches of Wailele Stream. Urban runoff from the new residential development to be located mauka of BYU is not expected to significantly alter the water quality for the lower portion of this intermittent stream. [Of note, the U.S. Army Corps of Engineers has undertaken a reconnaissance study of possible flood control improvements to Wailele Stream.] The Division of Aquatic Resources will be able to review specific drainage plans for the new residential area once these plans are available in the later stages of project planning. At that point, should your Division have further concerns about potential impacts to water quality of this stream, the need for an upstream biological reconnaissance survey should be considered.

Division of Land Management: These comments concerning the impact of the proposed land uses upon existing infrastructure facilities are noted. These issues are evaluated in the EIS, primarily in Section 4.17 on Infrastructure.

Office of Conservation and Environmental Affairs: Although the City and County Development Plan Amendment process does not typically require a

Letter to DLNR
20 April 1992
Page 3

site plan level of detail for decision making, the applicant's request for the Resort designation is for the specific purpose of developing private outdoor recreation amenities which are directly related to the existing Resort site across the highway. To allay any concerns that the planned uses for this site may deviate from the originally intended uses, the applicant wishes to be as specific as possible concerning the requested Resort designation.

The applicant's intended uses for the 2.6 acre shoreline property are for private outdoor recreational uses. This would be restricted to no more than a swimming pool, beach and pool equipment storage, a small facility to serve limited refreshments and possibly one or two tennis courts. They will be for the benefit of the guests of the hotel that will be constructed on the 4.0 acre Resort designated site located on the *mauka* side of Kamehameha Highway. No commercial recreation activities are proposed.

The applicant intends to employ whatever measures are necessary or required by the City and County to legally restrict and limit the development of the property to the the types of outdoor recreational facilities described above. The City and County will have the opportunity to review Zoning and Special Management Area Use Permit Applications for the site, to ensure that the design and scale of the outdoor recreational and accessory uses is in keeping with the nature of the site and the surrounding community. The filing at the time of rezoning of a unilateral agreement restricting development on the property to specified recreational facilities is a distinct possibility, and would be acceptable by the applicant.

Your suggestion that mitigation plans recommended by the developer/applicant and/or the County and State be made conditions of Development Plan Amendment approval is recognized. These can be specified in the Committee Report and/or Findings of Fact that accompany the adoption of a Development Plan Amendment. Legally binding restrictions would be established as part of the rezoning process.

As of this writing, we have not received comments from the Historic Sites Section or Water Resource Management Division. Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

JOHN WAIHEE
GOVERNOR OF HAWAII



**COPY FOR YOUR
INFORMATION**

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96819

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

DEPUTIES

JOHN P. KEPPELER, II
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HISTORIC PRESERVATION
DIVISION

LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

LOG NO: 4820
DOC NO: 0665T

MEMORANDUM

TO: Roger Evans, OCEA

FROM: Don Hibbard, Administrator
State Historic Preservation Division

SUBJECT: Draft Environmental Impact Statement (DEIS) for
Development Plan Amendments (File No: 92-536)
La'ie, Ko'olauloa, O'ahu
TMK: 5-5 various

HISTORIC PRESERVATION PROGRAM CONCERNS:

This DEIS contains the results of an archaeological inventory survey that is not yet complete. We have received a draft copy of the inventory survey report, which with some minor changes that we believe can be easily made, will be an acceptable report. We are communicating directly with the consulting archaeologist on this matter. Thus, we are unable at this time to comment on the impact of the proposed development plan amendments on historic sites, but expect to have all materials in hand in time to comment on the final environmental impact statement.

Given these circumstances we request that permitting agencies contact us directly prior to issuing permits for this project, so we can advise them whether significant historic sites are present and how best to treat them and ensure a "no adverse effect" to such sites.

If you have any questions please call Tom Dye at 587-0014.

TD:jen

cc: Department of General Planning, City & County of Honolulu.

**COPY FOR YOUR
INFORMATION**



20 April 1992

Mr. Don Hibbard, Administrator
Historic Preservation Division
Department of Land and Natural Resources
State of Hawaii
33 South King Street, 6th Floor
Honolulu, Hawaii'i 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawaii'i**

Dear Mr. Hibbard:

Thank you for providing us with an information copy of your April 3, 1992 memorandum to Mr. Roger Evans regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

As you are aware, the consulting archaeologist, PHRI, has delivered the final inventory survey report to DLNR-Historic Preservation Division, including the minor changes that were suggested by your staff. The applicant will coordinate its master planning efforts and project designs with PHRI and the State to ensure that the archaeological sites which have been identified in the survey are treated in an appropriate manner.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari D. Kilstrom
Planner

- Francis S. Oda, AIA, AICP
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STATE OF HAWAII
DEPARTMENT OF GENERAL PLANNING
Planning Division
Honolulu, Hawaii 96813

April 9, 1992

Mr. Benjamin B. Lee
Chief Planning Officer
Department of General Planning
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Mel Murakami

Dear Mr. Lee:

Subject: Draft Environmental Impact Statement (DEIS) for
Laie Development Plan Amendments
Zions Securities Corporation

TMK: 5-5-01: 12
5-5-02: 10, 11, 20
5-5-04: por. 3, por. 7
5-5-05: por. 1, 11, por. 18, 20, por. 21, por. 23,
por. 24
5-5-06: por. 1, por. 5, por. 10, por. 11, por. 30,
32, 33
5-5-07: por. 1
5-5-08: por. 1
5-5-09: 12
5-5-14: 7, por. 24
5-5-17: 5, 6

Laie, Oahu

Area: 361 acres (gross study area)
189 to 195 acres (net area subject to DP amendment
from Agricultural to other designations)

The Department of Agriculture has reviewed the subject DEIS and offers the following comments.

The DEIS identifies about 122 acres of active agricultural uses that face possible eviction within the three alternative residential areas and the remainder of the study area. Approximately 104 of these acres are in vegetable and fruit production. This represents about 6.5 percent of the total area cultivated in vegetable and fruits on Oahu (about 1,600 acres as of 1990). The Cackle Fresh Egg Farm of 200,000 layers represents about 26 percent of the total number of layers on Oahu (about 768,000 layers as of 1990). The potential loss to agriculture

Mr. Benjamin B. Lee
April 9, 1992
Page 2

from development of any of the three alternative residential areas will be significant in terms of lost production and crop value, increased unemployment of farm labor, and loss of costly agricultural infrastructure.

In this regard, the FEIS should include information on lost production and crop value, farm labor unemployment, and loss of costly agricultural infrastructure, and capital required to relocate/reinvest these farm businesses to other locations. We also note that there are no proposed mitigating measures to assist the relocation of farm businesses. The FEIS should describe any relocation assistance to be given to displaced agricultural businesses.

Thank you for the opportunity to comment.

Sincerely,

Yukio Kitagawa

YUKIO KITAGAWA
Chairperson, Board of Agriculture

c: Zions Securities Corporation (attn. Mr. Lucky Fonoimoana)
Group 70 International, Inc. (attn. Ms. Kari Kilstrom)
Office of Environmental Quality Control



20 April 1992

Mr. Yukio Kitagawa, Chairperson
Board of Agriculture
State of Hawaii
Planning and Development Office
P.O. Box 22159
Honolulu, Hawaii 96823-2159

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawaii**

Dear Mr. Kitagawa:

Thank you for your April 9, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Approximately 193 acres of land within the State Land Use Agricultural District is proposed to be redesignated as part of the DP Amendments. About 104 acres are classified as prime agricultural land.

Active agricultural uses would be evicted at the BYU Mauka residential area, which contains approximately 32 acres of active crop production. Crops grown in this area include bananas, papayas and vegetables. The BYU expansion area contains approximately 19 acres of active banana and papaya farm area. Approximately 7 acres of the PCC expansion area is in banana, papaya and tapioca cultivation.

Cackle Fresh Egg Farm is no longer being considered as a potential site for residential development in the foreseeable future. There will be no effect on egg production as a result of this proposal.

The total amount of active farming lands to be relocated by the proposed DP Amendments would be 58 acres, or about 3.6 percent of the total area (1,600 acres) on Oahu currently in cultivation in fruit and vegetable crops. However, as explained below, there would be no net loss of productive fruit and vegetable crop areas, due to proposed expansion of active use of other agricultural areas owned by Zions Securities Corporation.

It is true that there will be displacement of farming activities due to the change in use of 58 acres of active farmland affected by the DP Amendments. However, no long-term loss of farm production, loss of crop value, increase

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Letter to Dept. of Agriculture
20 April 1992
Page 2

in unemployment, or loss of agricultural infrastructure is expected to result from the proposed displacement of active farming uses. Approximately 465 acres of agricultural land owned by the applicant in La'ie will remain available for future use and expansion of La'ie farming activities. Substantial amounts of this land (more than half) is classified as prime agricultural land, with the remainder mostly classified by ALISH as "other important agricultural lands".

In Section 4.4 of the EIS, and elsewhere in the document, reference is made to the establishment of a farm management organization for La'ie farmers to utilize lands owned by the applicant. There are substantial amounts of lands with prime agricultural soil in La'ie which are owned by the applicant and are currently not being utilized. These unutilized lands are the first areas being considered for new agricultural development to replace those areas which will be lost as a result of the BYU Mauka residential area. This program has been already been established by Zions Securities Corporation, and operations are just getting underway. It represents a sound approach toward ensuring the future of agriculture in La'ie. The result will likely be an increase in farm production and improved agricultural infrastructure.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

JOHN WAIKEE
GOVERNOR

CHARLES T. TOGUCHI
SUPERINTENDENT



MAR 18 1992

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

March 12, 1992

OFFICE OF THE SUPERINTENDENT

Ms. Kari Kilstrom, Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813

Dear Ms. Kilstrom:

Subject: Laie Development Plan Amendments
Environmental Assessment
Laie, Koolauloa, Oahu, Hawaii

Thank you for your response regarding the subject project. After further review, we concur that the number of residential units in the project should be based on 450 residential units instead of 550 units. We project that the development will generate 115 students for grades K-6, 28 students for grades 7-8, and 45 students for grades 9-12.

We wish to begin discussion with the developer regarding a fair-share contribution to accommodate the projected enrollment increases generated by this development. We will be requesting the State Land Use Commission to require a contribution as a condition of approval of an application for a state land use boundary amendment. A meeting has been scheduled for March 13, 1992, 11:00 a.m. at the Facilities and Support Services Branch, 809 8th Avenue (Liholiho Elementary School), Building J, Third Floor, Room 15.

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

Ms. Kari Kilstrom

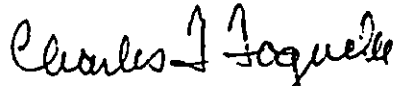
-2-

March 12, 1992

Furthermore, we are interested in discussing the alternative school sites and sizes in the proposed development. The present requirement for an elementary school is eight acres if a four acre park is located adjacent to the school. The requirement for an intermediate school site is twelve to fourteen acres if a park is located adjacent to the school.

Should there be any questions, please call the Facilities Branch at 737-4743.

Sincerely,



Charles T. Toguchi
Superintendent

CTT:hy

cc: A. Suga
J. Sosa



20 April 1992

Mr. Charles T. Toguchi, Superintendent
Department of Education
State of Hawaii
P. O. Box 2360
Honolulu, Hawaii 96804

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawaii**

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Danilo M. Herrera

Dear Mr. Toguchi:

This is in response to your March 5, 1992 letter to Mr. Ben Lee, Director of the Department of General Planning, and to your March 12, 1992 letter to me regarding the above-referenced Draft Environmental Impact Statement. The following responds to your comments.

Student Projections: The student projections provided in your letter for 450 dwelling units will be incorporated in the Final EIS, Section 4.18.

Payment for School Facilities: We met with the Facilities Branch of the Department of Education on March 20th to discuss the proposed DP Amendments and the projected effect of new housing units in La'ie upon school facilities. We specifically discussed the issue of fees to pay for the cost of school facilities.

Our understanding is that the State is not in the practice of collecting both fees and land for school facilities from landowners who wish to develop housing. In this case, eight acres of land has been proposed for dedication to the State of Hawaii for school purposes. The proposed school site is planned in conjunction with a proposal to develop affordable housing, an explicit objective of the State of Hawaii.

One of the goals of the La'ie Master Plan is to provide housing that will be affordable for La'ie residents. Many of these new homes are intended for those existing residents of La'ie who are currently sharing homes with other families because of the shortage of affordable housing in the area. In order to achieve this goal, the developer of these homes will have to minimize development costs wherever possible.

The State Housing Functional Plan encourages "increased private sector participation in the development of affordable for-sale housing units." Implementing Actions for this policy are to "create and offer incentives to

Letter to Dept. of Education
20 April 1992
Page 2

private developers for providing affordable for-sale housing units," and to "impose realistic and fair housing conditions on projects seeking land use redesignation, general or development plan amendments ...".

As a result of the applicant's inclusion of a school site in the proposed plan or a new residential neighborhood, a great deal of the State's time, effort and tax dollars should be saved by avoiding a lengthy site selection process for a new school site. We respectfully request that the Department of Education consider the above-mentioned cost savings, as well as the State's own affordable housing objectives which will be achieved through the development of this project. We urge you to consider the dedication of land, as planned by the applicant, sufficient contribution to the project's share of school facilities. Should subsequent analysis demonstrate that the land exceeds the applicant's fair share contribution of facilities, arrangements should be made for addressing the difference in a manner which is amenable to both the applicant and the State.

Size of School Site: We reviewed the "Educational Specifications and Standards" materials sent by the Facilities Branch. These will be helpful for future site planning purposes. On page 12, the site criteria for an elementary school are a minimum of 6 and a maximum of 8, as proposed by the DP Amendment.

We have demonstrated our willingness to work cooperatively with the Department of Education during these preliminary planning stages. Of note, we have relocated the proposed location for the eight-acre elementary school site to the edge of the proposed development boundary. Should the Department of Education wish to acquire additional lands for school facilities, it may pursue this opportunity unimpeded by surrounding residential development. The applicant remains amenable to continued cooperative planning with the Department of Education for as long as the affordable housing plans remain economically viable.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

JOHN WAIHEE
GOVERNOR OF HAWAII



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

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

In reply, please refer to:

April 7, 1992

92-075/epo

Mr. Mel Murakami
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Murakami:

Subject: Draft Environmental Impact Statement (DEIS)
Laie Development Plan Amendments
Koolauloa District, Island of Oahu
Laie, Oahu
TMK: 5-5-01:12 and 5-5-05:11

Thank you for allowing us to review and comment on the subject document. We have the following comments to offer:

Wastewater

Since the Laie community wastewater system is owned and operated by Zions Securities Corporation, and the subject project is located within the sewer system, we have no objections to the proposed development provided that the project is connected to Zion's sewer system.

The developer should work closely with the Zions Securities Corporation to assure the availability of additional treatment capacity and adequacy for the project. Non-availability of treatment capacity will not be an acceptable justification for use of any private treatment works.

We also support the concept of land reclamation and irrigation utilizing the treated effluent.

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

Solid Waste

The DEIs does not adequately address the impact of construction and occupation of the developments upon the solid waste management system within the City & County of Honolulu. In order to meet the State and City and County waste reduction goals (State: 25% by 1995 and 50% by 2000, City & County: 50% by 1995 and 75% by 2000 are more stringent and therefore carry precedence), the EIS should proposed plans for waste reduction and diversion, both during construction and occupation of the project.

As H-Power is reaching capacity and the Waimanalo Gulch Landfill is filling up faster than anticipated, the EIS must address the minimization and diversion of both construction and operational wastes. In addition, the use of local compost derived from recycled greenwaste as soil amendment or mulch would reduce the impacts of the project by creating local markets for recycled materials and may also help to reduce the need for lawn watering during the dry months, thus reducing the burden on the County water supply.

As stated in the plan, the developer proposes that "source separated, recycled and collection stations will be 'supported' by the development company." We request that the company define what is meant by 'support' and recommend that the proposed development include adequate space for internal recycling efforts (drop-off, materials storage, collection space, etc.) so as to help mitigate excessive burden on the county's recycling collection system especially during construction. As the development will be heavily landscaped, adequate internal facilities and operational requirements for either on-site or off-site greenwaste composting activities are recommended to reduce the amount of materials going into the landfill.

Additionally, we would recommend that the road paving, which will occur as a result of these developments, use material that includes a percentage of recycled content or asphalt treated base course.

If you should have any questions regarding this matter, please contact Mr. John Harder of the Office of Solid Waste at 586-4227.

Underground Injection Control (UIC)

1. The draft EIS describes the wastewater drain field as being below (makai) of the UIC line. Based on the scale of the location maps and the manner in which the drain field has been identified on the map, the location of the drain field with respect to the UIC line should be identified as being "at the UIC line."
2. The proposed ultimate design capacity of the wastewater treatment plant is listed as 1.5 mgd; however, there is no projection of what the volume of wastewater will be from "moderate growth projections for the year 2010." This value (volume) should be determined to allow for its evaluation and comparison to the design capacity of 1.5 mgd.
3. Mitigative measures regarding backup wastewater disposal capacity has not been adequately described. In addition to qualitative descriptions, quantitative facts should be provided to describe the partitioning of the 1.5 mgd capacity of the drain field and what proportions will be used for either primary or backup disposal. In addition, mitigative measures should provide a discussion on an action level that would trigger a performance evaluation of the drain field to prevent a future situation of insufficient disposal capacity. An action level could be based on either a daily mgd value or a physical measurement of reduced performance of the drain field.

Drinking Water

1. Figure 21 of the DEIS does not correlate well with the Safe Drinking Water Branch's records for the Zions Securities Corporation's Laie Water System (Public Water System No. 325).
 - a. Figure 21 notes "B.Y.U. Wells (3855-06 & 09)." However, our records show three BYUH Campus wells: 3855-06 (in the open field area), 3855-07 (Ceramics Building), and 3855-08 (near the Library). Well No. 3855-09 is supposedly used for nonpotable purposes (e.g., lagoon make-up water).
 - b. Figure 21 notes "Temple Wells (3956-05)." However, our records show this well as serving only the chicken farm while 3956-03 is the Temple Well serving the Zions Securities Corporation's public water system.
 - c. Figure 21 notes plural for "Childs Wells (3855-10)." Are there other well numbers that have not been stated here?
 - d. Figure 21 notes the "Quarry Wells (3856-01 to 06)." Are these wells connected to the Zions Securities Corporation's public water system?

The DEIS consultant must carefully review these discrepancies with Zions Securities Corporation so that the EIS reflects the correct information. If the Department of Health records on the Laie water system are incorrect, the Zions Securities Corporation must immediately notify the Safe Drinking Water Branch and provide the correct data and supporting information.

2. The DEIS indicates that the project will include the development of new sources of potable water. As new sources of water are developed, it will be necessary to comply with the Department of Health (DOH) Administrative Rules, Chapter 11-20, "Potable Water Systems." Section 11-20-29 of Chapter 20 requires that all new sources of potable water serving a public water system be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.
3. DOH Administrative Rules, Chapter 11-20, "Potable Water Systems", Section 30 requires that new or substantially modified distribution systems for public water systems be approved by the Director. However, if the water system is under the jurisdiction of the City and County of Honolulu, the Board of Water Supply will be responsible for the review and approval of the plans.
4. The DEIS indicates Zions Securities Corporation has or will have a dual water system. Figure 21 notes that the Childs Well (state well no. 3855-10) is used only for irrigation. The DEIS also states that their Wastewater Facilities Plan proposes to reuse treated wastewater effluent for irrigation. The potable and nonpotable water systems must be carefully designed and operated to prevent cross-connections and backflow conditions. The two systems must be clearly labeled and physically separated by air gaps or reduced pressure principle backflow

Mr. Mel Murakami
April 7, 1992
Page 4

92-075

preventers to avoid contaminating the potable water supply. In addition, all nonpotable spigots and irrigated areas should be clearly labeled with warning signs to prevent the inadvertent consumption of nonpotable water.

If you should have any questions, regarding the Drinking Water and UIC comments, please contact Mr. Stuart Yamada (Drinking Water) or Mr. Chauncey Hew (Underground Injection Control) of the Safe Drinking Water Branch at 586-4258.

Very truly yours,



JOHN C. LEWIN, M.D.
Director of Health

c: Zion Securities Corporation
Group 70 International, Inc.
Wastewater Branch
Safe Drinking Water Branch
Solid Waste Office



20 April 1992

John C. Lewin, M.D., Director
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawai'i 96801

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Dr. Lewin:

Thank you for your April 7, 1992 letter to the City and County Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Wastewater: The new residential development area, along with the other proposed DP Amendments, are all being proposed by Zions Securities Corporation. These new developments will be connected to Zions' wastewater collection system which serves La'ie.

The planned improvements to the La'ie Wastewater Reclamation Facility (LWRF) are the subject of a Facility Plan currently in preparation. The facility improvements are required in compliance with terms of a Consent Decree established in 1991. Treatment capacity of 1.5 million gallons per day is required under the terms of the Consent Decree, which is more than adequate to accommodate the projected growth of La'ie with the DP Amendments. The estimated wastewater flow with the projected moderate growth scenario is approximately 1.3 mgd.

The Facility Plan will also address the method of treated effluent disposal. At least for the short term, this is to be handled with a subsurface drain field. Long-term treated effluent disposal is proposed through agricultural land irrigation. The applicant will attempt to accomplish the reclamation of treated effluent through a safe and efficient process.

The City and County of Honolulu Board of Water Supply (BWS), however, has raised the issue of potential groundwater contamination through treated effluent disposal via land irrigation in La'ie. Once the Facility Plan for the LWRF has been completed, a separate EIS addressing the proposed treatment and disposal facilities will be prepared by the applicant. This will address groundwater quality and other potential environmental impacts. The

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applicant is looking forward to working together with the DOH and BWS to complete the LWRF Facility Plan in a timely manner, and resolve outstanding environmental issues through the EIS process.

Solid Waste: Objectives and methods for waste reduction and diversion during the long-term occupation of the proposed residential area are generally presented in the EIS. Source separation is one method which is supported by the applicant. Recycling collection stations is another method for waste reduction and diversion which is supported. Specific programs for waste stream separation and recycling will be developed in later phases of the project planning. At this very conceptual stage in planning, detailed commitments on recycling programs would be premature.

Zions Securities Corporation will explore the feasibility of greenwaste composting for mulch. However, the assumption that the project will be heavily landscaped may not be accurate. Due to the fact that the housing area will essentially be for affordable housing, only basic landscaping elements are expected to be included. The feasibility of using recycled materials for road paving will also be considered. The applicant will coordinate with the Office of Solid Waste during later stages of project planning to explore opportunities relating to solid waste programs in La'ie.

Underground Injection Control (UIC): The location of the effluent disposal field, and its plans for operation, are subject to approval by independent reviewers, Drs. Gearheart and Finney, as well as by your department. All plans for locating and operating these facilities require agreement of these reviewing authorities. As you have requested, we have noted that the current location of the interim disposal field is located at the UIC line.

The wastewater management report included in the EIS appendix reflects future wastewater flows anticipated from the moderate growth scenario, estimated at 1.3 million gallons per day (mgd). The design capacity for the LWRF is 1.5 mgd, which will accommodate the growth proposed by the DP Amendments.

Treated wastewater disposal methods are currently being studied as part of a Facility Plan for the LWRF. The planned interim disposal method is through a subsurface drainage field, as identified in the EIS. This field is currently certified for a capacity of 0.5 mgd. The long-term method proposed for treated effluent disposal is through agricultural land irrigation. This disposal technique is currently being evaluated to accommodate the moderate growth scenario wastewater flows of 1.3 mgd.

Exact areas proposed for irrigation disposal, and their relationship to the UIC line, have not yet been proposed. The applicant is in the process of exploring the irrigation requirements of the adjoining agricultural lands. In the meantime, the improvements to the treatment facilities which are currently

being made will bring the treatment process to the goal of 5:5 BOD/SS. This level of treatment, with disinfection, results in a high effluent quality that is not expected to cause groundwater contamination or cause any type of public health hazard by use of the disposal field.

Some combination of the disposal field and agricultural land irrigation disposal may be considered for normal operation in the long term. During periods of high precipitation, the drain field may be more suitable for back-up disposal operations. Analysis of the disposal alternatives and proposed processes for long-term disposal and back-up systems will be presented in the Facility Plan and EIS documents.

Drinking Water: The BYU Campus wells "complex" consists of wells number 3855-06, 07, and 08. These are all domestic water supply wells which feed into the same pumphouse or sump. Well number 3855-09 is not used for irrigation. The water from this well fills a lagoon which is a central feature of the Polynesian Cultural Center. The well is located directly below the lagoon.

The Temple Wells consist of two wells (3956-03, 05). One of these wells serves the domestic water supply, and the other serves the Cackle Fresh Egg Farm.

In November, 1990, the "Childs Well" (3855-10) failed to meet the requirements of a bacteriological test performed by the State Department of Health. The water main was subsequently disconnected. The water from this well is currently used for agricultural irrigation purposes only.

The Quarry Wells are not connected to the domestic water system in La'ie.

Zions Securities Corporation will comply with the Department of Health (DOH) Administrative Rules for "Potable Water Systems." The Director of Health has authority over the approval of such uses. An engineering report will be submitted to satisfy requirements of Section 11-20-29.

The water system for the new residential area will be constructed to City standards to allow the future option of its dedication. For the present time, Zions Securities Corporation will not seek dedication of the new portion of the system, or other distribution, storage and source facilities within the system. Dedication will be sought at such time as the entire system can be brought up to acceptable standards.

Should the applicant proceed with plans for a dual water system in portions of La'ie, the potable and non-potable water systems will be carefully designed and operated to prevent cross-connections and backflow conditions. The two systems will be clearly labeled and physically separated by air gaps or reduced pressure principal backflow preventers to avoid contaminating the potable water supply. All non-potable spigots and irrigated areas will be clearly

Letter to Dept. of Health
20 April 1992
Page 4

labeled and posted with warning signs to avoid inadvertent consumption of nonpotable water.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

JOHN WAIHEE
GOVERNOR



JOSEPH K. CONANT
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION

IN REPLY REFER TO:
92:PPE/1153mo

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March 18, 1992

GROUP 70
L10170

To: Department of General Planning
City and County of Honolulu

Attn: Mr. Mel Murakami

From: 
Joseph K. Conant
Executive Director

Subject: Laie Development Plan Amendments Draft Environmental
Impact Statement, dated February 1992

Thank you for the opportunity to review the draft EIS report. We have examined the document and have the following comments:

1. We note the applicant's commitment to provide affordable housing. However, we are disappointed that further information on the housing component was not made available.
2. We would like to see affordable housing opportunities made available for families with a range of incomes. For example, residential units at a very low income range of fifty percent (50%) and below, lower income range of fifty percent to eighty percent (50% to 80%), moderate income range of eighty percent to one hundred and twenty percent (80% to 120%), and above moderate income range of one hundred and twenty percent to one hundred forty percent (120% to 140%). This criteria is defined in the State Housing Plan of 1989. Along with establishing the range, we would like to see the breakdown of the unit count and the affordable sale price or rental rate for each.
3. In appendix A, Elements of a successful housing program, the definition of affordable housing should be clarified to the current market condition. The

Mr. Mel Murakami
March 18, 1992
Page 2

median income for the City and County of Honolulu in 1991 was \$43,700, determined by the Department of Housing and Urban Development.

4. We will be glad to work with the applicant in establishing options for assistance.

We would like to commend this private sector endeavor by Zions Securities Corporation for providing affordable housing to the Laie area and assisting the State and County in their efforts to bring affordable housing to the people of Hawaii.

- c: Mr. Lucky Fonoiomonana, Zions Securities Corporation
 ✓ Ms. Kari Kilstrom, Group 70 International Inc.



20 April 1992

Mr. Joseph K. Conant, Executive Director
Housing Finance and Development Corporation
State of Hawaii
Seven Waterfront Plaza, Suite 300
500 Ala Moana Boulevard
Honolulu, HI 96813

Dear Mr. Conant:

Subject: La'ie Development Plan Amendments Draft Environmental
Impact Statement (EIS) dated February 1992

Thank you for your March 18, 1992 memorandum to the Department of
General Planning concerning the above-referenced Draft EIS. This is in
response to your comments.

1. Availability of Detailed Information on the Housing Component: We
appreciate your concern about the lack of specificity in the description of the
affordable housing component of the Development Plan (DP) Amendment
Application. Others have expressed this as well.

The statement in the Draft EIS that a variety of approaches will be used to
provide the affordable housing is not intended to be general or vague.
Rather, it recognizes the reality that the only feasible way to achieve the
desired number and prices of affordable housing will be to use in
combination several different approaches. No one approach will be
sufficient.

The purpose of the 1987 report, "An Evaluation of Below Market Housing
Programs and Financing Options for the Development of Affordable Housing
in La'ie" (Appendix B), was to investigate and determine if there were
sufficient funding programs and/or development techniques which would
make it possible to provide the desired number and price of affordable
housing in La'ie. Its conclusion was that there is no one program or
technique which could sufficiently reduce development costs. However, the
use of several programs in combination with each other was found to be a
realistic possibility. These various programs and techniques are described in
detail in Appendix B of the EIS.

It is not possible at this time to pinpoint exactly what programs will be used
when the housing is built, without going through the complex and expensive
exercise of designing specific programs for building low-income rentals,

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Letter to Housing Finance and Development Corporation
Mr. Joseph K. Conant
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affordable senior citizen housing, for-sale housing for families, etc. Undertaking such an effort at this time would be premature.

The beginning of actual construction is probably 1-1/2 to two years away, and the types of available programs, program eligibility and funding availability can all change in that time. Also, without some indication from the City and County that it considers the purpose of the proposed housing development to be in the public interest, and will give fair consideration at the zoning stage to specific proposals to provide the affordable housing in accordance with the purposes put forth in this EIS and the DP amendment application, there is little point to going through such an exercise. Assuming the DP amendments are adopted, the specific programs will be developed and submitted for government review as part of the zoning process.

Of the various programs and techniques which are discussed in Appendix B, those which are most likely to be used are as follows:

- *Owner-built or self-help housing* -- This type of program offers the opportunity to achieve significant savings in the cost of producing new housing. Predominantly Mormon communities such as La'ie have a long and well established history of joining together to help each other in meeting social and economic needs. The construction of housing by those who will occupy it, with no doubt a significant amount of help from their neighbors and fellow church members, would be a natural application of this common approach to living together as a community.
- *Below-market land cost* -- A selling price for the BYU Mauka site has not yet been established. While the applicant wishes to receive some form of return on the land, it is realized that the price could be an important element in making it feasible to build the proposed affordable housing. An agreement on the price of the land will be an integral part of the effort to establish specific programs to build the desired housing. It is understood and accepted by the applicant that this will need to occur prior to the approval of zoning.

It should be noted that neither the applicant (Zions Securities Corporation) nor any other entity of the Mormon Church intends to be the developer of any of the housing. An important first step in the effort to put together the affordable housing program will be to find a qualified developer (or possibly to establish a non-profit corporation staffed by qualified personnel) who will build the housing.

- *Government-sponsored rental project* -- The income levels of many of the doubled-up families in La'ie are not sufficient to allow them to save even a modest down payment for a new home. Therefore, a rental project will be an important element in La'ie's affordable housing program. We understand that both the City and County and the State

Letter to Housing Finance and Development Corporation
Mr. Joseph K. Conant
20 April 1992
Page 3

government have programs to support the construction of affordable rental housing, and are actively seeking suitable developers and sites for such projects.

- *Farmers Home Administration (FMHA) Loan Program* -- This program, which is restricted to rural areas like La'ie, makes it possible for lower-income families to achieve home ownership. Interest rates are set based on income, and can go as low as one percent. There is also no required down payment.

2. Range of Incomes for the Affordable Housing: Every effort will be made to make the proposed affordable housing available to families at all of the income levels you cite in your letter. As indicated above, breakdowns of the unit counts and affordable sales prices and rental rates will be developed if the requested DP amendments are adopted, and will be submitted for government review as part of the zoning process.

3. Definition of Affordable Housing: We will use a definition of affordable housing which reflects current market conditions in our development of detailed programs to provide the affordable housing. Thank you for pointing out that this needs to be updated.

4. Options for Housing Assistance: Thank you for your offer to work with the applicant in establishing options for assistance. Your help will no doubt be useful, and we expect that the housing developer will be in touch with you if we are successful in obtaining the required DP amendment.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari Kilstrom
Planner



RECEIVED University of Hawaii at Manoa

APR 10 1992

GROUP 70
LIMITED

Environmental Center
A Unit of Water Resources Research Center
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April 8, 1992
RE:0601

Mayor Frank Fasi
City and County of Honolulu
c/o Department of General Planning
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Dear Mayor Fasi:

Draft Environmental Impact Statement (DEIS)
La'ie Development Plan Amendments
Ko'olauloa, Oa'hu

This project intends to amend the City and County of Honolulu Development Plan Land Use Map to redesignate a total of 214-220 acres for residential, commercial, parks and recreation, and industrial development.

The Environmental Center has reviewed this document with the assistance of Paul Ekern (Emeritus), Henry Gee and Yu-Si Fok, Water Resources Research Center; Terry Hunt, Anthropology; Peter Flashbart, Urban and Regional Planning; and Alex Buttaro of the Environmental Center.

Water Supply Well Designation

We note that BYU wells 3855-06&09 are used for irrigation purposes and the only "campus well" used for domestic water supply is 3855-07, which is not shown on Figure W-1 (Appendix D).

Why has use of the Childs well 3855-10 been abandoned?

Climate

This section should describe wind power hazards such as those described by Noguchi, J Ecolo (1979) 67:611-628; Schroeder et. al. (1981) Wind Energy Resource Atlas. PNL-3195 WERA-11 UC-60; and Daniels & Oshiro, Departmental Report Series, UH Meteorology Department, 79-06, (1980) Fig. 30-32.

The salt spray characteristics should be delineated for the three sites.

An Equal Opportunity/Affirmative Action Institution

Soils

The Soils section (section 4.3) might include the genetic nature of the soils in the areas as indicative of flood and seepage hazards.

Our reviewers found the engineering properties of the Kaena, Keau soil for La'ie and the Puamalu PZ zones particularly alarming.

Preferred Location of the Residential Community

The location of the residential components of this development should be resolved prior to issuance of a Final EIS to enable a truly accurate assessment of the environmental impacts of the interrelated components of this project.

Alternative Energy Considerations

The Final EIS should discuss the potential application of solar hot water heating.

Flooding

Because the EIS states that portions of the proposed development are expected to be within the 100 year flood plain (section 4.6.B, page 66), and a letter from the DINR claims this is an area of severe flooding (section 9.0, Comments and Responses), our reviewers were surprised to find this EIS claims that "development within the proposed DP areas will not place an additional burden on existing drainage facilities or create a potential flood hazard for the existing properties in La'ie" (section 4.6.C, page 67). What is the basis for this claim, and how specifically is the developer proposing to ensure against such flooding? Will the developer follow the recommendations of the storm drainage plan consultant (Appendix F, page 5), to implement residential area drainage improvements for the purpose of eliminating current flooding? If adopted, the changed drainage will also result in an accelerated flux of sediment to the ocean if the shore flats are not to be allowed to flood and form sediment traps. The Fukunaga & Associates report (1980) on Silt Basins should be cited and enlarged upon.

The EIS states, "Flooding may continue to occur in existing areas of La'ie (and other areas adjoining the DP areas) which will not be the result of the new projects" (section 4.6.C, page 67). This statement communicates a degree of assurance that seems dangerously inappropriate given what is known about flooding in the area. What is the potential for flooding in the area, and what mitigative measures will be enacted in the event this project's design does contribute to flooding?

The EIS neglected to mention the severe flooding of 1991. Discussion of this incident is needed in the Final EIS and may lend insight into the probable consequences of current development practice in La'ie.

Because of the history of flooding in the project area, the EIS should discuss the potential for flooding. What provisions will be made available to the community for flood insurance? Since flooding does appear to be a hazard, what actions will be taken to preclude or alleviate the risk, particularly for the lowland site? Our reviewers note that removal of the lowland siltation area would constitute a major adverse change in the ecosystem's "natural" siltation process.

Loss of Agricultural Lands

Why did the EIS neglect to mention the loss of agricultural land as a result of the proposed action? To what extent does Zions' development of these lands constitute an irreversible and irretrievable commitment of resources and what would be the implications to local, regional, and state agricultural land use?

Archaeological and Historic Resources

- 1) What is the relationship between sites previously recorded and those discovered in the present survey? In particular, Nioi Heiau (E.P. Sterling and C.C. Summers, Sites of Oahu, Page 158 and map for Ko'olauloa sites) appears to be within the project area. Is Rosendahl's site complex T-10, Nioi Heiau? If it is not Nioi Heiau, what is the basis for the determination? Rosendahl should account for the location of Nioi Heiau as well as other sites previously recorded in the immediate vicinity of the project that are presently undisclosed in his report. Resolution of this problem could change the significance evaluation from low to high cultural value.
- 2) The Archaeological Report (Appendix J) is too brief to evaluate whether Rosedahl has adequately tested for the presence of buried deposits in the project area. What criteria was used to determine what would comprise a significant (i.e., in information content/scientific value) buried resource? Our reviewers note that what might appear to be somewhat unspectacular evidence (e.g., charcoal flecking) may be important in light of the fact that very old flakes are now being discovered on Windward Oah'u which may provide significant new scientific and historic information. We note that radiocarbon dates and other analytic results will be fully documented in the final report (as stated in Appendix J), and these must be evaluated prior to final planning and data recovery as mitigation.
- 3) The EIS should include the results of interviews which solicit information on cultural significance in the project area. How will the Hawaiian community (in its diversity) be involved in the process of evaluating the significance of relevant cultural resources?

Socio-economics

How will the proposed development affect La'ie's community character and urbanization of both La'ie, its surrounding communities, and the Windward Coast as a whole. What will be the impacts upon La'ie's open space and resident demographics?

The EIS states that almost 20 percent of the resident population live in "crowded" to "very crowded" houses (section 4.16.3.A, page 120), and for this reason, residential development is expected to relieve overcrowding. What is the basis for this expectation. We note that if the overcrowding stems from La'ie being a desirable place to live, or from its residents' limited economic means, construction of new households may merely lure more outsiders, thereby failing to relieve overcrowding and possibly exacerbating the presently overcrowded situation. Does the presumption that overcrowding will be relieved in La'ie still hold even if desirability of the area or limited economic means are factors? If desirability and the limited means of the residents are not perceived to be factors, on what grounds are they disclaimed?

How will this proposed project affect the relationship between local short-term uses of La'ie's environment and the maintenance and enhancement of long-term productivity? To what extent will the proposed action involve trade-offs between short term losses and long-term losses, or vice versa, and to what extent will the proposed action foreclose future options and narrow the range of beneficial uses of the environment? These questions should be addressed pursuant to Title 11 EIS Rules, Section 11-200-17(j).

Traffic

Kamehameha Highway is already saturated with traffic on weekends. The projected population and traffic increases will only add to the existing problems. If overcrowding is not improved because residents choose to remain in their present households, and outsiders move into the community, how much more can traffic be expected to increase compared to the 12-15 percent projection which is based on the assumption that existing residents will move into the new households?

How will this project as well as others planned, cumulatively contribute to the present traffic in the area and the windward side as a whole? Cumulative impacts should be assessed pursuant to Title 11 EIS Rules, Section 11-200-17(i).

Summary

Some of our reviewers noted that the general content of this EIS was adequate, however, they expressed very serious concern over the terse and seemingly incomplete information provided by the archaeological survey. In addition, this document displayed a surprising lack of concern for the known potential for severe flooding in the area. The EIS should more adequately address these potential environmental impacts in order to meet the

Mayor Frank Fasi
April 8, 1992
Page 5

requirements set forth by EIS Rules Sections 11-200-14, 11-200-16, and 11-200-17, which require that relevant data be obtained, necessary studies be conducted, and all relevant and feasible consequences and implications of an action be disclosed and evaluated.

Thank you for the opportunity to review this document and we hope our comments are helpful.

Sincerely,

A handwritten signature in cursive script, appearing to read "B. Alex Buttaro for".

John T. Harrison, Ph.D.
Environmental Coordinator

cc: Lucky Fonoiimoana, Zions Securities Corporation
Kari Kilstrom, Group 70 International, Inc.
Roger Fujioka
Henry Gee
Yu-Si Fok
Paul Ekern
Terry Hunt
Alex Buttarro



20 April 1992

Mr. John T. Harrison, Ph.D., Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
2550 Campus Road, Crawford 317
Honolulu, HI 96822

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

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Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Harrison:

Thank you for your April 8, 1992 letter to the Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Water Supply Well Designation: The BYU Campus wells "complex" consists of wells 3855-06, 07, and 08. These are all domestic water supply wells which feed into the same pumphouse or sump.

Well 3855-09 is not used for irrigation. The water from this well fills a lagoon which is a central feature of the Polynesian Cultural Center; the well is located directly below the lagoon.

In November, 1990, the "Childs Well" failed to meet the requirements of a bacteriological test performed by the State Department of Health. The water main was subsequently disconnected. The water from this well is currently used for agricultural irrigation purposes only.

Climate: Wind power hazards are not addressed in the climate discussion for these DP amendments, and have not typically been included in our analysis of other traditional development projects, unless special or uniquely hazardous wind conditions exist in the area. Winds due to storms and strong trade winds affect this region on a regular basis, but in a way that is typical, rather than atypical, of most areas on Oahu. Because most of the development that would occur in these DP amendment areas is located in the lowland interior section of the area, and not directly on the shoreline or on the mountain slopes, wind hazards will be similar to those currently affecting most of the existing community. No special construction measures are expected to be necessary at these projects to avoid destructive wind events.

Salt spray affects La'ie, as it does most of the windward coast, during periods of high surf and strong trade winds. Tall ironwoods along this coast tend to cut out much of this salt spray before it penetrates inland, however. Of the three alternative residential areas considered in the Draft EIS, the La'iemalo'o site would be exposed to the greatest amount of salt spray. However, the selected BYU Mauka site is located farther inland, and is much less affected by salt spray.

Soils: Flood hazard areas within the proposed DP amendment areas are shown in Section 4.6 and in Appendix G of the EIS. Low-lying portions of the DP amendment request areas contain soils that are indicative of periodic flooding and poor drainage. Drainage conditions and engineering properties of soils were considered in the analysis of the alternative residential sites. The Kaena and Keaau clay soils have a high shrink-swell potential and were both identified at the La'iemalo'o site. This factor, in part, contributed to the selection of the BYU Mauka site for the proposed residential development. This site does not contain these soils and is not located in a flood hazard area.

Preferred Location of the Residential Community: The Draft EIS studied three alternative sites for residential development. Based upon the analysis included therein and input from residents of the Laie community, the applicant has selected the BYU Mauka alternative as the preferred site for a new residential neighborhood. The Final EIS indicates this preference and defines the scope of the requested DP amendments accordingly.

Alternative Energy Considerations: Section 4.17 of the EIS describes anticipated impacts of the proposal on infrastructure, including electrical supply facilities. The proposed development of 450 housing units will generate an electrical load which could be reduced with the installation of solar hot water heating.

It is important to note that the proposal is a private sector endeavor to develop affordable housing to meet a pent-up demand for affordable homes in the Laie area. This goal is foremost and will be achieved only through creative measures to curb development costs. The following mitigative measure will be added in Section 4.17 of the EIS in response to your comment:

Alternative Energy Sources: The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize alternative energy sources, such as solar water heating devices, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.

Flooding: Section 4.6 of the EIS addresses the drainage and flooding conditions within the study areas and potential impacts of the requested DP amendment land uses. In this section, "Existing Conditions" are discussed, including the potential for flooding as indicated by the 1990 U.S. Federal Emergency Management Agency Flood Insurance Rate Map. Based upon your comments, the Existing Conditions sections will be revised to include the following:

Recent Flooding: A recent flood occurred on March 19-20, 1991 in the town of Laie, primarily the result of overtopping of Waialele Stream banks and sheet flowing into Laie town. Subsequently, the City and County Department of Public Works requested the U.S. Army Corps of Engineers (COE) to undertake a reconnaissance study to determine if further studies are warranted for flood control measures along Waialele Stream. Although the reconnaissance report has not been finalized, preliminary findings indicate a positive benefit-to-cost ratio for at least one improvement scenario to alleviate flooding. This analysis indicates that a detailed feasibility analysis is warranted, should the City & County wish to pursue the matter further.

The COE study is only conceptual and a first step to determine if any further studies are justified. The next phase of design would consider several alternatives in greater detail, to identify the alternative which has the greatest economic benefit, from a cost-benefit analysis.

As to the impact of the proposed land uses, the EIS states that "development within the proposed DP areas will not place an additional burden on existing drainage facilities or create a potential flood hazard for the existing properties in Laie." This statement means that any new development can and will be engineered and constructed such that the existing drainage conditions in the vicinity of the development areas are not worsened. The statement that "[f]looding may continue to occur in existing areas of Laie (and other areas adjoining the DP areas) which will not be the result of the new projects" is both an acknowledgment that flooding problems do exist in the community, and a commitment by the applicant to perform the engineering and construction in a manner which meets City and County requirements to develop new projects in a manner which will not worsen any existing drainage conditions.

Drainage improvements to mitigate stormwater runoff impacts of the proposed DP amendments should be distinguished from drainage improvements in an existing community which would serve to improve existing drainage operations and eliminate existing flooding problems. The EIS includes a professional engineer's report (Appendix F) which considers the impact of the new development on the surrounding area, namely, the existing drainage facilities. The engineer's report references the "master

plan" which is discussed in Section 1.0 of the EIS and is presented in Appendix A.

The Laie Master Plan is a comprehensive land use plan for the community. The requested DP amendments which are covered in this EIS represent the first step in implementing those portions of the Laie Master Plan which require government land use approvals and permits. It represents the beginning of the process of implementing parts of the Master Plan. Included in the Master Plan are alternative plans for funding roadway and drainage system improvements which serve existing developed areas of La'ie, and thus do not involve the DP Land Use Map amendments or the EIS. This is another, separate and independent part of this comprehensive plan.

The applicant is committed to pursuing improvements to existing drainage systems concurrently with efforts to obtain the necessary approvals for development in the requested DP amendment areas. The need to address this problem is recognized by the applicant, even though it is independent of, and will not be affected by, development in the requested DP amendment areas.

The Draft EIS studied three alternative sites for residential development. Based upon these findings and input from residents of the Laie community, the applicant has selected the BYU Mauka alternative as the preferred site for a new residential neighborhood. Required drainage improvements would probably be most extensive at the La'iemalo'o site, as compared to the other two sites, due to the three streams crossing the property and the ponding that occurs fairly frequently in the agricultural fields. This factor, in part, contributed to the selection of the BYU Mauka site for residential development. The selection of this site is reflected in the Final EIS.

No special provisions are required to be made to the existing community for flood insurance. The existing community will not experience any greater flood risk following project development than currently exists.

It is not clear from your comments what you mean by "the lowland siltation area". If this is the La'iemalo'o site, this area is, as noted above, no longer under consideration for development.

Loss of Agricultural Lands: Section 4.4 of the EIS addresses the existing agricultural uses of the study area, its potential for further agricultural use, and impacts of the requested DP amendments on agriculture and adjacent farm lands. This section lists each of the requested DP amendment areas and describes the approximate number of acres that would be "removed from potential agricultural use" if the DP designation is revised. The redesignation of lands suited for agriculture also discussed in Section 6.0 of the EIS as it relates to State and City and County policies for agriculture.

The proposed BYU Mauka residential area and the other nine DP amendment request areas total 201 acres, of which 193 acres are currently designated for Agricultural use. (Eight of the 201 acres are designated Urban.) About 102 acres in this area are classified as prime agricultural land, and 27 acres are classified as other important agricultural lands. Approximately 40 acres of the area under consideration are in active crop production.

About 660 acres of the land owned by the applicant in La'ie have sufficiently gentle slopes to be potentially suitable for agricultural production. The applicant has historically utilized much of this land for diversified agriculture, and has plans to continue these activities. Approximately 465 acres would remain available for continued agricultural uses and expansion of agriculture if the DP amendments are adopted. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. This organization's operations will significantly increase active agricultural use in La'ie, and should more than compensate for the loss of crop production that is expected to result from the development of the new housing area.

Archaeological and Historic Resources:

Item 1) Previous archaeological work within and in the vicinity of the DP amendment areas was reviewed by Paul H. Rosendahl, Ph.D., Inc. (PHRI). It was determined that of the total 23 sites identified by PHRI's current archaeological survey, two had been previously identified. The site identified as 4093 (T-5) during the current survey was identified and designated SIHP Site 4093 in the "Archaeological Inventory Survey, Punamano and Malaekahana Golf Courses" (Jensen 1989). The site identified and designated 4465 (T-28) during the current survey was previously identified by Ahlo and Hommon (1981) and Neller (1984), and was identified and excavated by Bath (1985). However, it apparently was never assigned a State number.

During the current survey, Site 277 (Paeo Fishpond), previously identified by McAllister (1933), could not be relocated. Nioi Heiau is not PHRI complex T-10 (State #4454). McAllister identified Nioi as Site 281, designated as a heiau. That site it is not within or adjacent to the current La'ie study area.

Item 2) Inventory survey subsurface testing was conducted at various sites/features, including those Land Commission Awards (LCA) plots which were accessible by backhoe, and selected areas which were currently under agricultural cultivation. The areas were selected for trenching based on historical documentary research (locations of LCAs) and past findings. Areas excavated included sites with potential agricultural deposits (such as Site 4466), areas suspected to contain subsurface deposits, sand dune areas with potential to contain subsurface deposits and human skeletal remains, and parcels under current cultivation. Laboratory analysis of recovered samples

included cataloging the artifacts, analysis of the ecofactual remains, and preparation of carbon and pollen samples.

Significance categories used in the site evaluation process are based on the National Register criteria for evaluation as outlined in the Code of Federal Regulations (36 CFR Part 60). The Hawaii State Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) uses these criteria for evaluating cultural resources. The general significance of the archaeological resources identified during the inventory survey were also evaluated in terms of potential scientific research, interpretive, and/or cultural values (PHRI Cultural Resource Management [CRM] Value Modes, which includes three value modes which are derived from the above state and federal evaluation criteria).

Seven samples of charcoal were chosen from discrete cultural deposits and submitted for radiocarbon analysis. The results of the radiocarbon age determination and other analytical results are presented in Appendix J of the EIS. These will be evaluated prior to final planning and data recovery as mitigation, as you suggest.

Item 3) A few residents of the area, known to have some historical information, were interviewed regarding the history of the study area and its vicinity. Their accounts are included in PHRI's final report, Appendix J of the EIS.

Any member of the community, regardless of ethnic heritage, may avail themselves of the environmental information provided during the required Environmental Impact Statement process. With respect to the "Hawaiian community (in its diversity)," the State of Hawaii's Office of Hawaiian Affairs (OHA) may also participate in the EIS review process. For the subject DP amendments, the determination of the general significance of archaeological sites discovered during the survey of the study area was included in PHRI's report "Archaeological Inventory Survey/La'ie Master Plan Project", included in the Draft EIS. Hawaiian residents participated in open meetings within the community held to specifically discuss the findings of the Draft EIS. A special meeting was also held with the owners of kuleanas in La'ie. Copies of the Draft EIS were provided directly to Hui Malama 'Aina 'O La'ie and The Hawaii-La'ieikawai Association, as well as OHA. Finally, the general significance assessment is only the first step toward meeting the State's requirements concerning archaeological sites. At subsequent planning stages, further conditions will be applied which allow further public input.

Socio-economics: Section 4.16.5 of the EIS includes a discussion of lifestyles as part of the socio-economic considerations relative to the proposed DP amendments. Section 6.4 addresses the common provisions and special provisions of the Ko'olauloa Development Plan, which includes a discussion of community character and urbanization issues. The overall theme put

forward by the proposed DP amendments is the enhancement of existing development patterns and employment base through a modest increase in residential development and community support facilities. Expansion areas for the BYUH and PCC are included to provide appropriate areas for future growth of their facilities, as warranted, over the next 20 years. All of these proposals are consistent with the existing lifestyles and community character of La'ie and its surrounding communities. Significant changes to residential demographics or this community's valued open space areas are not expected to result from these proposals.

Issues related to the relationship between local short-term uses of the La'ie environment and the maintenance and enhancement of long-term productivity, etc. were in our opinion adequately addressed in the Draft EIS, and continue to be in the Final EIS. See the Executive Summary, Sections 4.19 through 4.22, and Section 5.

Traffic: The traffic analysis conducted by The Traffic Management Consultant for the EIS shows existing weekend peak period traffic conditions along Kamehameha Highway to not be saturated. Traffic flow conditions at area intersections rated LOS D or E, which represents near capacity and at capacity conditions. True, traffic volumes on this highway are substantial and delays presently occur during peak periods.

The traffic impact study makes several very conservative assumptions which most likely cause it to overstate the potential impacts. In particular, your conclusion that the analysis assumed only existing residents will be moving into the new housing is not correct. The opposite is true -- namely, it was assumed that none of the new residents would come from La'ie. Nevertheless, we are confident that there will be a substantial relocation of families from existing overcrowded homes in La'ie to the new residential area. (For further details on this issue, see the response letter to the Department of General Planning comments on the Draft EIS, which is contained in the Final EIS.)

This assumption is just one of several that results in a worst-case analysis. The inclusion of five proposed golf courses that have not received any development approvals in another example. Actual traffic impacts will most likely be lower in the final outcome.

Section 4.12 addresses the cumulative growth of the regional traffic in terms of predicted ambient traffic growth on this segment of Kamehameha Highway (2.9 percent per year) and other proposed new developments in the region. Section 4.19 addresses cumulative impacts as required by the EIS rules, within which a discussion of cumulative traffic impacts is addressed.

Letter to UH Environmental Center
20 April 1992
Page 8

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

JOHN WAHIEE
GOVERNOR



ESTHER UEDA
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813
Telephone: 587-3822

March 27, 1992

Mr. Benjamin B. Lee
Chief Planning Officer
Department of General Planning
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813
Attention: Mel Murakami

Dear Mr. Lee:

Subject: Draft Environmental Impact Statement for the
Proposed Development Plan Amendments Laie,
Koolauloa, Oahu, Hawaii

The Department of Business, Economic Development and Tourism has referred the subject Draft Environmental Impact Statement ("DEIS") to our office for response.

Based on our review of the DEIS for the Proposed Development Plan Amendments at Laie, we find that the various Amendment Areas as shown on Figure 6, page 20, appear to be located in the State Land Use Districts as listed on Table 2, page 37. We suggest that the DEIS include a map of the Amendment Areas on a State Land Use District Boundary Map.

Section 3.1.3 State Special Use Permit, page 38, incorrectly indicates that the State Land Use Commission ("Commission") is the decision-making body for approval of a State Special Permit that will be required for the wastewater treatment facilities. If this facility involves 15 or less acres of State Land Use Agricultural District land as is indicated by the DEIS, then the appropriate decision-making body would be the City and County of Honolulu Planning Commission.

We note that the State Land Use "Agricultural" District is incorrectly cited as the "Agriculture" District in various parts of the DEIS, including Table 2, page 37.

Mr. Benjamin B. Lee
March 27, 1992
Page 2

We also suggest that the DEIS include tax map key number information on all of the Amendment Areas, and that the Amendment Areas be illustrated on tax maps.

We have no other comments to offer at this time.

Thank you for the opportunity to comment on this matter. If you have any questions, please call me or Steve Tagawa of my staff at 587-3822.

Sincerely,



ESTHER UEDA
Executive Officer

EU:fl

cc: Lucky Fonoimoana
Kari Kilstrom ✓
DBED



20 April 1992

Ms. Esther Ueda, Executive Officer
Land Use Commission
State of Hawaii
335 Merchant Street, Room 104
Honolulu, Hawaii 96813-3822

**Subject: Laie Development Plan Amendments
Draft Environmental Impact Statement
Laie, Koolauloa, Oahu, Hawaii**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

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George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Ms. Ueda:

Thank you for your letter to the Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Map of Amendment Areas on a State Land Use District Boundary Map

Following your suggestion, we have included in the Final EIS a map of the DP Amendment areas in relation to the State Land Use District boundaries.

Decision-making Body for Approval of State Special Permit

The decision-making body for approval of a State Special Permit for the wastewater treatment facilities has been corrected to specify the City and County of Honolulu Planning Commission, since this facility involves less than 15 acres of State Land Use Agricultural District land.

Citing of State Land Use "Agricultural" District

The incorrect reference to the State Land Use Agricultural District as "Agriculture" has been corrected in the text, tables and graphics of the Final EIS.

Provision of Tax Map Key Number Information

The Final EIS includes a table with Tax Map Key numbers for the requested DP Amendment areas. Also, two new figures are included in the Final EIS that indicate the Tax Map Key numbers for the DP amendment request areas.

Letter to State Land Use Commission
20 April 1992
Page 2

Thank you for your helpful comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari Kilstrom
Planner

02/92-96B

JOHN WAHNEE
GOVERNOR



BRIAN J. CHOY
Director

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185

March 16, 1992

Mr. Mel Murakami
Department of General Planning
City and County of Honolulu
550 South King Street
Honolulu, HI 96813

Dear Mr. Murakami:

Subject: Draft EIS for the Laie Development Plan Amendments

Thank you for the opportunity to review the subject document. We have the following comments to offer:

The above mentioned document discusses the unresolved issues in Section 7 but does not include a summary of them in the Executive Summary. Pursuant to Hawaii Revised Statutes (HRS), Department of Health, §11-200-17(b), please include a summary of the unresolved issues in the Executive Summary of the Final Environmental Impact Statement.

If you have any questions, please call Margaret Wilson at 586-4185. Thank you.

Sincerely,

Brian J. Choy

Brian J.J. Choy
Director

c: Group 70 International
Zions Securities Corporation

BC:mw

RECEIVED

MAR 23 1992

RECEIVED



20 April 1992

Mr. Brian J. J. Choy, Director
Environmental Center
Office of Environmental Quality Control
State of Hawaii
220 South King Street, 4th Floor
Honolulu, HI 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawaii**

Dear Mr. Choy:

Thank you for your March 16, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. We appreciate your pointing out that a summary of unresolved issues was not included in the Executive Summary of the Draft EIS. It will be included in the Final EIS.

Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

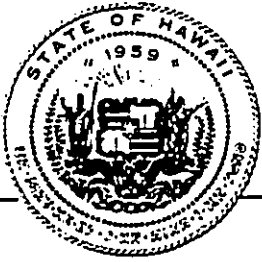
Sincerely,

GROUP 70 INTERNATIONAL, INC.

A handwritten signature in cursive script that reads "Kari Kilstrom".

Kari D. Kilstrom
Planner

- Francis S. Oda, AIA, AICP
- Norman G. Y. Hong, AIA
- Sheryl B. Seaman, AIA, ASID
- Robert K. L. Wong, AIA
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- James I. Nishimoto, AIA
- Jen-Chih "Jack" Lee, AIA
- Michael A. Garni
- Eric G. Crispin, AIA
- Danilo M. Herrera



DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE: (808) 587-3600 FAX: (808) 587-3820

JOHN WAIHEE
Governor
MURRAY E. TOWIL
Director
BARBARA KIM STANTON
Deputy Director
RICK EGGE
Deputy Director
TAKESHI YOSHIHARA
Deputy Director

92:1070e

April 9, 1992

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APR 1 1992

GROUP 70
LIMITED

Department of General Planning
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Mel Murakami

Dear Mr. Murakami:

Subject: Draft Environmental Impact Statement (DEIS)
for Laie Development Plan Amendment

Thank you for the opportunity to review the subject DEIS. The proposed project is a long term plan for incremental growth of Laie and proposes an additional 450 residential units with electrical load requirements of approximately 1.4 MW. Other uses included in subject DEIS would require 9.6 MW.

Draft Environmental Impact Statements should comply with the requirements found in State laws for evaluating any energy impacts that the project will have. The mandate for such an evaluation is found in Chapter 344, HRS ("State Environmental Policy") and Chapter 226, HRS ("Hawaii State Planning Act"). In particular Chapter 226-18 (a) (2) and (c) (3); 226-52 (a) and (b) (2) (d); and 226-103 (f) (1) and (2) should be considered.

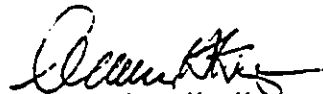
We note that the DEIS omits any reference to Section 226-18 HRS as well as the State Energy Functional Plan. Therefore, we would like to request that the developer explain, in as much detail as possible, the project's energy impacts and the use of energy-efficient design/technologies that will be used to ensure the efficient use of energy. In this regard, we would like to note that 40% of residential electrical load is for water heating and substitution of solar water heaters for electric would result in energy savings for the State as well as dollar savings for residents through reduced monthly utility bills and state energy tax credits.

Mr. Mel Murakami
Page Two
April 9, 1992

We would also like to bring to the developer's attention the possibility that the utilities will be implementing demand-side management (DSM) programs in the near future which may have a direct impact on the project.

Thank you for the opportunity to comment.

Sincerely,



Maurice H. Kaya
Energy Program Administrator

MHK/LU:do
cc: Mr. Lucky Fonoimoana
✓ Ms. Kari Kilstrom



20 April 1992

Mr. Maurice H. Kaya
Energy Program Administrator
Department of Business, Economic Development and Tourism
335 Merchant Street, Room 110
Honolulu, Hawaii 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawaii**

Dear Mr. Kaya:

Thank you for your April 9, 1992 letter to the Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

The potential energy impacts of the requested DP amendments stem from electrical usage and solid waste disposal. Each of these issues is addressed in the EIS, Section 4.17. As referenced in your letter, the estimated electrical load requirement for projects that would be built in the DP amendment areas is 9.6 MW.

In an effort to offset the energy requirements of the proposed land uses, the following mitigative are recommended in Section 4.17 of the EIS:

Alternative Energy Source: The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize alternative energy sources, such as solar water heating devices, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.

Recycling: Cleared trees that cannot be preserved on-site will be mulched for re-use. Source separation, recycling collection stations, and other types of programs for recycling will be supported by Zions Securities Corporation.

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Hitoshi Hida, AIA
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Jen-Chih "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

Letter to Dept. of Business, Economic Development & Tourism
Energy Division
20 April 1992
Page 2

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom

Kari D. Kilstrom
Planner

JOHN WAIHEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

EDWARD V. RICHARDSON
MAJOR GENERAL
ADJUTANT GENERAL

MYLES M. NAKATSU
COLONEL
DEPUTY ADJUTANT GENERAL

March 4, 1992

Engineering Office

MAR 05 1992

Kari Kilstrom
Planner
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

Subject: Draft Environmental Impact Statement (Draft EIS)
Proposed Development Plan Amendments
La'ie, Ko'olauloa, O'ahu, Hawai'i

Dear Ms. Kilstrom:

Thank you for providing us the opportunity to review the above mentioned Draft Environmental Impact Statement.

We have no comments to offer at this time regarding the project.

Sincerely,

Jerry M. Matsuda
Lieutenant Colonel
Hawaii Air National Guard
Contracting and Engineering Officer

Enc.



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MAR 10 1992

(P)1199.2

MAR 9 1992

Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Mel Murakami

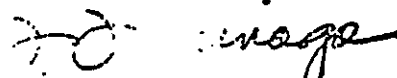
Gentlemen:

Subject: Laie Development Plan Amendment
Koolauloa, Oahu
Draft EIS

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

Should there be any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,



TEUANE TOMINAGA
State Public Works Engineer

RY:jk
cc: Zions Securities Corporation
✓Group 70 International, Inc.
OEQC

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

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APR 10 1992

FRANK FABI
MAYOR



GROUP 70
DIRECTOR OF PUBLIC WORKS
C. MICHAEL STREET
Acting Director and Chief Engineer
ENV 92-65

March 13, 1992

MEMORANDUM

TO: MR. BENJAMIN LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

ATTN: MR. MELVIN MURAKAMI

FROM: C. MICHAEL STREET, ACTING DIRECTOR AND CHIEF ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
PROPOSED DEVELOPMENT PLAN AMENDMENTS
LAIE, KOOLAULOA, OAHU, HAWAII
TMK:VARIOUS

We have reviewed the subject DEIS and have the following comment:

1. The DEIS should address the overflow problem from Waihee Stream.

C. Michael Street

C. MICHAEL STREET
Acting Director and Chief Engineer

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APR 16 1992 3:35



20 April 1992

Mr. C. Michael Street, Acting Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Mr. Street:

Thank you for your March 13, 1992 memorandum to the Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

As you know, a recent flood occurred on March 19-20, 1991 in La'ie. The seriousness of the flooding was to a large degree the result of overtopping of Waiale Stream banks and sheet flowing into La'ie town. Subsequently, the Department of Public Works requested the U.S. Army Corps of Engineers (COE) to undertake a reconnaissance study of Waiale Stream to determine if further studies of potential flood control measures are warranted. Although the reconnaissance report has not been finalized, preliminary findings indicate a positive benefit-to-cost ratio for at least one improvement scenario to alleviate flooding. This analysis indicates that a detailed feasibility analysis is warranted, should the City & County wish to further pursue the matter.

As we understand it, the COE reconnaissance study of Waiale Stream is only conceptual, and a first step to determine if any further studies are justified. The next phase would consider several alternatives in greater detail in order to identify the flood control improvement design which has the greatest economic benefit. Re-routing of the stream, for example, could be considered at this time.

- Francis S. Oda, AIA, AICP
- Norman G. Y. Hong, AIA
- Sheryl B. Seaman, AIA, ASID
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- Eric G. Crispin, AIA
- Danilo M. Herrera

Letter to Dept. of Public Works
20 April 1992
Page 2

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



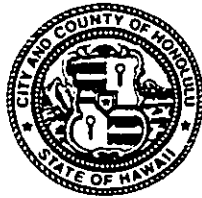
Kari D. Kilstrom
Planner

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

RECEIVED
APR 13 1992



WALTER M. OZAWA
DIRECTOR

ALVIN K.C. AU
DEPUTY DIRECTOR

GROUP 70
LIMITED

April 8, 1992

TO: BENJAMIN D. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: REVIEW OF DRAFT ENVIRONMENTAL IMPACT
STATEMENT (DEIS) FOR
LAIE DEVELOPMENT PLAN AMENDMENT

Review of the DEIS indicates no substantial changes of Development Plan Amendment request areas on this latest draft as compared to the plan included in the Environmental Assessment for Development Plan Amendments in Laie which we reviewed in December of 1991.

In our EA review reply of December 24, 1991 (copy attached), we pointed out a number of deficiencies in meeting park and recreation area requirements for a community with projected population growth for Laie. Our recommendations have not changed and have not been addressed in the DEIS.

Thank you for the opportunity to review the DEIS for this development.

A handwritten signature in cursive script that reads "Walter M. Ozawa".

WALTER M. OZAWA, Director

WMO:ei

Attachment

cc: Office of Environmental Quality Control
Department of General Planning (Mel Murakami)
Zions Securities Corporation (Lucky Fonoimoana)
✓ Group 70 International (Ms. Kari Kilstrom)

December 24, 1991

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR DEVELOPMENT PLAN AMENDMENTS
IN LAIE

We are in agreement with most of Group 70's recommended master plan requests to satisfy the initial application requirements for proposed amendments to the Koolauloa Development Plan Land Use Map and Public Facility Map for specific properties in Laie. However, there are some items which are deficient. The requirement for park and recreation areas is as follows:

The resident population of Laie is approximately 5,250 (1988) and the Brigham Young University-Hawaii enrollment is 2,055 (1988).

Expanded resident population:	1,575	(450 dwelling units at 3.5/dwelling units)
Visitor population:	<u>1,000</u>	(500 hotel rooms at 2/room)
Total	9,880	(approximate)

Preliminary parks and recreation needs indicate that the community will need:

Neighborhood Parks one @ 4-6 acre/5,000 population
Park area required two @ 4 acres = minimum of 8 acres

Community Parks one @ 10 acre/10,000 population
Park area required one @ 10 acres = 10 acre with recreation center

District Parks one @ 20 acres/25,000 population
Not required based on insufficient population

The park area projected as 3.6 acres is undersized but acceptable as an existing park.

The three areas labeled school and playgrounds with eight acres each appear to be too small to support a school plus a neighborhood park.

Benjamin B. Lee
Page 2
December 24, 1991

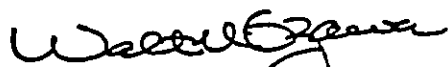
The area labeled "future Laie Community Park" does not have the acreage proposed.

A review of the properties in detail affords a chance to make some further recommendations--in particular, parcels 10, 20 and 10 (Tax Map Key 5-5-02). Zion's intent for this beachfront, 2.6-acre property is "to enhance the attractiveness of the hotel (adjacent to Laniloa Lodge and Naniloa Loop) and help to ensure its long-term operational success. It is proposed that the 2.6-acre, applicant-owned oceanfront property located across Kamehameha Highway from the existing resort designated site be used to provide amenities and recreational facilities for hotel guests. Uses on the site would be limited to leisure, recreational and similar amenities normally associated with a resort hotel. No lodging units would be provided. Some of the facilities would also be available for use by Laie residents, and a public access way to the beach would be provided."

As can be seen from the accompanying map, our public beach access (Tax Map Key 5-5-02: 60) is one lot removed from the above property.

This beach at this locality is an excellent swimming beach as it is protected by reefs. It would be imperative to keep an open vista from Kamehameha Highway through portions of the property to the ocean. Also, if it is to be utilized by Laie residents and the public, a comfort station and an outdoor shower would be welcome additions to this property. Could we discuss these details as the property is developed?

Thank you for the opportunity to review and comment on the amendment application and environmental assessment for this development.


WALTER M. OZAWA, Director

WMO:ei

Attachments



20 April 1992

Mr. Walter M. Ozawa, Director
Department of Parks and Recreation
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Ozawa:

Thank you for your April 8, 1992 and December 24, 1991 memoranda regarding the above-referenced Draft Environmental Impact Statement and the prior Environmental Assessment. We apologize for not responding sooner to your first memorandum. We were not provided with a copy and, thus, were not aware of its existence. The following is in response to your comments.

It is noted in your December 24, 1992 memorandum that, with the proposed new housing area, a minimum of 8 acres of neighborhood park area (2 parks @ 4 acres each) and one 10 acre community park are required for the La'ie community. You also note that the existing Po'ohaili Street Park, while slightly undersized at 3.6 acres, is acceptable as a neighborhood park.

Please note that an 18 acre community park is already planned for La'ie, just mauka of the current terminus of Po'ohaili Street. It is already designated on the Ko'olauloa DP Land Use Map. The BYU Mauka site, which has been selected from the three alternatives as the proposed new housing area, is 1/4 to 1/2 mile from this planned park.

As can be seen, the total area already planned for neighborhood and community parks in La'ie is 22 acres, or 4 acres more than what is required. There are also extensive outdoor recreational facilities (playing fields, tennis courts, swimming pool, etc.) on the BYUH Campus for use by the ±2,000 students enrolled at the University, as well as by faculty, staff and their families. Given the extent of the existing and planned facilities, and given the large size of the community park and its proximity to the planned new residential area, we believe that there is no need to plan for additional parks in La'ie.

Letter to Dept. of Parks and Recreation
20 April 1992
Page 2

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

RECEIVED
MAR 23 1992

JOSEPH M. MAGALDI, JR.
DIRECTOR

AMAR SAPPAL
DEPUTY DIRECTOR

TE-0808
PL92.1.070

GROUP 70
LIMITED

March 23, 1992

MEMORANDUM

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: JOSEPH M. MAGALDI, JR., DIRECTOR

SUBJECT: LAIE DEVELOPMENT PLAN AMENDMENT
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
TMK: 5-5-01: 12; 5-5-02: 10, 11, 20;
5-5-04: PORS. 3 & 7; 5-5-05: POR. 1, 11, POR. 18, 20,
PORS. 21, 23 & 24; 5-5-06: PORS. 1, 5, 10, 11, & 30,
32, 33; 5-5-07: POR. 1; 5-5-08: POR. 1; 5-5-09: 12;
5-5-14: 7, POR. 24; 5-5-17: 5, 6

This is in response to Group 70 International, Inc.'s, letter of February 21, 1992 requesting our comments on the subject DEIS.

Based on our review of the subject document, we have the following comments:

1. We generally concur with the findings in the traffic impact analysis. However, a phasing plan of roadway improvements in relation to the developments should be submitted to our department once the preferred site is chosen.
2. All interior roadways intended for public use should be constructed to City standards.
3. The unpaved Egg Farm road should be fully improved if the Egg Farm site is the chosen alternative.
4. The need to provide extended City bus service to the Egg Farm or the BYU Mauka sites should be coordinated with the Honolulu Public Transit Authority.
5. We have no further comments at this time. However, additional and more specific concerns may be raised once the selected site is chosen.

Benjamin B. Lee
Page 2
March 23, 1992

Should you have any questions, please contact Lance Watanabe of my staff at local 4199.



JOSEPH M. MAGALDI, JR.

MAR 23 1992

cc: Zions Securities Corporation
Group 70 International, Inc.





GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
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James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

20 April 1992

Mr. Joseph M. Magaldi, Jr., Director
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olaupua, Oahu, Hawai'i**

Dear Mr. Magaldi:

Thank you for your March 23, 1992 memorandum to the Department of General Planning regarding the above referenced Draft Environmental Impact Statement. The following is in response to your comments.

1. Phasing Plan: The BYU Mauka site has been chosen as the preferred new housing area. Should the applicant be successful in obtaining the requested Development Plan (DP) amendments, phasing plans for the roadway improvements will be prepared and submitted for review in connection with an application for rezoning.

2. City Standards: All interior roadways intended for public use will be constructed to City standards. However, we expect that the housing developer will seek approval to build the roadways to a lesser standard than is normal for urban developments. A waiver of the requirement to place electrical and telephone lines underground may also be sought.

At present, the City has only one set of subdivision improvement standards which do not reflect very well the rural character of areas like La'ie. However, lesser standards have been allowed on a case by case basis, especially in affordable housing projects. This has resulted in significant cost savings, and is often important to the feasibility of such projects.

No waivers will be sought which would increase maintenance costs or cause extraordinary liability problems. The housing developer would still intend to dedicate the improvements. If an agreement to allow some form of reduced infrastructure construction standards cannot be reached with the City, then they will be built to the existing standards. The level to which housing costs can be reduced will have to be adjusted accordingly.

3. Unpaved Egg Farm Road: The Egg Farm alternative site has not been chosen for the proposed housing. Should the requested industrial

Letter to Dept. of Transportation Services
20 April 1992
Page 2

designation be approved, the length of this road which is required to provide access will be improved to full City standards.

4. **Extended Bus Service:** With the selection of the BYU Mauka alternative as the proposed housing site, we believe that extended bus service into the mauka residential areas of La'ie will provide an important public benefit, and can be justified. As you suggest, we will coordinate efforts to establish such service with the Honolulu Public Transit Authority.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96814 - AREA CODE (808) 943-3111



RECEIVED
MAR 11 1992

MICHAEL S. NAKAMURA
CHIEF

HAROLD M. KAWASAKI
DEPUTY CHIEF

FRANK F. FASI
MAYOR

GROUP 70
LIMITED

OUR REFERENCE **SG-LK**

March 5, 1992

TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

ATTENTION: MEL MURAKAMI, PLANS REVISION BRANCH

FROM: MICHAEL S. NAKAMURA, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

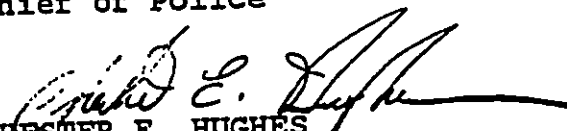
SUBJECT: DRAFT ENVIRONMENT IMPACT STATEMENT (DRAFT EIS)
PROPOSED DEVELOPMENT PLANS AMENDMENTS
LAIE, KOOLAULOA, OAHU, HAWAII

We have reviewed the draft EIS and have no objections to the proposed amendments.

We are concerned about the anticipated increased traffic volume on Kamehameha Highway due to the project and thus support the mentioned mitigative measures that are proposed.

Thank you for the opportunity to provide comments.

MICHAEL S. NAKAMURA
Chief of Police

By 
CHESTER E. HUGHES
Assistant Chief of Police
Support Services Bureau

cc: Zions Securities Corporation
Group 70 International Inc.



20 April 1992

Michael S. Nakamura, Chief of Police
Police Department
City and County of Honolulu
1455 South Beretania Street
Honolulu, Hawaii 96814

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

**Subject: Laie Development Plan Amendments
Draft Environmental Impact Statement
Laie, Koolauloa, Oahu, Hawaii**

Dear Mr. Nakamura:

Thank you for your March 5, 1992 memorandum to the Department of General Planning regarding the above referenced Draft Environmental Impact Statement. Implementation of the proposed mitigative measures to address increased traffic volumes on Kamehameha Highway will be coordinated with the State Department of Transportation's Highways Division and City and County of Honolulu Department of Transportation Services.

Thank you for your comments. Please call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

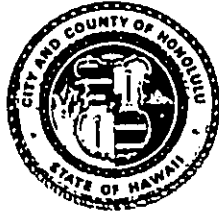
A handwritten signature in black ink that reads "Kari Kilstrom".

Kari Kilstrom
Planner

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

FRANK F. FASI
MAYOR



LIONEL E. CAMARA
FIRE CHIEF

DONALD S. M. CHANG
DEPUTY FIRE CHIEF

RECEIVED
FEB 13 1992

GROUP 70
INTERNATIONAL

February 11, 1992

Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813

ATTENTION: Kari Kilstrom, Planner

Gentlemen:

Subject: Laie Development Plan Amendments

Upon review of your proposed Laie Development Plan Amendments, the Honolulu Fire Department has the following comments:

1. Provide a private water system where all appurtenances, hydrant spacing and fire flow requirements meet Board of Water Supply standards.
2. Due to the nature and scope of the Laie Development Plan and the surrounding areas, the Fire Department is requesting a one-acre site be set aside within the development for a new fire station.

In the Fire Department's capital improvement projections, a new fire station in Laie was not anticipated until the late 1990's; however, with the submittal of your development plan, a site should be secured during this development plan process.

A proposed site for the new Laie Fire Station is already listed on the Koolauloa Development Plan Public Facilities Map, marked FS symbol #13. The new fire station is currently listed beyond six years and the exact site undetermined. We should meet with you to determine a suitable location that will enhance the community as well as provide first class emergency services.

Group 70 International, Inc.

-2-

February 11, 1992

New fire station planning and locations are primarily based on Insurance Service Organization (ISO) and Hawaii Insurance Rating Bureau Standards. These standards place emphasis on response time, travel distance, fire flow (water) requirements, population and building density.

We request further consultations during the preparation of the Environmental Impact Statement. Should you have any questions, please call Acting Assistant Chief Attilio Leonardi of our Administrative Services Bureau at 943-3838.

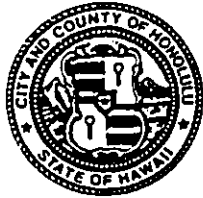
Very truly yours,


LIONEL E. CAMARA
Fire Chief

AKL:lm

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814



FRANK F. FASI
MAYOR

LIONEL E. CAMARA
FIRE CHIEF

DONALD S. M. CHANG
DEPUTY FIRE CHIEF

APR 06 1992

April 1, 1992

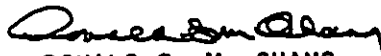
TO: BENJAMIN B. LEE, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM: DONALD S. M. CHANG, DEPUTY FIRE CHIEF

SUBJECT: LAIE DEVELOPMENT PLAN AMENDMENT

We have reviewed the subject material provided and have no additional comments other than those submitted on February 11, 1992.

Should you have any questions, please call Acting Assistant Chief Attilio Leonardi of our Administrative Services Bureau at 943-3838.


DONALD S. M. CHANG
Deputy Fire Chief

AKL:ny

Copy to: Zions Securities Corp.
Group 70 International



20 April 1992

Mr. Lionel E. Camara, Chief
Fire Department
City and County of Honolulu
1455 South Beretania Street, Room 305
Honolulu, HI 96814

**Subject: La'ie Development Plan (DP) Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Chief Camara:

Thank you for the April 1, 1992 memorandum from Deputy Fire Chief Chang to the Department of General Planning, and for your February 11, 1992 letter to us concerning the requested La'ie DP amendments. We regret that we were unable to include a response to your earlier letter in the Draft EIS, but it was not received in time to do so. The following is in response to your comments in both the letter and the memorandum.

1. Water System: All water system improvements which are made in connection with the development of projects in the requested DP amendment areas will meet Board of Water Supply standards for fire hydrant spacing, fire flow, etc.

2. Fire Station Site: The applicant will be happy to meet with you to determine a suitable location for a new fire station in La'ie. We will contact you shortly to set up a meeting.

We are aware that a proposed fire station site is already designated on the Ko'olauloa DP Public Facilities Map as "site undetermined (in general area)" and "(beyond 6 years)." It is shown on the Map as in the general vicinity of the Polynesian Cultural Center. As you may know, such sites are not normally designated on the DP Land Use Map until their locations are determined and the facilities are constructed. This is why site selection for this facility was not included within this application.

If the requested DP Land Use Map amendments are adopted, the next steps will involve the filing of applications for rezoning and for appropriate amendments to the DP Public Facilities Map. Should your discussions with the applicant lead to agreement on a specific site to be acquired, and/or should you wish to advance the timing of the site acquisition to "within 6 years," we will be happy to incorporate the appropriate amendments into the applicant's DP Public Facilities Map amendment application.

Letter to Fire Dept.
20 April 1992
Page 2

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom

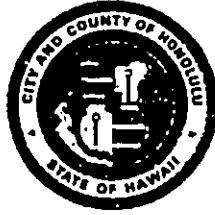
Kari D. Kilstrom
Planner

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

RECEIVED
APR 10 1992



BENJAMIN B. LEE
CHIEF PLANNING OFFICER
ROLAND D. LIBBY, JR.
DEPUTY CHIEF PLANNING OFFICER

GROUP 70
LIMITED

MM

April 8, 1992

Ms. Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813

Dear Ms. Kilstrom:

Draft Environmental Impact Statement (DEIS) for
Laie Development Plan Amendment, Koolauloa, Oahu

We have reviewed the Laie Community DEIS and recommend the following additions and/or clarifications to the Draft EIS.

1. The relationship of the Development Plan amendment to the larger Laie community should be discussed more fully.
 - a. How will the amendment proposals be affected by the pending master plan for Laie?
 - b. What improvements are proposed for the existing Laie community?
 - c. What is the intent of the developer with respect to dedication of infrastructure to the City?
2. The wastewater situation should be fully disclosed. The timing of improvements in support of new developments as well as the timing of improvements to meet current deficiencies should be indicated. The EIS should elaborate on where it proposes to re-use treated effluent for agricultural irrigation and compost purposes. This is particularly important in view of the comment from the Board of Water Supply that, "[d]isposal of treated wastewater effluent through irrigation should not be allowed because of the possibility of groundwater aquifer contamination. Because the Laie area has valuable high quality water, high priority should be given to ensure the protection of the aquifer."

It should be clearly indicated that the new developments will not proceed until the current deficiencies are corrected.

Ms. Kari Kilstrom
Group 70 International, Inc.
April 8, 1992
Page 2

3. The matter of kuleana parcels and kuleana/Native Hawaiian water rights should be clarified and discussed.

4. The discussion of population should be more fully discussed and directed at how the General Plan population guidelines in Koolauloa will be exceeded by the proposed development.

The current discussion is also misleading in claiming that the population will be increased by "0.1 percent" and that this will "slightly increase an already existing inconsistency with this policy."

a. 0.1 percent is a percentage of the islandwide population. Percentage increase should be stated as a percentage of the Koolauloa population guideline.

b. "the current inconsistency" should also be quantified in the discussion.

5. The assumption that new homeowners will come from existing overcrowded units in Laie needs to be more fully justified and included in the discussion.

a. The ability of doubled-up families in Laie to afford the proposed units.

b. The specific strategy (as opposed to general strategy stated of using a variety of approaches) to insure that the housing needs of the intended market are met. This is particularly important because the incomes of the target market are significantly lower than normally required levels for affordable housing.

c. Your assumption on overcrowded units.

(1) Why wouldn't another family move in to take the place of the family moving out?

(2) What's to keep the new units from accommodating more doubling up?

d. The increase in population due to the proposed project needs to be better defined and discussed. If a net increase is to be used, then lands to be removed from the residential category should be clearly identified and noted in the discussion.

Although the 13,000 population figure is a DGP calculation, the EIS should use a more representative number, if warranted. The demographic survey done in conjunction with this EIS by Community Resources, Inc., indicates a household size of 4.33 which is much higher than the 3.26 ratio used by DGP.

6. The statement on resort land use appears to be misleading and should be qualified by indicating that uses permitted under resort designation is generally more intrusive than those permitted under the residential designation.
7. The applicant states that the city and state requirements may be excessive and may affect the applicants ability to provide affordable housing. If this is the case, the applicant should indicate what impact this will have on his plans, if any, especially with regard to meeting the needs of lower income Laie residents.
8. The statement in the Executive Summary that the La'iemalo's site contains full archeological sites seems misleading because highlighting the La'iemalo sites down plays the importance of archaeological sites which impact the other alternatives. The archeological study exhibit (Appendix "J") clearly identify three sites at or near the Egg Farm alternative as the most significant because the sites contain burials.
9. The discrepancy between the applicant's proposal for an 8-acre school park complex and the DOE's 12- to 16-acre requirement should be discussed.
10. The application should disclose the existence of wetlands in the area proposed for industrial use if that is the case. The flood easement adjacent to the Kahawainui Stream should also be defined and the proposed areas adjusted accordingly.

The significance of the former landfill at the proposed 16 acre industrial site should also be discussed and the potential impacts disclosed.
11. The past flooding of Wailele Stream and its impacts on the effluent disposal facility (subsurface drain field) should be discussed.

Ms. Kari Kilstrom
Group 70 International, Inc.
April 8, 1992
Page 4

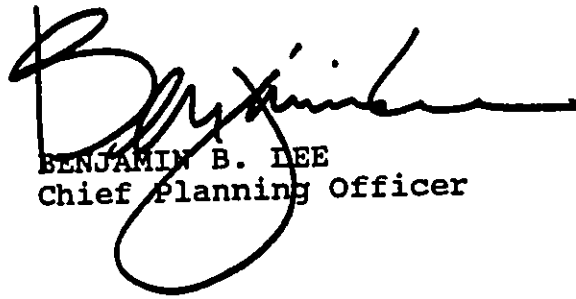
12. The section on Wildlife should clarify that brief field surveys such as that undertaken for "Avifauna and Feral Mammals" exhibit provide a less than comprehensive inventory of the wildlife which utilize the area. It should also include the very important recommendation of Appendix "H" that all wetland habitat must be protected from any harmful effects from the environment and that no industrial or residential type of development should be located near the wetlands.
13. The extent of grading and excavation should be quantified to give a clear indication of proposed extent of alteration of the topography. This should also be discussed in the comparison of the three alternatives.
14. The impacts of the proposal on the traffic volumes along Kamehameha Highway should be more clearly presented. A problem arises with the methodology in the DEIS which includes development proposals which have not been approved by the city or state as part of its projections of the year 2004 traffic. For example traffic from golf courses projected for the adjacent area on the Kahuku side of the subject parcel, are indicated as part of the 2004 traffic projection. While this methodology presents a worst case scenario it obscures the direct impacts emanating from the proposal.
15. The comparison of alternative residential areas should include:
 - a. land in actual agricultural or related uses
 - b. extent of land disturbance through clearing and grading
 - c. archaeological resources
 - d. worker displacement
16. The report mentions that lava tubes underlie the egg farm alternative but it fails to elaborate on how this may impact on the construction cost for the site or the health and safety of school children.

The information that is being requested should be summarized in the body of the report within the most appropriate sections. Other related sections should be revised as necessary to assure internal consistency.

Ms. Kari Kilstrom
Group 70 International, Inc.
April 8, 1992
Page 5

Should you should have any questions, please call Mel
Murakami of our staff at 527-6020.

Sincerely,



BENJAMIN B. LEE
Chief Planning Officer

BBL:js



20 April 1992

Mr. Benjamin B. Lee, Chief Planning Officer
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Mr. Lee:

Thank you for your April 8, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

1. Relationship of DP Amendments to the La'ie Community: The application for approval of the requested DP amendments represents the first step in implementing those portions of the La'ie Master Plan which require government land use approvals and permits. In other words, it represents the beginning of the process of implementing parts of the Master Plan.

The La'ie Master Plan is a comprehensive land use plan for the community. In addition to addressing the need for new land uses and development in La'ie, it deals with existing land use and infrastructure issues which do not require Development Plan amendments. Examples are as follows:

- The need for a supermarket in La'ie. One is currently under construction on land within the La'ie Shopping Center. This area is already DP'd and zoned for commercial use.
- The importance of maintaining an appropriate setting for the Hawaii LDS Temple. This resulted in the recommendation that the vacant areas surrounding the Temple not be designated for any form of development, but be maintained as open space. Since the existing DP Agricultural designation provides a satisfactory level of protection, it was not necessary to request an amendment.
- The need to improve the roads and the water system in the existing La'ie community, and to extend the sewerage system to those portions of the community which are not connected to it. Alternate plans for funding roadway and drainage system improvements, so that they can

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

be brought up to City standards and dedicated, are presented in the Plan. These system improvements would serve existing land uses, and thus do not involve DP Land Use Map amendments.

The following is in response to the three specific questions you raise in connection with this broader issue.

"How will the amendment proposals be affected by the pending master plan for Laie?"

The amendment proposals will not "be affected by" the Master Plan for La'ie; rather, the ability to implement the Master Plan will be affected by whether or not the requested DP amendments are adopted. The amendment proposals come from, and are based upon, the La'ie Master Plan.

In your question you characterize the La'ie Master Plan as "pending." While the Master Plan has not been formally adopted by either the La'ie community or the applicant, it would be inaccurate to characterize this as a situation where nothing has been decided. The issue which has held up its adoption has been achieving a consensus on a site for the new housing. The La'ie community generally supported the draft of the Master Plan which was completed in December 1987. This draft designated the BYU Mauka site for the new housing. However, the applicant at that time had misgivings about utilizing this site, as opposed to either the Egg Farm or La'iemalo'o sites.

This led to the preparation of the April 1990 draft of the Master Plan (Appendix A). This draft designated the Egg Farm site for the new housing. However, community review failed to result in a strong base of support for this area as the most appropriate site for the housing.

Subsequent discussions with the La'ie Community Association resulted in an agreement by the applicant to prepare a thorough assessment of the potential benefits and impacts of all three sites which had been under consideration for the housing. The intent was to utilize this analysis as a basis for the community and the applicant to reach final agreement on the most appropriate site. This has been achieved with the reaffirmation by the community of its strong preference for the BYU Mauka site, and the approval by the applicant of the selection of this site. The Final EIS reflects this decision by designating the BYU Mauka site as the proposed new residential area.

There has been general community/applicant agreement on the other land use issues covered in the La'ie Master Plan since the initial draft was prepared in 1987. The main task that remains to "finalize" the Master Plan -- i.e., to put it in a form which is suitable for formal adoption by the applicant and community organizations in La'ie -- is to update its various sections to reflect current conditions and plans. In particular, the discussions of methods for

Letter to Dept. of General Planning
20 April 1992
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providing affordable housing and improving infrastructure in the existing community will be updated to focus more on what specifically will be required to achieve these goals in La'ie. As indicated in the EIS and DP Amendment Application, this effort will be initiated shortly, with the objective of completing it by the end of 1992.

"What improvements are proposed for the existing Laie community?"

Several of the requested DP amendments involve improvements to the existing community. These include:

- Park designation for the Po'ohaili Street (La'ie Neighborhood) Park;
- A 0.5 acre expansion of the La'ie Shopping Center site so additional parking can be provided;
- The establishment of a Resort amenities area to better assure the viability of the already planned resort, and to provide a valuable public vista of the ocean from Kamehameha Highway;
- Recognition of the existing BYUH Campus boundaries, and of the area which is most suitable for the possible future addition of new student and faculty housing, athletic and other university facilities that may be needed in the future, by designating the entire campus area as Public Facility;
- Provision of an expansion area for the Polynesian Cultural Center which is sufficient to allow for the limited addition of appropriate new exhibits and other improvements required to maintain its viability; and
- Designation of areas for light industrial development, so that there will be a suitable place to relocate the many small businesses that are now conducted on residential properties in La'ie.

In addition, as already mentioned, improvements to the roads and drainage, and to the water and and sewerage systems in the existing La'ie community are planned. Discussions between the La'ie Community Association and Zions Securities Corporation on how to complete these improvements have already begun. The intent is to concurrently develop plans of action for these improvements and for the provision of the new affordable housing, and to have them in place prior to the "vesting" through zoning of any development rights for the DP amendment areas.

"What is the intent of the developer with respect to dedication of infrastructure to the City?"

All new infrastructure within the DP amendment areas will be built to City standards. It is also the goal of Zions Securities Corporation to, in cooperation with the residents and the City, upgrade the existing roadway and utility systems so that they can be dedicated to the City. However, it is possible that the new housing will be completed before completion and dedication of the existing water and sewerage system improvements. We understand that the City will not accept dedication of water and sewer lines that feed into a private system, even if they are built to City standards. Therefore, until the existing systems are dedicated, the water and sewer lines within any new developments will be maintained as part of the existing private systems.

2. **Wastewater:** No development in the areas covered by the proposed DP amendments will proceed before the plan for improvements to the Laie Wastewater Reclamation Facility (LWRF) is finalized, and the required improvements are completed. Zions Securities Corporation is also committed to substantial interim improvements to the existing facilities. These improvements are currently being completed, consistent with the terms of a Consent Decree established in 1990. The planned future upgrade of the treatment and disposal facilities to 1.5 mgd will provide more than adequate capacity to accommodate the planned future growth of La'ie with the proposed DP amendments. Treatment will be to a tertiary level, and will be followed by disinfection.

Of note, the LWRF project is being carefully planned. A Facility Plan is currently being compiled by consulting engineers under contract to Zions Securities Corporation. Preparation of an Environmental Impact Statement for the LWRF project is also underway, with the State Department of Health acting as lead agency. Both the Facility Plan and EIS will undergo a rigorous agency and public review process this year, which will ensure that future wastewater treatment and disposal associated with this facility will be safe and efficient.

All activities to improve wastewater facilities are being monitored closely by independent authorities, Dr. Robert Gearheart and Dr. Brad Finney. All decisions and actions to improve these facilities are occurring with the approval of officials at the State of Hawaii Department of Health.

Effluent treatment at the existing facility has improved dramatically as a result of the recent improvements. Operation of an interim disposal field located south of Polynesian Cultural Center is anticipated to begin shortly. The location of the interim disposal field was selected because it poses no potential for contamination of drinking water supplies. The potable groundwater aquifer is not expected to be contaminated by this disposal

method due to the high effluent quality and the southeasterly flow (i.e., away from the existing potable wells) of the groundwater in this area.

The proposed ultimate effluent disposal technique for the La'ie facility is effluent irrigation of agricultural crops. This method of disposal has been proven to be safe and effective elsewhere in the State, and use of reclaimed wastewater for irrigation purposes has been encouraged as a water conservation measure.

It is important to remember that with the planned treatment facilities on-line, there will be tertiary level effluent quality followed by disinfection. Tertiary treatment will result in a very high quality of effluent, with low biochemical oxygen demand and low suspended solids. Planned disinfection of this effluent will ensure the elimination of public health concerns with pathogens in the treated effluent.

Use of this tertiary treated effluent irrigation as the ultimate disposal technique will be studied further as part of the Facility Plan, and potential environmental impacts of this disposal method will be carefully addressed in the EIS process. As part of this process, both the State Department of Health and the Board of Water Supply will be involved in determining the ultimate disposal solution.

3. Kuleana and Water Rights: "*Kuleana*" is a Hawaiian word which has many meanings, among them "small piece of property, as within an *ahupua'a*". Although the entire *ahupua'a* was sold late in the 19th century, some owners of *kuleanas* retained ownership of their land within the La'ie *ahupua'a*. The State of Hawaii grants special appurtenant property rights to persons of native Hawaiian origin. Some *kuleana* parcels are leased to Zions Securities for agricultural uses.

The EIS has evaluated the impacts of the proposed land uses upon the environment, including the surrounding community, regardless of the form or history of land ownership. Potential impacts of the proposals on the *kuleanas* within the Egg Farm and the La'iemalo'o alternative residential sites was evaluated in the Draft EIS. These sites are no longer being considered for amendment. To the best of our review, the requested DP amendments will not affect or obstruct the exercise of any legally recognized rights of *kuleana* owners.

4 & 5d. Consistency with General Plan Population Distribution Guidelines; Calculation of Population Capacity: According to the Development Plan Status Review (Volume I, Table II-1), the development capacity of the Ko'olauloa DP Area was 16,400 as of June 30, 1990. Application of the DBEDT Series M-K Oahu population projection for the year 2010 (999,950) to the General Plan (GP) population distribution guideline for Ko'olauloa (1.3% - 1.4%) yields a population range of 13,000 to 14,000. Thus, the existing

population capacity exceeds the upper figure by 2,400. The capacity is equal to 1.64% of the 2010 Oahu population projection, and exceeds the upper percentage of the GP population distribution guideline by 0.24%.

The Department of General Planning has calculated that the population capacity which would be added to Ko'olauloa, if the requested DP amendments are adopted, is 1,294. (Phone conversation with Mr. Ralph Ukishima on January 28, 1992.) This is based on an average of 3.26 persons per unit, and a net increase of 397 units. The three areas requested for redesignation from Residential to other uses [Po'ohaili Street Park (3.6 acres), the Resort amenities area (2.6 acres), and the La'ie Shopping Center expansion for parking (0.5 acre)] were calculated as having a capacity of 53 units.

We have re-checked DGP's calculations and find that, using its specified residential density of 6.1 units per gross acre, the 6.7 acres being redesignated to other uses has a capacity of 41 units, not 53 units. Therefore, the revised net increase of 409 units yields an additional population capacity of 1,334, or 0.13% of the 2010 Oahu population projection. With the adoption of the requested DP amendments, the degree to which the Ko'olauloa DP Area's population capacity exceeds the upper range of the GP population guideline would increase from 0.24% to 0.37%.

You indicate in your April 8, 1992 letter that the 3.26 persons per dwelling unit figure used in the Draft EIS is not "representative." This catches us somewhat by surprise since your department provided us with this figure only a little more than two months ago, in late January 1992. It also raises several questions, such as:

- If this figure is not representative of Ko'olauloa, does DGP use a different figure in its own calculations of population capacity for this area? Why wasn't this provided to us?
- If DGP considers the 3.26 figure sufficiently representative to use in the Development Plan Status Review and other department publications, why isn't it good enough for the analysis of this DP Amendment Application?
- Why is this applicant being singled out to provide a supposedly more representative figure? We are not aware of any other instance where this was done. In any case, if there is going to be a consistency in the analysis of potential population impacts of the various DP amendments being proposed throughout Oahu, it seems important to have a consistent source of certain basic projections, such as persons per dwelling unit. DGP strikes us as the appropriate source, and this is why we used the figure your department provided to us.

You note in your letter that a demographic survey done by Community Resources, Inc. (CRI) indicates a household size of 4.33. This figure is indicative of the overcrowded conditions in the area. One of the purposes of the new housing is to help relieve this overcrowding. To the extent that this effort is successful, the average number of persons per dwelling unit in the new housing should be less, and the average for existing housing in La'ie should be reduced. The likelihood that this project will relieve some of the existing overcrowding is discussed in greater detail below.

It should also be noted that, as we understand it, DGP applies the 3.26 persons per dwelling unit figure only to single-family dwellings. A different, much lower figure is used for multi-family dwellings. The assumption made by DGP in calculating the population capacity for the DP amendment areas is that 100% of the new housing units would be single-family dwellings. This is not true. As noted in the application, eight acres are requested for Low Density Apartment designation. This area is intended to accommodate 90 to 100 apartments. Therefore, your original calculation of 1,294 additional population capacity (corrected by us to 1,334) is incorrect on the high side.

In summary, we consider the corrected population capacity of 1,334 to be reasonably representative of conditions for the proposed housing. We also believe that, should it be somewhat inaccurate, the magnitude of any error is not at a level which would affect your consideration of the policy issues being raised by this application.

5a-c. Degree to which new residents will come from existing overcrowded units in La'ie, and be able to afford the new housing: First, it should be noted that all of the EIS quantitative data on potential impacts (increases in population, traffic, water consumption, etc.) assume that all of the new housing area residents will come from outside of not only La'ie, but also from outside the entire Ko'olauloa DP Area. The stated purpose of the proposal -- to build the housing at a cost and to market it in a manner that, as much as possible, provides the opportunity for residents living in overcrowded conditions to move into the new housing -- has not been taken into consideration in preparing the quantitative analyses. We have deliberately used this "worst case scenario" in the EIS because of the inability to accurately predict the extent to which this purpose will be achieved.

Nevertheless, for reasons explained in greater detail below, we consider it reasonable to expect a significant degree of success in having "doubled-up" families move into the new housing. This will result in a significant mitigation of the impacts described in the EIS.

Even if this is not taken into consideration, the broader goal of providing a housing development with more than 60% of the units at affordable prices, and with a significant number of those units at a cost that is lower than typically required in other affordable housing developments, should alone be

sufficient to demonstrate that this project will meet a significant public need. There are many other indicators besides the existing overcrowding in La'ie (high rents, low vacancy rates, etc.) which show that there is a significant shortage of affordable housing in the Ko'olauloa Region.

Specific Housing Strategy, and Affordability of the Housing for La'ie Residents: The statement in the Draft EIS that a variety of approaches will be used to provide the affordable housing is not intended to be general or vague. Rather, it recognizes the reality that the only feasible way to achieve the desired number and prices of affordable housing will be to use in combination several different approaches. No one approach will be sufficient.

The purpose of the 1987 report, "An Evaluation of Below Market Housing Programs and Financing Options for the Development of Affordable Housing in La'ie" (Appendix B), was to investigate and determine if there were sufficient funding programs and/or development techniques which would make it possible to provide the desired number and price of affordable housing in La'ie. Its conclusion was that there is no one program or technique which could sufficiently reduce development costs. However, the use of several programs in combination with each other was found to be a realistic possibility. These various programs and techniques are described in detail in Appendix B.

It is not possible at this time to pinpoint exactly what programs will be used when the housing is built, without going through the complex and expensive exercise of designing specific programs for building low-income rentals, affordable senior citizen housing, for-sale housing for families, etc. Undertaking such an effort at this time would be premature.

The beginning of actual construction is probably 1-1/2 to two years away, and the types of available programs, program eligibility and funding availability can all change in that time. Also, without some indication from government that it considers the purpose of the proposed housing development to be in the public interest, and will give fair consideration at the zoning stage to specific proposals to provide the affordable housing in accordance with the purposes put forth in this EIS and the DP amendment application, there is little point to going through such an exercise. The applicant considers the adoption of the requested DP amendments to be an appropriate and necessary indication of City and County support, at least in concept, for this proposal. The specific programs will be developed and submitted for government review as part of the zoning process.

Of the various programs and techniques which are discussed in Appendix B, those which are most likely to be used are as follows:

- *Owner-built or self-help housing* -- This type of program offers the opportunity to achieve significant savings in the cost of producing new housing. Predominantly Mormon communities such as La'ie have a long and well established history of joining together to help each other in meeting social and economic needs. The construction of housing by those who will occupy it, with no doubt a significant amount of help from their neighbors and fellow church members, would be a natural application of this common approach to living together as a community.
- *Below-market land cost* -- A selling price for the BYU Mauka site has not yet been established. While the applicant wishes to receive some form of return on the land, it is realized that the price could be an important element in making it feasible to build the proposed affordable housing. An agreement on the price of the land will be an integral part of the effort to establish specific programs to build the desired housing. It is understood and accepted by the applicant that this will need to occur prior to the approval of zoning.

It should be noted that neither the applicant (Zions Securities Corporation) nor any other entity of the Mormon Church intends to be the developer of any of the housing. An important first step in the effort to put together the affordable housing program will be to find a qualified developer (or possibly to establish a non-profit corporation staffed by qualified personnel) who will build the housing.

- *Government-sponsored rental project* -- The income levels of many of the doubled-up families in La'ie are not sufficient to allow them to save even a modest down payment for a new home. Therefore, a rental project could be an important element in La'ie's affordable housing program. Both the City and County and the State government have programs to support the construction of affordable rental housing, and are actively seeking suitable developers and sites for such projects.
- *Farmers Home Administration (FmHA) Loan Program* -- This program, which is restricted to rural areas like La'ie, makes it possible for lower-income families to achieve home ownership. Interest rates are set based on income, and can go as low as one percent. There is also no required down payment.

The possibility of continued overcrowding even with the construction of new housing: You raise questions as to what would prevent new families from moving into the existing overcrowded units when the current doubled-up families move to the new housing, and/or what would keep the new units from accommodating more doubling up. While there will be no legal way to

prevent this to a greater degree than it can be prevented now, we believe the proposed housing will significantly reduce overcrowding.

The primary reason for this is simple supply and demand. The existing overcrowding is a manifestation of an existing shortage of housing in the area. The proposed housing will significantly increase supply in La'ie, while the job creation resulting from the requested DP amendments will be small and result in a much smaller increase in demand.

Construction of the affordable housing will, subject to receipt of the necessary approvals, occur before the anticipated completion of major hotel development at the Kuilima Resort. Consequently, the impact of the resort development on housing demand in the Ko'olauloa and North Shore areas will not be felt until after the existing overcrowding in La'ie has been relieved by the proposed housing.

The extent to which the new resort development might create pressures to "re-establish" the levels of overcrowding that existed in La'ie prior to the construction of the proposed affordable housing, or even cause doubling up in the new housing, is really a larger issue. It is a matter of how effectively the resort developer and government address any housing shortages that may arise in the area as a result of the substantial increase in jobs at the resort. The purpose of these amendment requests is not to address this potential issue. How it is finally addressed is not related to, and should not detract from, the merits of the applicant's proposal.

As previously noted, it is not "assumed" anywhere in the EIS or the DP amendment application that a specific amount of overcrowding will be relieved by the proposed housing development. The likelihood of this happening is ignored in all quantitative analysis because of the inability to predict with any precision the extent to which this will occur. However, because these amendments will result in a substantial increase in supply without a corresponding increase in demand, we believe it is reasonable to expect that it will be possible to significantly relieve the existing overcrowding.

We also believe the proposal has more than sufficient merit to warrant adoption even without this argument. It proposes a higher proportion of affordable housing at more affordable prices than typify housing projects that have been both routinely approved for private development and built by public housing agencies. The effort that will go into this project to relieve existing overcrowding in La'ie will be an added benefit.

6. **Resort:** It is acknowledged that uses permitted under resort designation are generally more intrusive than those permitted under the residential designation. As indicated in the Draft EIS, however, it is intended that the allowable uses for this particular site be restricted through a unilateral

agreement. This agreement would limit the uses to private outdoor recreational activities and related accessory facilities. These activities will be significantly less intrusive than the roughly 15 dwelling units that could be built on this site under the existing residential zoning.

The unilateral agreement would stipulate the types of activities which could be established under the new designation, such as swimming pool, tennis courts, rest rooms, changing areas, showers, beach gear and equipment storage, lifeguard facilities, and/or a snack bar. The snack bar would be small in size and character, and clearly accessory to the recreational facilities.

There are no plans for a stand-alone restaurant or other significant commercial use of this parcel. The applicant has no problem with the unilateral agreement specifically prohibiting the placement of new lodging units, restaurant and other significant commercial use on the site. As you know, such an agreement will be legally binding in perpetuity, and will be carried forward with the land should its ownership be transferred at some future date. Because of the legal restrictions placed on the allowed uses, it would not be possible to develop other more intensive uses.

The applicant is committed to including a public beach access as part of the plan for this site. There is no intention of developing public or resort parking on this site. This will preclude the possibility of causing new traffic safety and congestion problems along Kamehameha Highway.

7. Impact of infrastructure improvement standards on the feasibility of the affordable housing: As previously noted, streets and other infrastructure will be built to City requirements. However, we expect that the housing developer will seek approval to build the roadways to a lesser standard than is normal for urban developments. A waiver of the requirement to place electrical and telephone lines underground may also be sought.

At present, the City has only one set of subdivision improvement standards which do not reflect very well the rural character of areas like La'ie. However, lesser standards have been allowed on a case by case basis, especially in affordable housing projects. This has resulted in significant cost savings, and is often important to the feasibility of such projects.

No waivers will be sought which would increase maintenance costs or cause extraordinary liability problems. The housing developer would still intend to dedicate the improvements. If an agreement to allow some form of reduced infrastructure construction standards cannot be reached with the City, then they will be built to the existing standards. The level to which housing costs can be reduced will have to be adjusted accordingly.

8: Archaeology: Detailed information concerning all of the identified archaeological sites within the study area is included in the EIS, primarily in

Sections 4.11. The complete "Archaeological Inventory Survey" by PHRI is included in Appendix J. In response to your comment, we have revised the statements concerning archaeology in the Executive Summary to include more of the substantive information found elsewhere in the text, as follows:

The BYU Mauka residential area has been selected for the DP Amendment request from the three residential alternative sites evaluated in the EIS. The proposed BYU Mauka residential area contains only one identified archaeological site (T-33), which is an agricultural ditch/tunnel. The data collected from this site during the archaeological survey is considered sufficient recovery of significant information, and no further work is recommended at this site. Therefore, no adverse impacts are expected from development of this area.

Archaeological features were also identified within the two alternative residential sites. By comparison, the Egg Farm alternative residential site contained two archaeological sites, including a small cemetery (T-31) and a possible agricultural complex (T-15). The cemetery is significant for its cultural value and is recommended for preservation. The agricultural complex is important for information content only.

The La'iemalo'o alternative site contains four archaeological sites, including: a terrace wall (T-20), a multiple feature agricultural complex (T-21), a multiple feature agricultural complex (T-22), and a pond field complex (T-29). Two of these sites include possible prehistoric agricultural features and are assessed as excellent examples of a site type. A recommended treatment will be provided pending results of further data analysis; the provisional recommendation is for preservation.

9. School Site: The proposed residential neighborhood includes an eight-acres school/playground site. As indicated in our response letter to the Department of Education (Draft EIS, Section 9.0), the addition of four acres to the school/playground site within the proposed BYU Mauka residential will require a corresponding reduction in the area available for housing. This will either require the housing density to be increased significantly, or reduce the number of housing units that could be provided. Both of these would adversely affect project viability.

The challenges to achieving the applicant's goal of providing housing which will be affordable to La'ie residents were articulated during our meeting with the Department of Education, Facilities Branch. They were unaware, and were pleased to find out that the applicant is willing to consider dedicating the eight acres of land to the State of Hawaii for school purposes. Our understanding from that meeting is that the State is not in the practice of collecting both fees and land for school facilities from landowners who wish to develop housing.

In an effort to maximize flexibility for the continued planning of school facilities, the applicant has relocated the proposed eight acre school/playground site to the edge of the proposed residential area boundary. Should the DP amendments be approved and the Department of Education wants to acquire additional lands for school facilities, it may pursue this opportunity unimpeded by surrounding Residential or Low Density Apartment land uses.

10. Industrial Area: Potential wetland areas have been preliminarily identified at the proposed Egg Farm Road industrial site, based upon the presence of plants which are indicative of wetland areas. However, the exact boundaries of these areas have not been delineated. These wetland areas are located in the central and *mauka* portions of the proposed industrial area. (See Appendix G.)

The Army Corps of Engineers has also defined a flood easement area in the *mauka* portion of this proposed industrial site. Due to the presence of these features, the applicant is modifying the amendment request for this Industrial designation to include only a ± 2 acre expansion of the existing ± 3 acre Industrial designation, giving a total industrial area of ± 5 acres. The modified request is confined to the *makai* portion of the originally proposed site which is outside the flood easement area.

We acknowledge that the presence of a former landfill at the proposed industrial site is a concern which must be fully addressed if development of this site is to proceed. To analyze the extent of possible landfill material at the site, as well as the suitability of soils for foundations, the applicant or future developer will need to conduct an assessment of subsurface conditions.

If approval of the Industrial designation of this site is received, detailed site studies would be conducted as part of an application for zone change. We consider this to be the appropriate time for detailed analysis on any former landfill conditions, and for addressing the measures to be taken to assure safe use of this land, if this becomes necessary.

The above response has been substantively included in the Executive Summary of the Final EIS in order to consolidate in a single place the individual statements on the different existing conditions, potential impacts and mitigative measures that apply to this site.

11. Waialele Stream: A recent flood occurred on March 19-20, 1991 in the town of La'ie, primarily the result of overtopping of Waialele Stream banks and sheet flowing into La'ie town. Subsequently, the City and County Department of Public Works requested the U.S. Army Corps of Engineers to undertake a reconnaissance study to determine if further studies are warranted for flood control measures along Waialele Stream. Although the reconnaissance report has not been finalized, preliminary findings indicate a

positive benefit-to-cost ratio for at least one improvement scenario to alleviate flooding. This analysis indicates that a detailed feasibility analysis is warranted, should the City and County wish to pursue the matter.

Subsequent to that flood, the stream was cleared of debris and other obstructions to flow. It is now being maintained on a regular basis by the applicant. When another very heavy rain occurred a short time later, causing flooding in many areas along the upper Windward Coast which was very similar to the previous storm, Waiale Stream did not overflow its banks.

We do not anticipate that Waiale Stream presents a serious problem for the subsurface drainfield because the effluent will be treated to a tertiary level and disinfected -- i.e., it will not present a serious pollution hazard. In addition, the flow of subsurface water beneath the drainfield is in a southeasterly direction -- i.e., in a *makai*-Hauula direction, and not inland toward the fresh water aquifer.

The substantive points in the above discussion which were not included in the Draft EIS, have been included in the Final EIS.

12. **Wildlife:** Section 4.9 considers the potential impact of the requested DP Amendment land uses upon the faunal wildlife populations within the study area, including mammals, and introduced and indigenous birds. The study was performed by Dr. Phillip Bruner, Director of Brigham Young University's Museum of Natural History in La'ie. Dr. Bruner has performed extensive research of faunal wildlife in the La'ie area. He is extremely familiar with the area and was able to record all but one of the exotic species known from this region in his survey. We have not received any other comments which challenge or find fault with the inventory of wildlife provided in the EIS, or consider it to be "less than comprehensive."

Dr. Bruner has worked closely with the U.S. Fish and Wildlife Service and the State Department of Land and Natural Resources, Forestry and Wildlife Division, on the study and monitoring of the wetland areas in La'ie. These are formed by both natural features and man-made features, with the latter including the rectangular aquaculture ponds which are located immediately behind the Mormon Temple. When Dr. Bruner refers to "wetland" in his report, he refers to this area. Bruner's report indicates that the ponds provide valuable habitat for several waterbird species, some of which are endangered. It follows that his recommendations focus on the protection of the ponds as wetlands.

The aquaculture ponds are adjacent to one side of the preferred BYU Mauka residential area. This site is notable for a slight rise in topography adjacent to the ponds, as described in Section 4.2 of the EIS (Topography). The remaining portion of the site lies behind this rise and is essentially separated from the ponds by this natural feature. Development adjacent to the ponds would be

limited given the site configuration and topography. The recommendations in Dr. Bruner's report to separate any development near wetlands "by a buffer of tall trees and brush" and by the installation of fencing "to exclude predators" can be accommodated during site planning of the proposed affordable housing site.

The development of the BYU Mauka residential site was specifically discussed with Dr. Bruner. He expressed concerns with respect to noise, visual intrusion and pets, all of which have the affect of disturbing bird populations. As noted, the wetlands are protected, in part, by the natural topography which effectively separates most of the residential area from the ponds, and by the project design which proposes a minimal amount a developable area adjacent to the ponds. Fencing and landscaping can be incorporated in the site planning to mitigate the impacts of visual intrusion and pets.

The following recommendation will be included in the Mitigative Measures section of the EIS in response to your comment:

Preferred BYU Mauka Residential Site: Development of portions of this site which are adjacent to the aquaculture ponds will be separated from them by a buffer of trees and brush. Where necessary, the ponds will be also be fenced to exclude predators.

13. Grading: The boundaries of the BYU Mauka planned residential area are somewhat general, consistent with what is typically shown on the DP Land Use Map when there are no existing parcel boundaries. This area was selected for residential development because it contains slope conditions which are gentle to moderate, and completely conducive to properly designed residential development. Grading and excavation requirements for this area are expected to be similar to a normal subdivision development on Oahu. Without the benefit of a detailed subdivision layout for this new residential area, specific grading and excavation requirements cannot be determined. It is premature at this time to expect this level of information.

14. Traffic: Your comment requests that impacts of the proposal on traffic volumes along Kamehameha Highway be "more clearly presented". Each of the DP amendments requested for La'ie will cause some additional future traffic on Kamehameha Highway. The actual trip generation data for each proposed use is included in the traffic impact study prepared by Traffic Management Consultants (TMC) and is included as Appendix K to the EIS.

The traffic impact study attempted to analyze a worst case traffic scenario and thereby included the completion of the Kuilima Resort project in Kahuku, which is still under construction, and the assumption that five golf courses in the Kahuku area would continue to seek the requisite approvals and be constructed and operating by the year 2004. Part of the rationale for including the five golf courses in the projected year 2004 traffic scenario was that traffic

studies have been prepared and reviewed by the State Department of Transportation for these projects as part of Environmental Impact Studies which were prepared to analyze these projects. Although the golf courses are not included on the approved City and County Development Plan Land Use Map, the State Department of Transportation may wish to consider these golf course projects in a worst-case cumulative impact traffic analysis.

However, in response to the DGP concern about the proposed golf course traffic, Traffic Management Consultants conducted another assessment of projected future traffic without the five proposed golf courses. Build-out of the preferred BYU Mauka Residential area was also assumed. This report is attached as an addendum to Appendix K. The new analysis of potential traffic impacts without the five golf courses has also been summarized in the appropriate sections of the Final EIS.

The result of this analysis shows a slight improvement of traffic conditions without the proposed golf courses. Volume to capacity (v/c) ratios for Kamehameha Highway traffic will be about 2% to 3% lower than with the golf courses for the morning peak hour, about 1% lower for the evening peak hour, and about 2% lower for the Saturday peak hour. The intersection of Kamehameha Highway and the project access road is improved from "near capacity" to "under capacity".

Overall, traffic volumes on Kamehameha Highway will increase by about 12 to 15 percent at highway intersections in La'ie with the development of the DP amendment areas -- i.e., deletion of the golf course traffic projections does not substantially affect the relative impact of the DP amendment areas. Improvements to highway intersections to provide turning lanes and traffic signals, if warranted in the future, will help to aid the flow of traffic. Area intersections are expected to generally operate at or below capacity during peak traffic periods.

It should be noted that the traffic impact study does not reflect the reduction from 16 to 5 acres which has been made to the size of the proposed egg farm road industrial area. This reduction will reduce the total projected traffic generated by the proposed DP amendments by about 19% during the weekday morning peak hour, by 13% for the afternoon peak hour, and by approximately 3% for the Saturday peak hour.]

15. Alternatives Analysis: Land in actual agricultural use at the three alternative residential sites is presented in Section 4.4 of the EIS, and the extent of active agricultural land on each site is addressed in Section 5. The redesignation of lands suited for agriculture also discussed in Section 6.0 of the EIS as it relates to State and City and County policies for agriculture.

For your information, the area in active crop production at the Egg Farm site is approximately 25 acres, at the BYU Mauka site it is about 32 acres, and the

La'iemalo'o site has approximately 24 acres in active crops. In addition, the Egg Farm site has approximately 18 acres leased for related agricultural activities, such as horse grazing and, of course, it has the egg farm.

Most of the land at each of the three alternative sites would be disturbed for residential development of 450 residential units, school playground and church. This area is roughly equivalent in each of these alternatives, between 50 and 54 acres for the Residential designation, between 8 and 10 acres for the Low Density Apartment designation and 8 acres for the Public designation for the school/playground site.

Each of the alternative sites has archaeological features which are clearly delineated on the maps provided in the EIS Section 4.11, and in Appendix J. Section 5 summarizes, as a comparison, the extent of these features on each of the three sites. Development of each of these sites is expected to have impacts on some archaeological features, with the least impact at the BYU Mauka site.

The number of leases out for each of the alternative sites is described in Section 4.4. Actual numbers of workers are not available at this point. Workers at farming sites at each of the alternative residential sites are not expected to be displaced from La'ie.

Of the 660 acres of the land owned by the applicant in La'ie and having sufficiently gentle slopes to be potentially suitable for agricultural production, approximately 465 acres would remain available for continued agricultural uses and expansion of agricultural operations if the DP amendments are adopted. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. This organization's operations will significantly increase active agricultural use in La'ie, and should more than compensate for the loss of crop production that is expected to result from the development of the new housing area.

16. Lava Tubes: The Egg Farm site is no longer being considered for residential development as part of this application. Future use of the Egg Farm site may need to address these concerns.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner



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

April 7, 1992

REPLY TO
ATTENTION OF:

Planning Division

City and County of Honolulu
Department of General Planning
Attention: Mr. Mel Murakami
650 South King Street, 8th Floor
Honolulu, Hawaii 96813

Dear Sir/Madam:

We have reviewed the Draft Environmental Impact Statement (DEIS) for La'ie Development Plan Amendments, Ko'olauloa District, Island of O'ahu. The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. Any work in waters of the United States, including wetlands, would require a DA permit. A wetland survey may be necessary. For further information about DA permit requirements, please contact Operations Division at 438-9258.

b. Figure 14 of the DEIS reflects the correct flood inundation limits shown in the Federal Emergency Management Agency's Flood Insurance Rate Map (Panel 150001-015C, September 1990). The flood zone information presented in section 4.6 of the DEIS is correct.

c. The proposed industrial reconfiguration and expansion as shown on figure 6 of the aforementioned DEIS encroaches into the Kahawainui Stream Flood Control Project's (KSFCP) floodplain. This is not a permitted use of the floodplain and the industrial expansion must be reconfigured. An annotated copy of figure 6 is enclosed for your use.

d. The proposed future Laie community park as shown in figure 6 also encroaches upon the KSFCP floodplain. However, this is a permitted use of the floodplain, as long as no structures are built within the KSFCP floodplain.

e. All construction activities within KSFCP floodplain must be coordinated with the City and County and the Corps of Engineers.

h. The Corps of Engineers is currently preparing a reconnaissance level flood control study for Waialele Stream. This study was requested by the City and County of Honolulu in April 1991 as a result of the extensive flooding experienced in Laie during the latter part of March 1991. A preliminary alternative plan for flood control improvements consists of an earthen levee along Waialele Stream which would pass through the proposed Polynesian Cultural Center expansion area.

g. The alignment of Waialele Stream in the area of the KSFCP proposed PCC Expansion is shown incorrectly on Figures 3, 5-9, 11, 14-16 and 18.

Sincerely,

El R. Jyo

Kisuk Cheung, P.E.
Director of Engineering

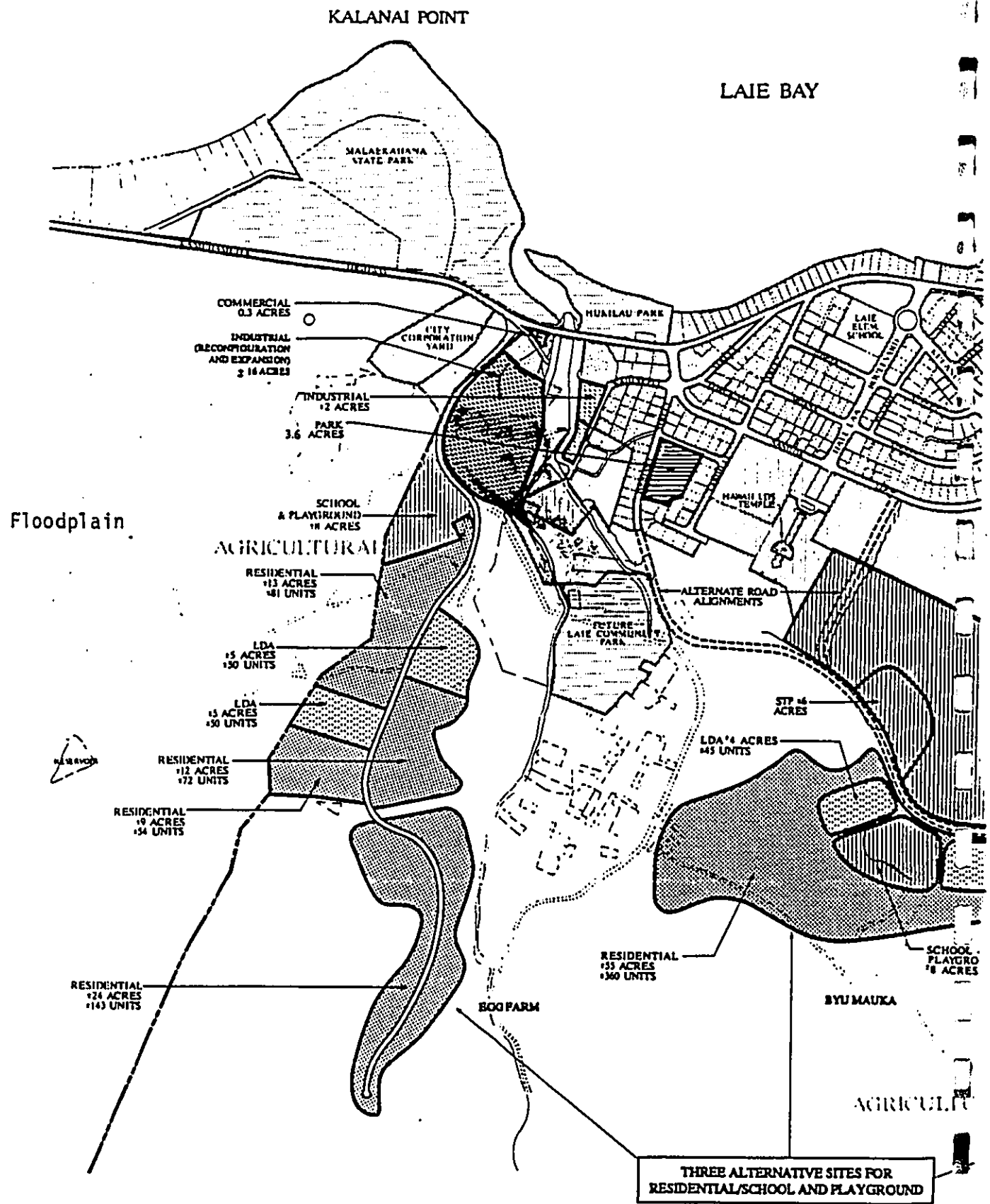
Enclosure

Copies Furnished:

Zions Securities Corporation
Attention: Mr. Lucky Fonoimoana
55-510 Kamehameha Highway
Laie, Hawaii 96762

Group 70 International Inc.
Attention: Ms. Kari Kilstrom
924 Bethel Street
Honolulu, Hawaii 96813

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



DP AMENDMENT REQUEST AREAS
 LAIE DEVELOPMENT PLAN AMENDMENTS

Figure 6



GROUP 70
INTERNATIONAL

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Norman G. Y. Hong, AIA
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James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Garri
Eric G. Crispin, AIA
Danilo M. Herrera

20 April 1992

Mr. Kisuk Cheung, P.E., Director of Engineering
Planning Division
U. S. Army Engineer District, Honolulu
Building 230
Ft. Shafter, Hawai'i 96858-5440

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Mr. Cheung:

Thank you for your April 7, 1992 letter to the Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

a. DA Permit: We appreciate your letting us know that a DA Permit, and possibly a wetlands survey, will be required for any work to be done in waters of the United States. Should the necessary Development Plan (DP) amendment and zoning approvals be obtained, the owners/developers of any property involving such waters will contact the Operations Division about DA Permit requirements before proceeding any further.

b. Flood inundation limits and flood zone information: Thank you for checking and verifying the accuracy of the information in the Draft EIS. This information has also been included in the Final EIS.

c. Industrial area encroachment into the KSFCP floodplain: We have reconfigured and reduced the size of the egg farm industrial area so that it no longer encroaches into this floodplain. The Final EIS and the DP amendment application have been modified to reflect this change.

d. La'ie community park encroachment into the KSFCP floodplain: Your comment is noted. If buildings are planned for the park, they will be located in a portion which is outside of the floodplain.

e. Construction coordination: We do not anticipate that the proposed DP amendments will lead to any construction within the KSFCP floodplain. However, it is too early in the planning process to determine this for certain. If this is to occur, the applicant will be sure to coordinate all construction activities with the City and County and the Corps of Engineers.

Letter to U.S. Army Engineers-Mr. Kisuk Cheung
20 April 1992
Page 2

f. **Waialele Stream reconnaissance level flood control study:** Thank you for letting us know that this study is in process. We have obtained a copy of the "final reconnaissance report" through the City and County Department of Public Works. The applicant will be meeting with the department in the near future to discuss its findings and next steps.

The only DP amendment area which will be affected by any improvements to this stream is the proposed PCC expansion area. Planning for any major new PCC facilities in this area, as well as obtaining the necessary approvals for any development, are likely to take several years. The applicant and PCC will coordinate the location and design of any PCC improvements with flood control project plans for Waialele Stream.

g. **Waialele Stream alignment:** The alignment shown on our base maps for the portion of the stream passing through the PCC expansion area has been corrected. Thank you for pointing out this error.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

P. O. BOX 50004
HONOLULU, HAWAII
96850

March 25, 1992

Mr. Mel Murakami
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

MAR 26 1992

Dear Mr. Murakami:

Subject: Draft Environmental Impact Statement (DEIS) - Application for La'ie
Development Plan Amendments; La'ie, Ko'olauloa, Oahu, Hawaii

We have reviewed the DEIS for the La'ie Development Plan Amendments and would like
to offer the following comments:

The DEIS identifies 152 acres of prime agricultural land and 103 acres of other
important agricultural lands that would be lost to the proposed projects. It is
Soil Conservation Service policy to oppose the loss of important agricultural lands
to non-agricultural uses. The DEIS states that these losses will have only a
minimal effect on diversified agriculture because of the abundance of lands
previously farmed by sugar plantations. We must caution that the loss of existing
diversified agricultural operations should not be balanced directly against the
potential for diversified agriculture in other locations as is suggested in the
DEIS. While it is true, in most cases, that land used for sugarcane production can
be used for production of most diversified agricultural crops, it is very often a
difficult and very expensive conversion process. In addition, with the
displacement of several existing operations and the increased residential use of
the area, we believe that there will be increasing adverse effects on the remaining
agricultural operations of the area.

The DEIS has acknowledged the increased peak runoff that would result from the
proposed projects and the change in land use. To mitigate this increased runoff
without increasing the potential for flooding, the DEIS states that streams may
have to be channelized. We believe that effects of stream channelization on the
streams and wetlands as wildlife habitat and the accompanying increased freshwater
inflows into the nearshore marine environment should be addressed.

Thank you for the opportunity to review this document.

Sincerely,



WARREN M. LEE
State Conservationist

cc:

Mr. Lucky Fonoimoana, Zions Securities Corporation, 55-510 Kamehameha Highway,
Laie, HI 96762

Ms. Kari Kilstrom, Group 70 International Inc., 924 Bethel Street,
Honolulu, HI 96813



20 April 1992

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

**Subject: Laie Development Plan Amendments
Draft Environmental Impact Statement
Laie, Koolauloa, Oahu, Hawaii**

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Norman G. Y. Hong, AIA
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Hitoshi Hida, AIA
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Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Dear Mr. Lee:

Thank you for your March 25, 1992 letter to the Department of General Planning regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

1. Loss of Agricultural Lands

The potential loss of prime agricultural land and other important agricultural land as a result of the proposed Development Plan (DP) Amendments will actually be much less than 255 acres. The Draft EIS studied three alternative sites for residential areas. However, only one of these alternatives is being advanced as the requested DP amendment area. This is the ±71-acre BYU Mauka site, where ±32 acres are currently in active crop production. The proposed residential area and the other nine DP Amendment request areas total 201 acres, of which 102 acres are classified as prime agricultural land and 27 acres are classified as other important agricultural lands. (Eight of the 201 acres are designated Urban.) Approximately 40 acres of the area under consideration are in active crop production.

About 660 acres of the land owned by the applicant in La'ie have sufficiently gentle slopes to be potentially suitable for agricultural production. The applicant has historically utilized much of this land for diversified agriculture, and has plans to continue these activities. Approximately 465 acres would remain available for continued agricultural uses and expansion of agriculture if the DP amendments are adopted. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. Employee-farmers, rather than tenant-farmers, will continue to grow a variety of fruits and vegetables on lands suitable for cultivation. No loss in crop production is expected to result from the development of the new housing area.

Letter to Soil Conservation Service

20 April 1992

Page 2

2. Potential for Stream Channelization

The comment in the EIS about stream channelization is merely speculative. The possible need for stream channelization downstream of a site will have been assessed on a project by project basis, as individual sites are studied in connection with future, more project specific land use approvals such as rezoning and a SMA use permit. Detailed runoff and drainage studies will be undertaken at these stages of the development process.

For example, stormwater flows generated by the proposed BYU Mauka residential area will in part be directed to Waialele Stream. The possible need for flood control measures along the lower reaches of this stream has been the subject of a recent reconnaissance study by the U.S. Army Corps of Engineers. This study, as well as any further studies and possible plans for a flood control project, will be reflected in the site planning and design of improvements for the BYU Mauka site.

Wherever possible, stream channels will be kept natural, both to reduce potential environmental impacts and keep development costs low. Wetlands are not expected to be affected by the proposed projects. Increased freshwater inflow into the ocean as a result of urban runoff is not expected to be at a level which will cause an adverse effect on nearshore marine life.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari Kilstrom
Planner



William A. Bonnet
Manager
Environmental Department

April 3, 1992

RECEIVED
APR 08 1992

GROUP 70
LIMITED

Mr. Melvin Murakami
Department of General Planning
650 South King Street, 8th Floor
Honolulu, HI 96813

Dear Mr. Murakami:

Subject: Draft Environmental Impact Statement (DEIS)
Proposed Development Plan Amendments
La'ie, Ko'olaupoko, O'ahu, Hawai'i

We have reviewed the subject DEIS, and have the following comments on the proposed project:

In addition to running the necessary circuits to this project, HECO will need to add an additional transformer to one of its existing substations in the area. HECO will also require modification of the existing subtransmission system to support the additional load.

HECO shall reserve further comments pertaining to the protection of existing powerlines bordering and servicing the area until construction plans are finalized.

Sincerely,

cc: Mr. Lucky Fonoimoana,
Zions Securities Corp.
Ms. Kari Kilstrom,
Group 70 International Inc.



20 April 1992

Mr. William A. Bonnet, Manager
Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawaii**

Dear Mr. Bonnet:

Thank you for your April 3, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Your comment effectively gives the applicant advance notice of additional electrical work that will need to be incorporated into the construction design plans for the proposed projects. The applicant's engineers will coordinate project design efforts with HECO as required to supply power to the new development areas.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

A handwritten signature in black ink that reads "Kari Kilstrom".

Kari D. Kilstrom
Planner

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Norman G. Y. Hong, AIA
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James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

L A I E
*Community
Association*

P.O. Box O. Laie. HI 96762

April 2, 1992

RECEIVED
APR 08 1992

Kari Kilstrom
Group 70 International, Inc.
924 Bethel Street
Honolulu, Hawaii 96813-4398

GROUP 70
LIMITED

Subject: LAIE DP AMENDMENTS AND DRAFT EIS

We have reviewed the Laie Development Plan Amendments and Draft Environment Impact Statement, and have some concerns and recommendations as the process moves into the final phase of the EIS.

Location of Light Industrial Area

Concerns have been expressed by the Koolauloia Neighborhood Board #28 that the proposed 16-acre industrial park is located in a flood prone area. Though page 66 of the Draft EIS (Flood Hazard Map prepared by Federal Emergency Management Agency, September 28, 1992) show the area to be in a 500-year flood hazard zone, misperceptions still exist by the Neighborhood Board and by others. Group 70 needs to address those concerns in the Final EIS Statement.

LCA is concerned about the possibility of pollution runoff from the proposed light industrial park into the estuary. Proper provision needs to be addressed for surface and subsurface pollution control.

The LCA recommends that the present 2-acre industrial park located next to the cemetery be utilized as a future cemetery expansion area. It is our belief that the current cemetery site is not adequate for future needs. We recognize that Zions Securities Corporation has invested in existing buildings, equipment, etc., and prefers to remain in the present area. Still LCA is concerned about meeting the future needs of the community.

Resort Amenities

The secondary-resort site located on Kamehameha Highway on the opposite side of the Laniloa Lodge is proposed to be designated as a Resort, for "hotel-related leisure amenities such as a pool, beach accessories and landscaping". This redesignation is viewed with suspicion that the landowner (Property Reserve) would deviate from its stated intent in the Draft EIS to include other commercial ventures. The Neighborhood Board has casually recommended (NHB meetings, March 24, Laie Elementary School Library) that this amendment be excluded or postponed at this time.

It is the LCA's view that the community will benefit by the corridor and pedestrian access to the nearby beach as well as other related activities from the resort designation, and therefore, support the amendment.

HUI LAU LIMA O'LAIE

Odors from Sewer Treatment Plant

The LCA recognizes the concerns of community residents regarding the potential odor impact of the present and proposed expanded sewer treatment plant. We recommend that detailed information be made available to show how the landowner intends to mitigate this potential problem especially since BYU-Mauka is the proposed residential site.

Kuleana Lands

LCA is supportive of the rights of all kuleana landowners under the laws of the State of Hawaii.

BYU-Hawaii and PCC Expansion

Though there are opposing views regarding the rights of BYU-Hawaii and the Polynesian Cultural Center to expand, the Laie Community Association supports their prerogative as landowners to preserve lands for future expansion purposes. By so doing, the economic base of the community of Laie would increase, giving more opportunities for affordability of housing, etc. to its residents as well as those from surrounding communities. The LCA sees their position as one which any sensible institution would endeavor to protect.

Housing

The highest priority of all for the people of Laie is that which concerns **HOUSING**. Shortly following the 1992 LCA Board elections, the new Board launched into a campaign to inform and seek input from community members---not just LCA members, but from as many people in the community we could reach. This was accomplished through several different ways:

1. LOKAHI: Our March issue of Lokahi explained the intent of the Board to push for housing and provided a list of important meetings along with who to contact for information. This newsletter was distributed to all residents in Laie. LCA also invited those who were interested in holding mini-neighborhood meetings to contact us.
2. NEIGHBORHOOD MEETINGS: As a result of those initial efforts the Board scheduled 20 mini-neighborhood meetings in homes, at the Laie Elementary School and on the BYU-Hawaii campus.

We met with Samoan and Tongan residents in the community with translators assisting with the presentations.

These 20 meetings involved over 200 community members. Roger McKenzie, Dale Hammond and Allan Oleole, representing the Board, made presentations complete with visuals and handouts all in an effort, once again, to inform and seek input from the community.

3. LETTERS: The LCA Board then sent letters to approximately 700 residents on our mailing list, to inform them about additional meetings, and the need for those interested in housing to become involved. Two other important meetings were scheduled by the Koolauloa Neighborhood Board #28 and the City and County Department of General Planning. These meetings were held in Kaaawa on March 19, and the Laie Elementary School library on March 24. We estimated that at both meetings combined, there were over 200 people in attendance.

PAGE THREE - Laie Community Association

4. CCN PROGRAM: Earlier in the year the Board organized the CCN program---the Community Communications Network---which is now composed of 45 men and women each representing a section of a particular street in Laie. The whole town is divided into eight districts. Each district has a supervisor who is responsible through the CCNs (block captains) to disseminate information from the LCA Board through the distribution of newsletters, flyers and other notices. This is also an avenue community members can use to give input to the LCA Board.
5. TOURS OF PROPOSED HOUSING SITES: Beginning Saturday, March 21st, the Board conducted on-site tours of the three housing sites recommended in the EIS---Egg Farm, BYU-Mauka and Laiemaloo. Approximately 50 people took advantage of that opportunity.

COMMUNITY MEMBERS FAVOR BYU-MAUKA SITE, PLAN CHANGES

In an informal LCA poll taken on Thursday, March 26, community members who voted, heavily supported the area mauka of BYU-Hawaii (over Laiemaloo and the egg farm) as the site for future housing development.

They also overwhelmingly voted in general agreement with the development plan amendments as presented in the Draft Environmental Impact Statement and in informational meetings held throughout the community.

Of the almost 300 people who voted, the results were: Laiemalo'o, 15.90%; BYU-Mauka, 74.20%; and Egg Farm 9.59%. 96.2% voted general agreement with the development plan amendments as presented in the Draft EIS and in the informational meetings presented by the LCA throughout the community.

We look forward to the Final Environmental Statement and trust that these amendments will continue through the process for approval in a timely and acceptable manner.

Sincerely,



Theresa Kalama Bigbie,
President
LAIE COMMUNITY ASSOCIATION



GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

20 April 1992

Mrs. Theresa Kalama Bigbie, President
Laie Community Association
P.O. Box O
Laie, Hawai'i 96762

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Mrs. Bigbie:

Thank you for your April 8, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Location of Light Industrial Area: The response letter from the Army Corps of Engineers indicated that a flood control easement extends over the central and *mauka* portions of this proposed light industrial area. The botanical survey also indicated that there may be wetlands in this same general area. For these reasons, it has been decided by the applicant to revise the proposed DP Amendment request for the Industrial designation to exclude these flood easement and wetland areas.

The applicant understands that, because the industrial site is located near the Kahawainui Stream, the potential for pollution of surface water is a concern which must be addressed. The potential for oil and chemicals to be carried off-site in surface runoff during precipitation events would be the most likely avenue for this to occur. For this reason, the industrial area will need to be designed to control runoff in detention areas within its project boundary. Overflow runoff would likely reach the stream only after travelling through detention facilities and grassy swales which should help to remove and degrade these types of pollutants before reaching surface water bodies.

The single most important control factor in preventing surface water contamination by this light industrial area will be strict controls on the use and storage of polluting materials. The design of the site and facilities should be required to control runoff from parking areas and yards where equipment and chemicals could leak or spill. Those facilities located closest to the stream could be limited in the types of activities allowed, with light industrial uses involving potential pollutants located at portions of this site which do not drain directly into the stream.

At the time of more advanced land use approvals (i.e., zone change and SMA use permit), more information will become available about the types of light industrial uses proposed, plans for siting these uses, detailed site planning and drainage data, and the specific controls to be implemented for each use. Appropriate conditions can be attached to the rezoning and SMA permit, as well as in deed or lease restrictions, to provide a legal means for enforcement

The requested Industrial designation for the 2-acre area located near the cemetery serves two purposes: to make conforming the existing warehouses which Zions currently utilizes for storage of maintenance equipment, and to utilize a vacant area adjacent to the existing warehouses for similar purposes. Zions Securities currently plays a primary role in the management and maintenance of much of the infrastructure in La'ie. Considering that La'ie does not have any designated Industrial area which is developed, and only ±3 acres which is currently DP designated Industrial but undeveloped, this request, together with the slight expansion of the already designated area, appears to us to be a reasonable part of an overall long-term master plan for the community.

The nearby cemetery has a capacity which is believed to be adequate for the community's needs for at least 10 more years. The site of the existing warehouses is quite unusual in that it is approximately 6-8 feet below the existing grade of the street. This is useful in that the warehouses are less visible from the adjacent cemetery and residential area. However, it would not appear to be an appropriate site for additional cemetery expansion.

Resort Amenities: It is true that uses normally permitted under Resort designation are generally more intrusive than those permitted under the Residential designation. As indicated in the EIS, however, it is intended that the allowable uses for this particular site would be limited through a unilateral agreement. This agreement would limit the uses to activities which are less intrusive than what is permitted for this site under the existing residential designation.

The unilateral agreement would stipulate the types of activities which could be established under the new designation, such as swimming pool, tennis courts, restrooms, changing areas, showers, beach gear and equipment storage, lifeguard facilities, and a snack bar. The snack bar would be small in size and character, and clearly accessory to the recreational facilities. There are no plans for a stand-alone restaurant or other significant commercial use of this parcel.

The unilateral agreement would specifically prohibit the placement of new lodging units, restaurant and other significant commercial use. The agreement will be legally binding in perpetuity, and would carry forward with the land should its ownership be transferred at some future date. Because of

the legal restrictions placed on the allowed uses, it would not be possible to develop other more intensive uses.

The applicant is committed to including a public beach access as part of the plan for this site. There is no intention of developing public or resort parking on this site, or other activity which would cause traffic safety and congestion problems along Kamehameha Highway.

Odors from Sewage Treatment Plant: Odors from the upgraded La'ie Wastewater Reclamation Facility (LWRF) are not expected to be noticeable at the proposed BYU Mauka residential area. Normal operations of this system will not generate noticeable odors at this facility or at locations downwind of the facility.

The LWRF is currently being designed by consulting engineers under contract to Zions Securities Corporation, in compliance with the terms of the Consent Decree established in 1990. The detailed information about the new facility will be contained within a Facility Plan, which is currently under preparation. Concurrently, an Environmental Impact Statement is being prepared for the LWRF, which will address environmental impacts of the treatment and disposal operations, including potential odors and odor control measures.

Mechanical aerated treatment processes typically are not known to create annoying odors unless there is irregular or unusually poor maintenance of the headwork facilities and settling basins. The design, function and maintenance program of the upgraded system must be approved by the State Department of Health and independent reviewers, Drs. Gearheart and Finney, prior to implementation. If it is to be dedicated to the City and County, approval of the Department of Public Works will also be required. Potential odor problems are being considered as part of facility planning, with siting, design and maintenance measures established to ensure that odors will not affect the BYU Mauka residential area, as well as the rest of the La'ie community.

Kuleana Lands: Your support of the rights of all *kuleana* landowners under the laws of the State of Hawaii is acknowledged. We do not anticipate any adverse impacts on these rights from the proposed DP amendments.

BYU-Hawaii and PCC Expansion: Your support of the Public designation for the outer BYU campus area and the Commercial designation for the expansion of Polynesian Cultural Center, and the associated support the economic base for La'ie and its neighboring communities, is noted.

Housing: Clearly, the La'ie Community Association has undertaken a vigorous campaign to inform and seek input on the requested DP amendments from as many members of the La'ie community as possible during the Draft EIS 45-day review and comment period, as is evidenced by

Letter to Laie Community Association
20 April 1992
Page 4

the newsletters, mini-neighborhood meetings, larger public meetings and field tours of the three alternative housing sites. The applicant is appreciative of your efforts and offers its continued support for your programs to keep La'ie residents informed.

The community's overwhelming support of the affordable housing at the BYU Mauka site has been endorsed by the applicant. The Final EIS indicates BYU Mauka as the preferred residential site, and the scope of the requested DP Amendments has been redefined accordingly.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

TANIS LTD.

55 - 110 KAM HWY.
LAIE HI. 96762

April 3, 1992

RECEIVED
APR 10 1992

GROUP 70
LIMITED

Kari Kilstrom, Planner
Group 70 Limited
924 Bethel Street
Honolulu, HI 96813-4398
523-5866

RE: Important soils information relating to the Laiemalo'o
alternative site in Zions Securities Corporation request
for development plan amendments in Laie. DGP Ref. #: 1992/KL-1

Dear Kari Kilstrom,

Recently the Laie Community Association gathered to vote on the preferred location for residential development in Laie. We at Tanis Limited have a long association with this specific area and feel it incumbent upon us to alert your firm to soil and drainage conditions that appear to have been overlooked in the Draft EIS.

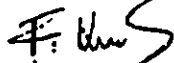
Our specific area of experience is with TMK 5-5-06: Por. 1. However the observations that follow generally apply to the two other TMK designations in the proposed Laiemalo'o alternative site.

The aforementioned area typically serves as a sheet-water surface runoff basin during the months of heavy rain characteristically received during winter and spring months. Standing water up to one foot in depth and remaining for weeks at a time can cover up to one half the area of the flat portion of the parcel. This situation pertains in spite of regular and consistent maintenance of surface diversion channels. In addition, the ground water level during high tides can rise to within several feet of the surface.

A significant additional element of relevant concern on this parcel is the tendency for the soil to heave and swell and crack during periods of drying out. Subsoil shifting appears throughout the areas of former full and partial inundation, as the soil dries.

We at Tanis Ltd. as concerned members of the community and with 70 years cumulative experience in both farming and construction feel that the Laiemalo'o parcel contains serious defects in its candidacy for zoning redesignation. These defects would require enormous sums of money to correct. The infrastructure costs for soil stabilization, graduated fill, stream and sheet channelization have not been adequately addressed to date due to incomplete assessment of the previously mentioned soil and drainage problems. Please feel free to contact us if you would like to discuss any of the above important concerns. Thank you very much.

Sincerely,



Fred Knowles, President
Tanis Limited
293-5648

cc: Mr. Melvin Murakami
area planner, Dept.
of Gen. Planning



20 April 1992

Mr. Fred Knowles, President
Tanis Limited
55-110 Kamehameha Highway
Laie, Hawaii 96762

Subject **La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

Linda M. Aniya
Derrick T. Seiki
Ralph E. Portmore, AICP
Edward T. Green
Paul P. Chorney, AIA
Stephen H. Yuen, AIA
Dean H. Kitamura, AIA
Norma J. Scott
June Fukushima-Lee, ASID
Anne Theiss, AIA, ASID
Stephen E. Callo, CPA
Bradford A. Wellstead, AIA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Dunilo M. Herrera

Dear Mr. Knowles:

Thank you for your April 3, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. The following is in response to your comments.

Your comments pertain solely to the storm water runoff and soils stability characteristics of the La'iemalo'o alternative residential site considered in the Draft EIS. Section 4.3 of the Draft EIS notes the presence of Kaena and Keaau clay soils which have a high shrink-swell potential at the La'iemalo'o site. This is consistent with the description of your experience with these soils. The information provided concerning surface runoff in this area is acknowledged.

The Draft EIS studied three alternative sites for residential development. Based upon the above findings and input from residents of the La'ie community such as yourself, the applicant has selected the BYU Mauka alternative as the preferred site for a new residential neighborhood. The Final EIS indicates this preference and defines the scope of the requested DP amendments accordingly.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

A handwritten signature in cursive script that reads "Kari Kilstrom".

Kari D. Kilstrom
Planner

To: Kōhalaunāʻā Neighborhood Board
 90 Hauula Satellite City Hall
 54-010 Kukuna Rd.
 Hauula, HI 96717

03190-1047
 RECEIVED

APR 30 AM 6:31

From: Arne B. Westly, Jr.
 55-311 Kamehameha Hwy.
 Lāie, HI 96762

March 27, 92

Members of the Board,

I recently bought a home in Lāie and am living here now. I wanted to get away from the noise, congestion and pollution of Honolulu. I chose Lāie because my family weekend-ed in Lāie during much of my childhood (30 years ago) and I can't help but fondly remember the quiet, rural aspect of the area.

Much to my surprise, upon moving into my new house, I learned that six out of seven nights a week there's a veritable stampede of buses, vans and cars pouring out of the Polynesian Cultural Center. (I'm sure you're more than familiar with it).

Also, I learned that Lāie's Hukilau Beach is now unsafe for swimming (Dept. of Health) because the sewage from the Zion's Securities treatment facility up stream periodically pours into the ocean there! Boy, has Lāie changed, I thought...


What a shock it was to hear that now Zion's Securities wants to expand the Polynesian Cultural Center and build more houses and apartments! It seems to me that before any expansion of any kind is even considered, the existing sewage problem must be cured in fact - rather than in words and on paper. Let Zion's complete their new sewage facility and

let them establish a good track record... then they're free to re-submit their plans.

Nonetheless, Zions development plans do appear to be up for consideration now, so permit me to briefly have my say. First of all, the Cultural Center is obviously already a huge money-maker, drawing throngs without fail six days a week. Obviously, no expansion is needed (if anything, why not consider a five day-a-week schedule and earlier shows). Secondly, our ocean and our beaches make our island the paradise we all know it to be. Let's not run the risk of further polluting such a precious, irreplaceable resource. "No tried and proven sewage facility... absolutely no further development". Thirdly, do we have enough water to bring into being 450 new households and acres of low-density apartments? Aren't we already constantly being told to conserve water? Fourthly, isn't much of the 70 acres of land Zions wants to develop currently being actively used for agricultural purposes? Do we want to get to a point where we import everything we eat? Fifthly, do the Hamilton's Law with "pent-up demand" for housing make the required 80% - 120% of \$42,000 (for affordable housing)? I'd be surprised if even a fourth of the affordable homes built go to these people (not to mention the market-priced new homes). Lastly, the rural character of this part of the island is already largely gone. Do we want to completely wipe it out?

To conclude, I am absolutely against Zions Securities' plans to: (i) expand the Polynesian Cultural Center, (ii) build 450 new houses, (iii) build low-density apartments, (iv) rezone ag land to industrial land and (v) rezone residential to resort. Thank you for listening to my heartfelt views and concerns.

cc: Councilmember Steve Holmes / Dept. of General Planning

Sincerely,




20 April 1992

Mr. Arne G. Westly, Jr.
55-311 Kamehameha Highway
La'ie, HI 96762

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Mr. Westly:

Thank you for your March 27, 1992 letter to the Ko'olauloa Neighborhood Board regarding the above-referenced Draft Environmental Impact Statement. Your copy to the Department of General Planning was forwarded to us for a response. The following is in response to your comments.

Polynesian Cultural Center (PCC): The Polynesian Cultural Center has become the favorite visitor attraction in the State of Hawai'i in terms of visitor numbers. The traffic associated with PCC generally involves non-peak periods which minimizes the potential for traffic congestion along Kamehameha Highway. Traffic noise is significant for homes fronting on the highway along all sections of the entire windward coast and north shore, irrespective of their proximity to significant attractions like the Polynesian Cultural Center. Vehicle noise is generally more noticeable during evening hours. PCC contributes most to traffic noise during specific periods of the day and night, particularly when the evening show ends at 9:00 P.M.

Expansion of PCC as proposed by the DP amendment is planned to be for parking and storage facilities in the short-term. Consistent with the La'ie Master Plan, the PCC has disclosed its general long-term plan for only minor additional expansion of some attractions in the adjacent land area. The expansion will allow for better organization of parking facilities. Nighttime bus travel associated with PCC is not expected to expand significantly due to limited space of the theatre facilities for the night show.

Wastewater Treatment and Disposal: The La'ie wastewater treatment facility is currently being improved to eliminate failures which have caused some problems in the recent past. Zions Securities is making improvements to the treatment process and the disposal process under the direction and close monitoring of the State Department of Health. Ocean water quality is not expected to be further affected by normal operation of the new wastewater system.

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Hitoshi Hida, AIA
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Danilo M. Herrera

Letter to Mr. Arne G. Westly, Jr.
20 April 1992
Page 2

Because the recent system problems resulted in partially treated wastewater being discharged to Kahawainui Stream, Hukilau Beach was directly affected during that episode. As a precaution, people had been warned against swimming along this section of the coast until treatment system problems have been remedied. Improvements which raise treatment to a tertiary level and divert all effluent disposal away from Kahawainui Stream are nearly completed and will soon be in full operation.

New Residential Development: The development of new affordable homes for people of La'ie is the number one community issue being addressed by the Development Plan amendment application which is before the Department of General Planning this year. More than 60 percent of the 450 new homes would be affordable to residents of La'ie and the surrounding communities. This proposal has widespread support from the La'ie Community Association, with the understanding that Zions Securities Corporation is handling the needed improvements to the wastewater treatment system.

The main condition supporting the need for new housing is the acute shortage of affordable housing in La'ie, with many homes currently housing two and three families. The facts are that there are real problems with housing in this community, and the community has spent years of effort to get a housing project to move ahead. We recommend that you check into what is going on in this community, to better understand the real issues facing La'ie residents who have been living there for a longer time. Mrs. Theresa Bigbie is the President of the La'ie Community Association. She can be reached at 293-3780. The La'ie Community Association's mailing address is P.O. Box O, La'ie, HI 96762.

Water Supply: Drinking water supply is always an important development consideration, and La'ie has plenty of groundwater reserves to accommodate the proposed development of 450 new homes. Improvements to the existing water system are being addressed as part of the finalization of the La'ie Master Plan, planned to be completed by the end of 1992. Water conservation is an important part of the development planning for this new part of the community, as well as for the existing community. The planned wastewater disposal process calls for reclamation of a portion of the tertiary-treated effluent by agricultural land irrigation, a very effective technique to conserve water, recharge groundwater and safely dispose of high quality effluent.

Ocean Water: Zions Securities Corporation shares your concern about keeping our ocean and beaches clean. The pollution source which affected areas near Hukilau Beach is being cleaned up and no longer poses a risk to public health and environmental quality. Improvements to the wastewater system are being completed under the direction of State Health officials, to ensure compliance with State and EPA regulations which protect water quality.

Letter to Mr. Arne G. Westly, Jr.
20 April 1992
Page 3

Agriculture: Approximately 40 acres of active agricultural land will be displaced by the planned new development. This land is currently being used to raise bananas, papayas and vegetables. Zions Securities Corporation has approximately 465 acres of other land in La'ie which will continue to be designated for agricultural land use. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. No loss in crop production is expected to result from the development of the new housing area.

Housing Affordability: The comparatively lower income levels in La'ie are well known to Zions Securities Corporation, and the pricing for new housing will need to be set at levels which are affordable to La'ie families. A major community-wide effort is being undertaken to develop programs which will provide the housing to the people that need it at prices they can afford.

It is not possible at this time, however, to pinpoint exactly what programs will be used to reduce housing prices to affordable levels. This analysis will require going through the complex and expensive exercise of designing specific programs for building low-income rentals, affordable senior citizen housing, for-sale housing for families, etc. Undertaking such an effort at this point would be premature. Programs which will be most likely to be used to reduce housing costs include: owner-built or self-help housing, below-market land cost, government-sponsored rental project, and Farmers Home Administration (FMHA) Loan Program.

Rural Character: The proposed DP Amendments will cause no perceptible change to views of La'ie from Kamehameha Highway. Most of the new projects involve off-highway locations, such as the BYU Mauka housing development and the BYUH campus expansion. The PCC expansion area, resort beach amenities and the new light industrial facilities, while visible from the highway, will be screened with landscaping where appropriate. The most visible of the proposed uses essentially represent small expansions of existing uses, which will ultimately be designed with aesthetic features due to community concern about scenic beauty along this route. The rural character of La'ie fringe areas will not be affected by the proposed DP Amendments.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

The Hawai'i — Lā'ieikawai Association, Inc.
P.O. Box 720, Ka'a'awa, Hawai'i 96730 • Phone (808) 237-7015

April 8, 1992

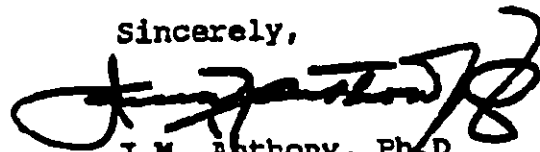
By Fax Transmission
Hard copy to follow

Mr. Ben Lee
Department of General Planning
650 South King Street
Honolulu, Hawai'i 96813

Dear Mr. Lee:

We have noted the extraordinary position taken by Group 70 acting, no doubt, on the instruction of their clients, to deny us any extension to file our comments on the Draft EIS. Although Group 70 says in their letter of 21 February 1992 that the deadline for comments is April 9 we are taking the precaution of submitting our comments a day ahead. We are still available, of course, to provide such clarification as you might need.

Sincerely,



J.M. Anthony, Ph.D
Executive Director

xc: OEQC
Group 70
Neighborhood Boards #27, 28, 29

Encl. La'ie Development Plan Amendment: Comments (8pp.)
PUC correspondence re Water (13pp)

The Hawai'i — Lā'ieikawai Association, Inc.
P.O. Box 720, Ka'a'awa, Hawai'i 96730 • Phone (808) 237-7015

LA'IE DEVELOPMENT PLAN AMENDMENTS: APPLICATION AND DRAFT ENVIRONMENTAL IMPACT STATEMENT:

Overarching comments:

1. The material submitted by the applicant addresses impacts on La'ie only. Impacts on adjacent communities are not addressed in any meaningful way. The draft EIS is seriously flawed in this respect.

2. Having regard to the development timetable set out in 2.4, p.35 of the Draft EIS, we submit that the application for DP changes is wholly premature. There is plenty of flexibility in the DP amendment rules for the applicant to present a case for DP changes when the applicant can make a clearer case for proposed changes based on specific information. The lack of specificity in several crucial sectors (housing, alternate site for sewage effluent disposal, clean up of the polluted Po'ohaili wetlands, seepage from cess pools in Old La'ie into 'waters of the United States'--this listing is illustrative, not exhaustive) lends weight to the argument that the changes sought ought only to be considered when appropriate full disclosure is made as part of the material submitted by the applicant. The next annual review, we believe, is in 1993 which is when the applicant should come back with specific

information on many of the projects identified in the time table as not being scheduled for well beyond that date.

3. The applicant puts the public in general, as well as those having a public interest and who have consulted party status, in an impossible situation by offering three possible sites for housing. To expect reasonable people to respond in these circumstances places an undue and unnecessary burden on them. The applicant has an obligation to specify a site. Until a site (singular) is designated by the applicant it is, we stress again, premature for us to respond to the impact on the immediate community as well as on the larger community of which La'ie is a part. There are other aspects of the housing issue which will be raised in another section of this document.

4. The applicant and their agents have a tawdry record with respect to the preservation and protection of Hawaiian sacred sites. Pa'eo fishpond (sacred to Hawaiians) was callously filled in by Zions Securities. Nioi heiau was extensively damaged by agents of the LDS Church with which the applicant is affiliated. Other sacred sites are at issue in the so called project area. Most importantly, the Archaeological Inventory Survey is only an Interim Report. This poses special problems.

5. Overall, the Draft EIS is rather in the nature of the work of a besieged graduate student who, faced with an indecently imposed

deadline, tries to fake his way through a project by throwing together commissioned appendices in order to justify a number of dubious conclusions. Some of the specific issues to be raised in the sections which follow will illustrate this.

6. The section on water resources, although a part of this review, has been prepared by another professional consultant. It will be either incorporated into this review or sent separately. In any event it is to be considered a part of our response to the Draft EIS.

SPECIFIC ISSUES:

1. p. 28: The drainfield contemplated under the terms of the Consent Decree is only an interim device subject to assessment as to whether it will work over the long term. There is no evidence now available as to whether it will work in the long run. In either the short or the long term the drainfield has only been certified to handle .5 mgd of effluent. The applicant plans a 1.5 mgd plant. The Draft EIS does not address the disposal of effluent issue over and above .5 mgd.

2. p.28: The application for the resort amenities is premature at this time.

3. Other projects such as the BYU expansion, the light industrial

4

area, the egg farm outlet matter are all premature for consideration at this time. The same applies to the proposed FCC expansion.

4. Section 4.0, p. 43: No mention is made in this entire section about wetlands and ponds previously existing in Laie which were filled by applicant or its agents. This change in topography is related to flooding. This is a matter that must be addressed and is relevant to the area adjacent to to BYU and one of the proposed housing sites.

5. p. 89: No bus traffic figures are included.

6. p. 90 (3rd and 4th paragraphs): The reasoning in paragraph 3 is defective. What is the basis for the conclusion reached in paragraph 4?

7. pp. 92, 93: At the top of p. 92, third line you say no substantial increase in vehicular traffic is anticipated. On the very next page, 93, para. 3, you mention 12-15%. Isn't this level of increase going to generate substantially more traffic? We suggest most strongly that it will.

8. p. 92, para 2: The applicant purports to represent that 50% of the residents in the proposed new housing area will never leave the housing (or where they are allegedly going to be employed at

5

BYU etc.) in vehicular traffic. That does stretch the bounds of our credibility. The statement is obviously indefensible.

9. p. 99, para 1: There is a difference between noise in urban areas as opposed to rural areas that is completely skirted in this alleged analysis. These comments extend to the understated effects of blasting in a rural area at the top of p. 100.

10. p. 102: The section on electrical demand at the bottom of the page and on p. 103 makes no provision for energy conservation.

11. p. 115: The 360 visitor count expansion is fully 10% of the present approximately 3,240 daily visitors. That is significant by any standard.

12. p. 115: We have addressed this question in other material submitted to the Dept. of General Planning as well as others. No case has been made for market housing. Population increase in La'ie has been the result, in no small part, of the applicant and other Mormon Church entities (notably the Polynesian Cultural Center's) policies of importing cheap labor from the Pacific. We suggest, therefore, that the Polynesian Cultural Center, which makes many millions of dollars a year in profits, divert some of these funds for affordable housing.

In addition, and this is the substantive issue, the whole question of housing (cost, size, type, size of lot etc.) has got to

5

be tied down now, before any permits are granted to the developer. So far the applicant has been able to manipulate the La'ie Community Association (which is, in our view, a much less than independent community organization most of the leaders of which are tied to the apron strings of employment with various LDS Church entities in La'ie) into supporting the applicant's position which leaves the community's interests completely exposed to the whims of the applicant. After the necessary land use permits are obtained the applicant has the pliant community Association at its mercy. This is an issue that must be carefully looked at. No action ought to be taken on the DP changes until enforceable agreements are in place to protect the community's interest with respect to affordable housing carefully defined.

13. p. 116: No mention is made of underemployment.
14. p. 117: The personal income figures and the price levels for so called affordable homes do not match.
15. p. 67: As best as I can ascertain it there is no data on biota in this entire section.
16. p. 117: The projected trend toward higher wage levels is unsupported by developments in the past and there is neither evidence nor credible basis to believe this will happen in the future.

17. p. 120: "Unit" is undefined. This section (para 3, under A) is meaningless.

18. p. 121, Section B. para 2: There is no evidence to support what this paragraph says. The \$179,000 median home figure for "the region" (top p. 122) is without foundation.

19. pp. 126-127: The "lifestyles" section is completely without foundation or credible supporting data. Applicant fails to state the denial of surface water to Kuleana landowners; the diversion of streams as well as the realignment of streams over many years. No data are presented on instream flow standards.

20. p. 127-ref. to agricultural land: It is important to note that the applicant has never had a long policy for agriculture. For many years what little agricultural land has been leased out for farming has been done on a month to month basis.

21. pp. 158-191: Much of what is said in this section is unsubstantiated and is in fact contradicted by the massive changes proposed by the applicant. The changes proposed in the Draft-EIS, are, as we delineated in our letter of December 23, 1991, substantial. The responses provided by Group 70 on behalf of the applicants (21 February 1992) are vague and misleading. This deception is carried over into the verbiage set out on pp. 158-191.

8

22. We append hereto documents from the files of the PUC regarding the applicant selling water without a license.

23. We reiterate that Kuleana landowners have serious disputes with the applicant concerning water. Those disputes remain and until they are resolved any further use of water by the applicants for additional developments should not be allowed.

cc: Neighborhood Boards #27, 28, 29
Office of Environmental Quality Control
Group 70

c:\wp51\hale\hale.doc

ASHFORD & WRISTON

Tide Guaranty Building
235 Queen Street
P.O. Box 131
Honolulu, Hawaii 96810

TELEPHONE
(808) 524-4787
FACSIMILE
(808) 533-4945

January 7, 1992

FILED
JAN 9 12 42 PM '92
PUBLIC UTILITIES
COMMISSION

Public Utilities Commission
465 South King Street
Kekuanoa Building, First Floor
Honolulu, Hawaii 96812

Attention: Mr. Clarence Nagao

Re: Zions Securities Corporation Water System

Gentlemen:

The purpose of this letter is to bring you up to date on matters regarding the Laie water system mentioned in Mr. Henry Tsuyemura's letter to us of May 16, 1991 and in our follow-up letter to him of July 16, 1991.

Zions Securities Corporation ("Zions") will be filing an application with the Public Utilities Commission for a Certificate of Public Convenience and Necessity for the operation of its water system in Laie. Consistent with that end, Zions last year hired a utility consultant, and has since met with engineers with experience in valuing assets for utility applications. Zions will undertake a valuation of the Laie water system for use in deriving an acceptable rate base to present to the Public Utilities Commission. In addition, shortly we will form a new corporation, which will be the named applicant for the proposed Application for Certificate of Public Convenience and Necessity.

We again will be in touch with you as we bring together the necessary elements for this application.

Yours truly,

ASHFORD & WRISTON


Douglas W. MacDougal

DWM:met

cc: Wilford W. Kirton, Esq.
David Jensen, Esq.
Marvin Stone
Lucky Ponoimoana
President Alton Wade

File

JOHN WAIHEE
GOVERNOR



STATE OF HAWAII
PUBLIC UTILITIES COMMISSION
DEPARTMENT OF BUDGET AND FINANCE
485 S. KING STREET
KEKUAHAA BUILDING, FIRST FLOOR
HONOLULU, HAWAII 96813

YUKIO NAITO
CHAIRMAN

CLYDE S. DUPONT
COMMISSIONER

PATSY K. YOUNG
COMMISSIONER

May 16, 1991

Douglas W. MacDougal, Esq.
Edwin Oyarzo, Esq.
Ashford & Wriston
P.O. Box 131
Honolulu, Hawaii 96810

Re: Zions Securities Corporation

Dear Messrs. MacDougal and Oyarzo:

In your letter dated December 24, 1990, you asked whether the water system owned and operated by Zions Securities Corporation (Zions) in Laie, Hawaii is a public utility, as defined by Hawaii Revised Statutes (HRS) § 269-1. You indicated that if the Laie water system is considered a public utility, Zions would like to bring the system into compliance with the requirements of the Public Utilities Commission, as soon as possible.

Upon review of the information you supplied, the applicable statutes, and related case law, we conclude that the Laie water system is a public utility, as defined by HRS § 269-1. We also conclude that the exemption in HRS § 269-7.5 does not apply to Zions. Consequently, it would appear that Zions needs to obtain a certificate of public convenience and necessity to continue its operations in the Laie area.

HRS § 269-1 provides, in relevant part:

"Public utility" means and includes every person who may own, control, operate, or manage as owner, lessee, trustee, receiver, or otherwise, whether under a franchise, charter, license, articles of association, or otherwise, any plant or equipment, or any part thereof, directly or indirectly for public use, . . . for the production, conveyance, transmission, delivery, or furnishing of light, power, heat, cold, water, gas, or oil[.]

Douglas W. MacDougal, Esq.
Edwin Oyarzo, Esq.
May 17, 1991
Page 2

As indicated in your letter, the determinative issue with respect to Zions is whether Zions is a "person" operating its Laie water system "directly or indirectly for public use." We agree that the test to be applied is that adopted by the Hawaii Supreme Court in In re Wind Power Pacific Investors-III, 67 Haw. 342 (1984):

[W]hether the operator of a given business or enterprise is a public utility depends on whether or not the service rendered by it is of a public character and of public consequence and concern, which is a question necessarily dependent on the facts of the particular case, and the owner or person in control of property becomes a public utility only when and to the extent that his business and property are devoted to a public use. The test is, therefore, whether or not such person holds himself out, expressly or impliedly, as engaged in the business of supplying his product or service to the public, as a class, or to any limited portion of it, as contradistinguished from holding himself out as serving or ready to serve only particular individuals.


67 Haw. at 345 (quoting 73B C.J.S. Public Utilities § 3).

According to your letter, approximately one-third of Zions' water is furnished to property that once belonged to the Church of Jesus Christ of Latter-Day Saints (Church), but is now owned by individuals to whom the Church sold the leased fee interest in the 1980's. You state that this property consists of approximately 540 residential lots. Your letter also indicates that "Zions has and does provide water to others in Laie who have requested it."

We believe that Zions, by this activity, has held itself out "as engaged in the business of supplying [its] product or service to the public, as a class, or to any limited portion of it." Thus, we conclude that Zions meets the HRS § 269-1 definition of "public utility" under HRS § 269-1 and must comply with HRS § 269-7.5 by obtaining a certificate of public convenience and necessity from the commission.

I suggest that Zions submit an application for a certificate of public convenience and necessity to bring the Laie water system in compliance with the requirements of HRS chapter 269.

Very truly yours,


Henry Toyomura
Administrative Director

HT:CN:ac

ASHFORD & WRISTON

Title Guaranty Building
235 Queen Street
P.O. Box 131
Honolulu Hawaii 96810

TELEPHONE
(808) 524-4787
FACSIMILE
(808) 533-4945

July 16, 1991

Mr. Henry Tsuyemura
Administrative Director
Department of Budget and Finance
Public Utilities Commission
State of Hawaii
465 South King Street
Kekuanaoa Building, First Floor
Honolulu, Hawaii 96812

FILED
JUL 17 1991
PUBLIC UTILITIES
COMMISSION

Re: Zions Securities Corporation

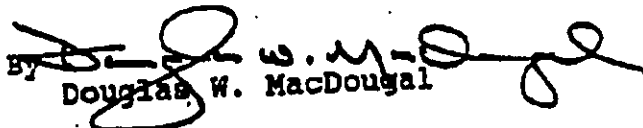
Dear Mr. Tsuyemura:

Thank you for your letter of May 16, 1991, responding to ours of December 24, 1990.

We have forwarded the letter to Zions Securities Corporation, and are advised that it is actively studying means by which its facilities may be brought into compliance with the references you cite. Zions Securities Corporation desires to cooperate in every way with you as it addresses these issues, and will keep you closely informed about further progress in this matter.

Very truly yours,

ASHFORD & WRISTON

By 
Douglas W. MacDougal

DWM:net

ASHFORD & WRISTON

Title Guaranty Building
235 Queen Street
P. O. Box 131
Honolulu, Hawaii 96810

TELEPHONE
(808) 524-4787
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(808) 533-4945

RC: J.L.M.

December 24, 1990

Mr. Henry Tsuyemura
Executive Director
Public Utilities Commission
465 S. King Street, Room 103
Honolulu, Hawaii 96813

DEC 24 1990
PUBLIC UTILITIES
COMMISSION

Re: Zions Securities Corporation

Dear Mr. Tsuyemura:

As Lani Nakazawa of your staff suggested, we are writing to request your guidance as to whether a water system in Laie, Hawaii, owned and operated by Zions Securities Corporation, is a "public utility," as defined in Hawaii Revised Statutes § 269-1. We would greatly appreciate your assistance in this matter. If the Laie Water System is considered a public utility, Zions would like to bring it into compliance with the requirements of the Public Utilities Commission as soon as possible.

Background. Zions is the land development division of the Church of Jesus Christ of Latter-Day Saints, also known as the Mormon Church. A new management group is in the process of assuming responsibilities at Zions. As part of the transition, correspondence with the Public Utilities Commission in 1984 was reviewed. Copies are attached for your reference.

According to the correspondence, on August 13, 1984, Melvin Ishihara, the Administrative Director of the PUC, wrote to Zions regarding an inquiry received by the PUC concerning Zions. Evidently, a water customer of Zions was wondering why a water bill was sent to her, as the property owner and lessor, rather than to her lessee, the occupant of the property. Mr. Ishihara noted that "no Certificate of Public Convenience and Necessity had been issued to Zions as a public utility for the distribution of water for public use." However, he said that

A. James Wilton, Jr.
Albert H. Ogawa*
Galen C.K. Leung
Jack M. Rolis, Jr.
Wayne Nasser*
Douglas W. MacDonell*

John A. Lockwood*
Cuyler E. Shaw*
Michael W. Gibson
Rosemary T. Fazio
Diane S. Kishimoto
Paul S. Add
Francis P. Hogan

James K. Mee
Lorin B. Hirano
—
Kirk W. Caldwell
Marjorie C.Y. Au
Adrian W. Rosehill
Paul R. Goto

Katharine P. Lloyd
Na'auaukina'ia A. Kamali'i
Owen H. Matsunaga
Shan J. Bento
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William B. Stephenson
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Mr. Henry Tsuyemura
Page 2
December 24, 1990

the factual circumstances had to be reviewed before a determination could be made as to whether or not Zions was a public utility. He therefore requested further information about the water system.

On August 16, 1984, Zions responded to Mr. Ishihara's letter. Zions explained that its customary procedure was to bill property owners, not tenants. Zions also described the history, users, charges, structure, layout, location and monitoring of the water system. Zions has no record of any reply to its letter from Mr. Ishihara or anyone else at the PUC.

Recently, on behalf of Zions, we contacted Ms. Nakazawa of your office to ascertain whether a determination had been made in 1984 as to whether Zions was a public utility, as a result of the exchange of letters described above. After speaking with other staff members, Ms. Nakazawa told us that no such determination had been made because the water customer's inquiry had been satisfactorily resolved. Ms. Nakazawa indicated that we could request your assistance on the general question whether the Laie Water System would be considered a public utility. It is important to Zions' new management to obtain a degree of comfort on this matter.

The water system. As described in Zions' 1984 letter, the Church purchased the ahupuaa of Laie in 1865. In 1890, the Church drilled water wells on its land for the primary purpose of irrigating farms, although water also was provided to the Church's residential tenants for household purposes. An extensive water distribution system was installed in 1927. All water for the system continues to come from Church-owned wells.

Until World War II, Laie was a relatively small community. In 1955, the Church built the predecessor to Brigham Young University-Hawaii, which now has 2,000 students. In 1962, the Church built the Polynesian Cultural Center. Zions' water system serves both institutions, as well as other commercial and residential property in Laie.

Zions' water system presently has about 700 users, all in the Laie area only. The City and County of Honolulu's Board of Water Supply or other private water companies serve property surrounding and outside of Laie. Approximately two-thirds of the water from the Laie system is used (1) by property owned and operated by the Church (BYU-Hawaii, 44%; Cultural Center,

Mr. Henry Tsuyemura
Page 3
December 24, 1990

9%), (2) by property owned by the Church, but leased for commercial purposes (shopping center, resort, community center, industrial park, 4%), or (3) by property leased to others by the Church for residential purposes (about 160 lots, 9%).

Only about one-third of Zions' water is used by property not presently owned by the Church. This property consists of about 540 residential lots. However, most of these lots were owned by the Church until the 1980's. At that time, the Church sold the leased fee interest to the occupants, most of whom were and remain members of the Church.

Public Use. As Mr. Ishihara acknowledged in his letter, the key issue in determining whether Zions' water system is a public utility is whether the system is operated "directly or indirectly for public use." HRS § 269-1. The Hawaii Supreme Court has established the following test for public use:

[W]hether the operator of a given business or enterprise is a public utility depends on whether or not the service rendered by it is of a public character and of public consequence and concern, which is a question necessarily dependent on the facts of the particular case, and the owner or person in control of property becomes a public utility only when and to the extent that his business and property are devoted to public use. The test is, therefore, whether or not such person holds himself out, expressly or impliedly, as engaged in the business of supplying his product or service to the public, as a class, or to any limited portion of it, as contradistinguished from holding himself out as serving or ready to serve only particular individuals.

In re Wind Power Pacific Investors-III, 67 Hawaii 342, 345 (1984). Decisions by the PUC since Wind Power have adopted and applied this test for public use. E.g., In re AT&T, Docket No. 6438, Order No. 10590, 113 P.U.R. 4th 86 (April 11, 1990); In re Hawaiian Telephone Co., Docket No. 5660, Order No. 9686, 91 P.U.R. 4th 324 (March 4, 1988).

Lessors supplying water only to lessees do not meet the public use requirement and therefore are not public

Mr. Henry Tsuyemura
Page 4
December 24, 1990

utilities. The contractual, landlord/tenant relationship renders the lessees a "defined, privileged and limited group," such that the lessor's provision of water to them is private in nature rather than public. City of Sun Prairie v. Public Service Commission, 154 N.W.2d 360, 363, (Wis. 1967); Drexelbrook Associates v. Pennsylvania Public Utilities Commission, 212 A.2d 237, 240 (Pa. 1965).

Analysis. We do not believe that Zions' water system satisfies the public use prerequisite to status as a public utility. The bulk of the property served by the system is owned by the Church, or by persons with close ties to the Church. Over half of the water is used by two educational institutions owned and operated by the Church. Such an internal water distribution system within one effective organization cannot be considered a "public use." Another 13% of the water is supplied to lessees. Such lessees are a "defined, privileged and limited group" that receive water only because they are lessees, not because they are members of the public. Under the authority of the cases described earlier, the provision of water to lessees is not considered "public use."

The remaining one-third of Zions' water, which is distributed mostly to former lessees of the Church, does not render the system for public use. The provision of such water is incidental to the primary, historical function of Zions, which has been to provide water to Church property. Most of these other lots began to receive service only because they were owned by the Church at the time. Once the lots were sold, Zions continued to provide water as an accommodation to the occupants, most of whom were and are members of the Church. However, neither Church ownership nor membership, nor status as a former lessee, is necessary to obtain water from Zions in Laie. Zions has and does provide water to others in Laie who have requested it.

Even if Zions is considered a public utility, no certificate of public convenience and necessity under HRS § 269-7.5 is necessary. That statute expressly exempts operations existing at the time the statute was enacted in 1978. The Church has been providing water in Laie for 100 years.

Conclusion. We hope that you concur in our assessment that Zions' water system is not a public utility. Zions would

Mr. Henry Tsuyemura
Page 5
December 24, 1990

prefer not to have to incur the expense of seeking a formal declaratory ruling from the PUC on this question. However, Zions very much wants to comply with whatever governmental requirements apply concerning its water system. Please let us know if you have any questions, or would like any further information.

Very truly yours,

ASHFORD & WRISTON

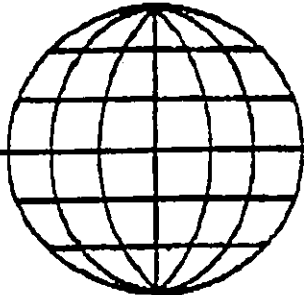


BY

DOUGLAS W. MacDOUGAL
EDWIN OYARZO

Attachments

cc: Lani Nakazawa w/



Zions Securities Corp.

88510 KAM HIGHWAY • LAIE, HAWAII 96762 • 293-9201

August 16, 1984

State of Hawaii,
Public Utilities Commission,
1164 Bishop Street, Suite 911,
Honolulu, HI 96813.

ATTN: Melvin S. Ishihara, Administrative Director

Dear Mr Ishihara:

Thank you for your letter of August 13, 1984.

Zions Securities is the land development division of the Church of Jesus Christ of Latter-Day Saints (Mormons). The church purchased the Ahua Puua of Laie in 1865. In the early days of the Laie community, the church provided water for its tenants as far back as 1890. Zions Securities provided an extensive water distribution system that was installed in 1927. Further development continued to 1955 when the Church College of Hawaii was built and in 1962 when the Polynesian Cultural Center was developed along with other new subdivisions.

Water rates have been nominal, increasing in steps along with the Board of Water Supply rate increases.

Water service extends from Malaekahana on the north to Laialoo in the south. A map of Laie is attached showing locations of our reservoir, 4 wells and main distribution lines. We service approximately 800 customers including approximately 400 meter accounts on Kam Highway and Laie Point about 400 in the "town" area, mauka of Kam Highway, who are on a fixed flat rate of \$12 per month per living unit. Brigham Young Univ-HC, Polynesian Cultural Center and other commercial operations are charged regular Board of Water rates as measured by meters.

Water quality has been monitored by the State of Hawaii Board of Health and the State water control division along with the Board of Water Supply.

Distribution lines are within private roadways in the Laie community which are owned by Zions Securities and also public roadways of Kamahamaha Highway and Naupaka Street at Laie Point. Public utility easements exist on Kam Highway and Naupaka Street for water, electricity, etc. Our water distribution lines are wholly located within these recorded easements.

4- 9-92 10:59 AM :

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Public Utilities Commission,
August 16, 1984
page 2.

To avoid bad debt losses and reduce the cost of water service to our customers, our billing procedure has been to charge owners (fee simple or land lessées) for water rather than any of their tenants. We have no control over their tenants. We assume that the owners have collected a security deposit from their tenants and can use that deposit, if necessary to secure proper water payment.

We trust that we have described our water system accurately to your satisfaction and would be most happy to meet with you anytime in full cooperation to answer any other questions that you may have.

Very truly yours,

ZIONS SECURITIES CORPORATION

Marvin H. Stone, MANAGER

MES:vzm
enc

GEORGE R. AAIOBH
GOVERNOR



STATE OF HAWAII
PUBLIC UTILITIES COMMISSION
DEPARTMENT OF BUDGET AND FINANCE
1184 BERKELEY STREET, SUITE 813
HONOLULU, HAWAII 96813

JENSEN L. L. HEE
DIRECTOR OF BUDGET & FINANCE

ALBERT C. Y. TOM
CHAIRMAN

CLYDE S. DUPONT
COMMISSIONER

SUNAG KUDO
COMMISSIONER

August 13, 1984

Mr. Marvin Stone
Manager
Zion Securities Corporation
55-510 Kamehameha Highway
Laie, Hawaii 96762

Dear Mr. Stone:

The Commission recently received an inquiry from a property owner in Laie concerning a water bill, which was sent to her rather than the tenant.

The billing procedure described by the inquirer is not as significant as the distribution of water to the public. The records of the Commission indicate that no Certificate of Public Convenience and Necessity has been issued to Zion Securities Corporation as a public utility for the distribution of water for public use. However, the factual circumstances with respect to the distribution of water, whether for public use or not and a general description of the system need to be reviewed before a determination can be made as to the status of the corporate entity.

We request that a description of the water distribution system, including the source of water, the number of customers, whether the entire system is located on private property, any easements from governmental agencies for transmission and distribution lines, and the general description of the equipment and facilities be furnished to the Commission. We understand that the water distribution system of the City and County of Honolulu extends to a point just East of the Hauula Shopping Center and to the Malaekahana area on the North. The area between the two points is generally served by Zion Securities or other private water sources.

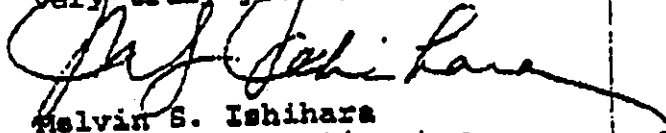
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Mr. Marivin Stone
Page 2
August 13, 1984

Your response to the foregoing will be greatly appreciated.

Very truly yours,



Melvin S. Ishihara
Administrative Director

MSI:lyt

4- 9-92 10:59 AM ;
APR - 9-92 WED 21 158 RON JACKSON

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1

Technical Review

**LA'IE DEVELOPMENT PLAN AMENDMENTS
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**WATER SUPPLY REPORT
and
GROUNDWATER RESOURCES SUMMARY**

prepared for
Dr. Jim Anthony
Executive Director
The Hawai'i - La'ieikawai Association, Inc.

by
Ron Jackson
CONDOR EARTH SCIENCES
April 8, 1992

INTRODUCTION:

The author, Ronald Jackson, has twenty-five years of experience in geological research and scientific research management. Condor Earth Sciences has five Principal Associates and over forty professional staff members. Condor's specialties include hydrology, hydraulic engineering and erosion, geology, geophysics, geochemistry, environment, geotechnical engineering, groundwater development and management.

This report assesses the impact on water resources from the proposed expanded urbanisation of agricultural land in the La'ie subarea of the Ko'olaupua District, Oahu, Hawaii. The Mormon Church through their control of the Zions Security Corporation (ZSC) and their property ownership via a Salt Lake City, Utah corporation, is seeking land use reclassification. ZSC is the Applicant for the Draft Environmental Impact Statement.

Development of water resources in the La'ie subarea has been under the private control of ZSC since 1926 and earlier. It concerns me that ZSC's water consultants, Water Resource Associates (WRA) and Aqua/Waste Engineers (A/WE), must refer to water production areas outside La'ie subarea in order to estimate the impact of proposed future water production in La'ie. This implies that ZSC has exercised poor management of water resources over the past sixty-six years, and that they are withholding water resource information from the public.

ZSC should provide detailed information on:

- I. Inventory of their water wells
 - A. Operational status: condition of casing, etc.
 - B. Water quality: salinity, pollution history
 - C. Aquifer classification with vertical detail
 - 1. Lithology logs
 - 2. Geophysical logs
 - a. resistivity to define fresh and brackish water lenses
 - b. gamma logs, etc., to define wall rock characteristics
 - D. Production level: pumpage and historic use
 - 1. Annual average
 - 2. Maximum and minimum production
 - 3. Estimated capacity to increase production
 - E. Records of pumping draw-down tests, head, draft
- II. Inventory of water users: names and quantities
- III. Economic water resource assessment
 - A. Capital costs
 - B. Operational costs
 - C. Alternative cost for purchasing water outside of

- La'ie subarea.
- D. Charges to users: including users receiving water free of charge.
 - E. Profit flow

WATER RESOURCE

(Reference numbers refer to numbers next to references listed in this report's bibliography.)

Reference 4, Plate 2, shows 19 water well drilling sites in the La'ie subarea (Fig.1). Site 377 has six drill holes and Site 377 has two drill holes at the time of this 1938 map, giving ZSC a total of twenty-five water wells.

Lacking specific information on water resources of the La'ie subarea, assumptions based on regional information must be made.

Groundwater Recharge:

Both WRA and A/WE use 17 million gallons per day (mgd) as recharge water quantity to the La'ie subarea based on Takasaki (1969) and Mink (1982) estimates. There are different arguments which justifiably reduce this figure.

- Geographic area of influence
 - The La'ie subarea aquifer is about ten square miles. However, ZSC's land holdings and proposed development are contained within an eight square mile watershed of the total area (ref. 2, Fig. 2, attached). Areas B, C, and D contain ZSC's proposed development. This would reduce the recharge area by twenty percent, giving 13.6 mgd.
 - It is not plausible that the bulk of confined dike water recharges the basal aquifer. The dikes extend to great vertical depth. The area of dikes partially bisected by streambeds, which become recharge from the upper part of this aquifer, extends from about one to two miles inland from the coast. The fully confined dike aquifer extends from two miles inland until the back of the watershed, being about 2,000 feet further inland. This reduces recharge area by another twelve percent, giving 12 mgd.

Hydrologic water budget calculation is a method for estimating groundwater recharge, whereby:

I-R-ET-RO

I=recharge, R=rainfall, ET=evapotranspiration and RO=runoff (ref 7, p5).

Rainfall averages about 43 mgd (ref. 6, p.16). Rain often comes in surges with fast runoff.

The ratio of evapotranspiration to precipitation can range from .79 for Waimanalo to .09 for Kailua (ref. 5, p.25). The La'ie subarea value should be on the high side as there exists a wetland environment where high evaporation rates occur.

Water runoff also should be high as streambed gradients exceed 10 degrees prior to the wetland which is water saturated.

Sustainable Yield

Water Resource Associates uses Mink's 1980 sustainable yield (S.Y.) formula whereby:

$$S.Y. = I(1 - [h_e/h_o]^2)$$

I = groundwater recharge; h_o = original head of aquifer; h_e = established equilibrium of the aquifer.

WRC notes that original head at Hauula to the south was estimated at 25 feet and at Kahuku was estimated at 17 feet. WRC chooses 24 feet for La'ie and derives S.Y. = 10 mgd.

La'ie does have a very similar hydro-geology to Kahuku. Recalculation by using WRC's recharge value (17 mgd) but using Kahuku's original head, gives S.Y. = 3.76 mgd.

Using a calculation with a recharge value of 12 mgd and an original head value as an average between Kahuku and Hauula [21 mgd] gives:

$$S.Y. = 12(1 - [15/21]^2) = 6 \text{ mgd}$$

At this stage, the State Commission on Water Resource Management's 1991 sustainable yield estimate of 6 mgd should be used for La'ie.

As ZSC does not meter all water usage or provide pumping rates and draw-down information, there is no way to know the amount of current water use. "The Honolulu Board of Water Supply (BWS) has drilled two wells in the La'ie subarea and plans to develop each well with a pump capacity of 1.0 mgd." (ref. 7, p.9) The combined present ZSC water use and BWS water use under development appears to be equal or in excess of the safe yield amount.

Major water users include the Polynesian Cultural Center and BYU-Hawaii. Approximately fifty-three percent of ZSC's water is used for property owned and operated by the Norman Church (ref. 3).

Mr. Miller states that the head on the Poo'haili artesian well has decreased over the last twenty years which indicates production beyond safe yield levels.

Water Pollution

The Child's Well has bacterial contamination and is no longer in use. Other wells are no longer in use for unknown reasons.

ZSC's drinking water had bacterial contamination during the period of January 1990 (ZSC's public notice).

ZSC's drinking water had bacterial contamination during the period of July 1990 (ZSC's public notice).

The artesian condition which exists in La'ie bringing fresh basal water to the surface demonstrates interconnection between deep and surface waters. During certain conditions there is possible contamination of deep water by surface water.

Possible contamination sources at present include partially treated sewage discharge into the wetlands and septic tank overflow. Future plans are to inject tertiary treated sewage into near surface drainfields.

Common rock types in the area are hard, calcareous cemented coral sandstone and limestone. Water, particularly with a low pH, can form caverns in this rock causing rapid migration of the fluids. Water bearing caverns are known in the area and provide a near surface water resource. Any bypass or problems with a sewage treatment facility could cause rapid pollution.

Maps (ref. 6, fig. 3 attached) show the extent of chloride pollution between the years 1930 and 1962. This downgraded near coast areas that were fresh water quality to brackish water quality. The cause is due to overpumping irrigation water for agriculture. There are ways to help correct the problem.

Recommendations

The approval of new water development should await detail on ZSC's past water management practices, production records, and inventory on existing wells.

No approval of additional residential development should be made until dependable safe yield water amounts and protection against pollution can be achieved.

If and when approval is given for reclassification of agricultural land to residential, only one parcel for about 70 acres should be granted.

There are other areas not included in this study which should be mentioned:

- Wetlands should be defined and protected. There has been past infilling of wetlands for development.
- There needs to be plans to minimize flooding and erosion; plans to protect the coastal water zone.

- There should be determination at an early stage how costs will be shared. Without past development, the kuleanas would not have financial concerns due to abundance of artesian water and minor pollution impacts.

REFERENCES

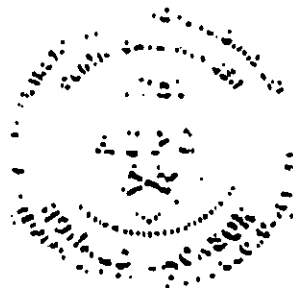
- (1) Aqua/Waste Engineers, WATER SUPPLY REPORT, La'ie, Oahu, Hawaii. La'ie Master Plan EIS, January 8, 1992
- (2) Group 70 International, Inc., La'ie Development Plan Amendments, Draft Environmental Impact Statement, February 1992.
- (3) Oyarso, Edwin of Ashford & Wriston, law firm working on behalf of ZSC, in a 12/24/90 letter to Mr. Tsuyemura, Administrative Director, State of Hawaii, Public Utilities Commission.
- (4) Stearns, H.T., Geologic map and Guide of Oahu, Hawaii: Hawaii Division of Hydrography Bull. 2, 75p., 1938.
- (5) Takasaki, K.J., Hirashima, G.T., and Lubke, E.R., Water Resources of Windward Oahu, Hawaii. USGS Water Supply Paper 1894, 1969.
- (6) Takasaki, K.J., Takasaki, Santos Valenciano and Ho, A.M., Preliminary Report on the Water Resources of the Kahuku Area, Oahu, Hawaii. Circular C39, November 1956.
- (7) Water Resource Associates, GROUNDWATER RESOURCES SUMMARY. La'ie Master Plan, February 1992.

Ronald Jackson



Certified Professional Geologist #7751
American Association of Professional Geologists

President
CONDOR EARTH SCIENCES
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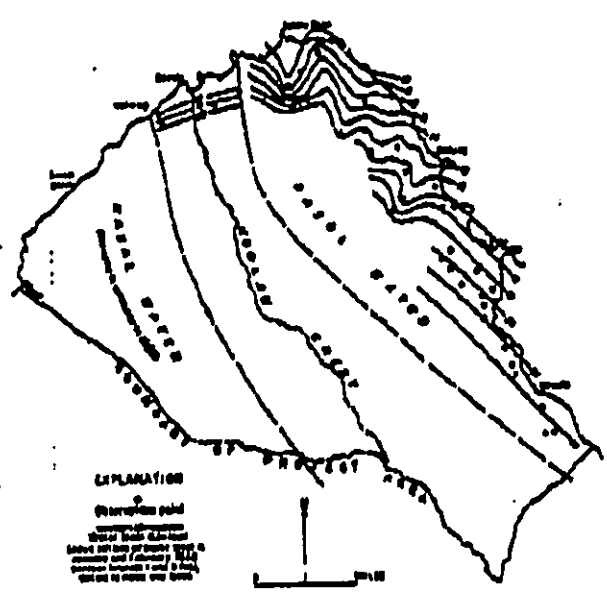


Figure 6. WATER-LEVEL CONTOURS BASED ON MEASUREMENTS MADE IN JANUARY AND FEBRUARY 1962

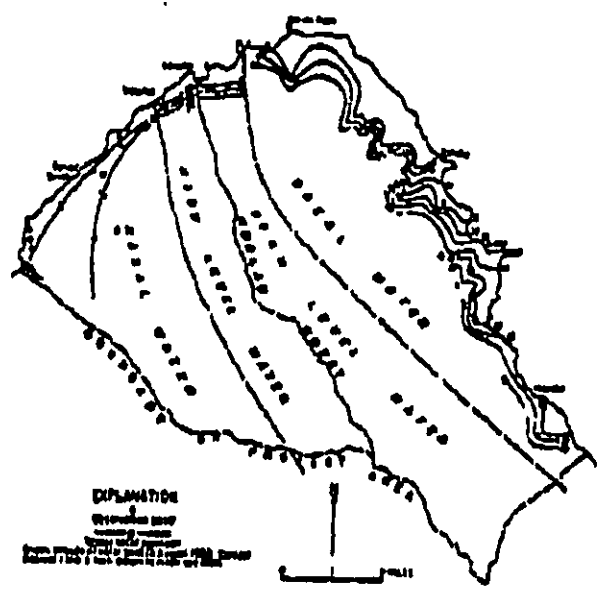


Figure 8. WATER-LEVEL CONTOURS BASED ON MEASUREMENTS MADE IN AUGUST 1962

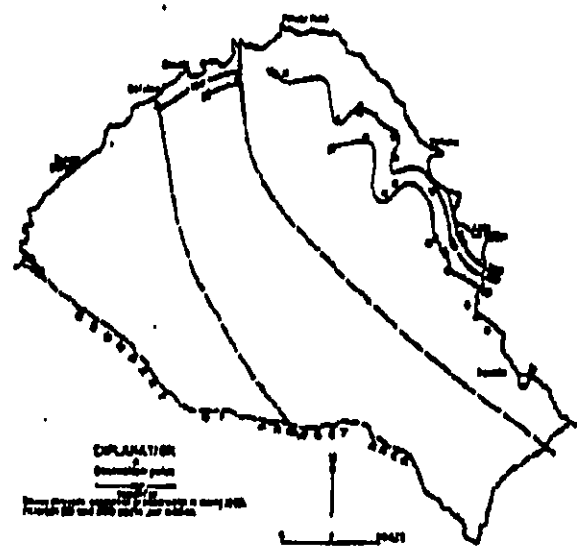


Figure 9. ISOHALINES BASED ON OBSERVATIONS MADE IN EARLY 1962

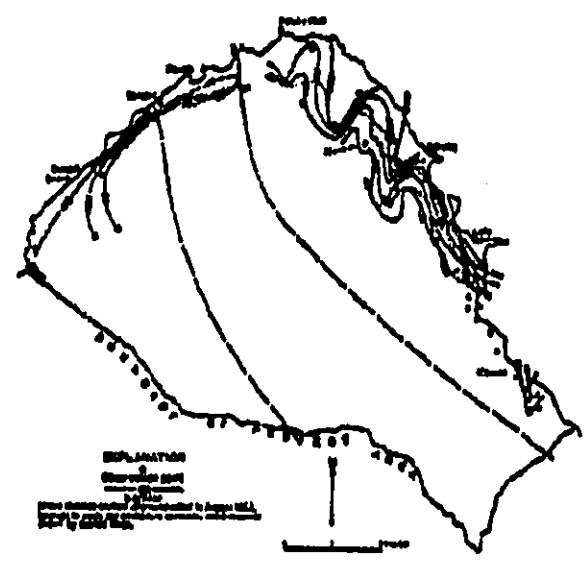


Figure 10. CHANGE IN CHLORIDE PATTERN IN AUGUST 1962 FROM EARLY 1962

Figure 3, from USGS Circular C39

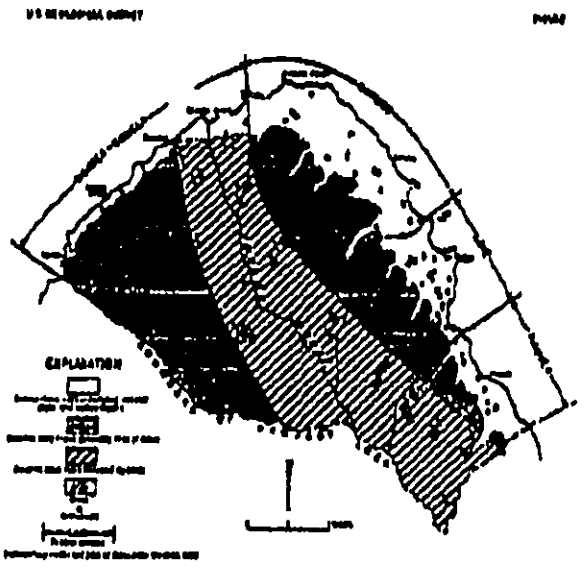


Figure 5. DISTRIBUTION OF LAVA FLOWS EXTENDED BY SEAMS, DUNE-FREE LAVA FLOWS, AND OTHER FACTORS, THE LOCATIONS OF WELLS, AND BOUNDARIES OF THE SUBBASIN

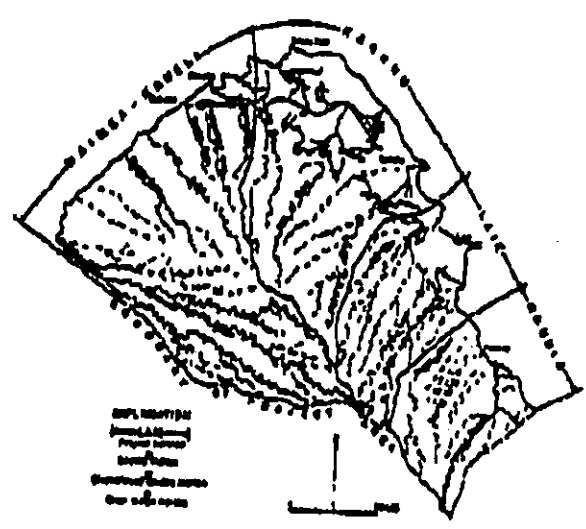


Figure 6. LOCATIONS OF EROSION SCARPS AND CREST-STAGE SPURS

From USGS Circular C39



20 April 1992

J. M. Anthony, Ph.D., Executive Director
The Hawai'i-La'ieikawai Association, Inc.
P.O. Box 720
Ka'a'awa, Hawai'i 96730

Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i

Dear Dr. Anthony:

Thank you for your April 8, 1992 letter regarding the above-referenced Draft Environmental Impact Statement. Although the "overarching" comment number 5, and "specific issues" comments numbered 20, 21, 22, 23 are not specific comments on the Draft EIS, this information is noted. The following is in response to your EIS-related comments.

Overarching Comments

1. Impacts on Adjacent Communities: The residents of communities adjacent to La'ie, especially those of Hau'ula and Kahuku, will be exposed to both beneficial and negative impacts if the proposed Development Plan (DP) amendments are adopted. The proposed projects will cause some additional traffic increase on Kamehameha Highway in these bordering areas. Because traffic impacts diminish with greater distance from the study area, this traffic increase will be considerably lower in the adjacent communities than the 12 to 15 percent increase forecasted as a worst-case assessment of peak period traffic conditions on the highway segment at La'ie.

Additional housing at the new residential area will provide for new homes for some residents of the adjoining communities, as well as of La'ie, who are currently living in overcrowded housing units. The proposed expansion of the PCC and development of the light industrial areas will provide added employment opportunities for residents of the adjoining communities. All of these potential impacts are considered in the EIS.

2. Timing of the DP Amendments: We totally disagree with your assertion that this DP Amendment Application is premature. What is requested, and is normally done before initiating the kind of detailed planning you demand, is a policy decision from the City and County as to whether or not the proposed land uses (a) will contribute to the general welfare and prosperity of the people of Oahu, (b) address an existing public issue, need or problem, and (c) are consistent with the General Plan. (Rule 8.1 of the "Rules of the

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI

Linda M. Aniya
Derrick T. Seiki
Ralph E. Portmore, AICP
Edward T. Green
Paul P. Chorney, AIA
Stephen H. Yuen, AIA
Dean H. Kitamura, AIA
Norma J. Scott
June Fukushima-Lee, ASID
Anne Theiss, AIA, ASID
Stephen E. Callo, CPA
Bradford A. Wellstead, AIA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
James I. Nishimoto, AIA
Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Letter to The Hawai'i-La'ieikawai Association, Inc.
20 April 1992
Page 2

Department of General Planning for Processing Amendments to the Development Plans of the City and County of Honolulu.") The application and EIS amply demonstrate that the proposal meets these tests. They also meet all informational requirements for such an application and EIS, and fully disclose impacts to the level which is appropriate to the policy decision being requested.

You mention four "crucial sectors" where you believe the application and EIS lack an appropriate level of specificity: housing, alternate site for sewage effluent disposal, clean up of the polluted Po'ohaili wetlands, and seepage from cesspools in old La'ie. We disagree.

The application and Final EIS offer considerable detail concerning the housing problems that will be addressed by the proposed residential development, the intended market for the housing, and the types of programs that will be used to make it feasible to build the housing at the intended price ranges. Further elaboration is also provided in our response to the Department of General Planning's comments on the Draft EIS, a copy of which is included in the Final EIS. Specific programs which lay out exactly what kind of housing will be provided, and demonstrate the ability to build it, will be developed and submitted for review and approval prior to any "vesting" of development rights, which occurs at the zoning stage.

A La'ie Wastewater Reclamation Facility Plan (LWRFP) and EIS are being prepared which will address the question of the permanent effluent disposal method. This will be completed prior to any zoning for the areas covered by this DP Amendment Application. Approvals from the City and County Department of Public Works, State Department of Health, and Drs. Gearheart and Finney are required to complete the LWRFP.

Clean up of the Po'ohaili wetlands is, as you know, required under the September 1990 Consent Decree. This will happen irrespective of whatever action is taken on the proposed DP amendments. Any development which could be done on the DP amendment sites will not occur until 1994 the earliest, which should be well after the clean up is completed. Thus, it will not impact the clean up effort. Developments in the proposed BYU Mauka residential area will be designed to ensure that there will be no further adverse impacts on the wetlands. To provide appropriate assurances, this can be made a condition of zoning.

We have no evidence of the seepage you allege is happening from cesspools in old La'ie. In any event, an integral part of the overall planning effort for La'ie is the sewerage of this area. Discussions between the applicant and the La'ie Community Association on how to achieve this are already underway.

None of the new developments which could occur if the DP amendments are approved will use cesspools as a means of sewage disposal. Specific plans for

wastewater treatment and disposal for these developments will be submitted to the City and County Department of Public Works and the State Department of Health for review and approval prior to zoning.

3. Alternative Residential Sites: We consider it entirely reasonable, and even preferable, to open up to public review and comment the process of selecting a proposed residential site from among three potentially suitable alternatives. It seems you would prefer that the applicant to do this privately, without any public scrutiny or comment. We are surprised that you would advocate confining public review in this way.

The Final EIS does specify a single proposed housing site -- the BYU Mauka site. It was clearly stated in the Draft EIS that "[f]ollowing the Draft EIS public review and comment period, a preferred residential site will be selected." This was also made clear when the DP Amendment Application was initially submitted. The application has since been amended to include only the BYU Mauka site.

4. Archaeology: Several residents of the La'ie area who were known to have some historical information were contacted regarding the study area and its vicinity. Their accounts are included in PHRI's Archaeological Inventory Survey report in Appendix J of the EIS.

Of particular interest is one individual's account of Pa'eo Fishpond. Although he never saw the fishpond, he recalled seeing an outline and sloping walls indicative of a former pond. The area was dry and already filled with dirt and debris from prior floods at the time. Earlier archaeological surveys have not been able to locate the site of the Pa'eo Fishpond, but describe it as being in the vicinity of the proposed industrial area on the Kahuku-side of Kahawainui Stream. It is possible that the fishpond was filled by silt from flooding. Additionally, this general area is the site of a former City and County landfill. Pa'eo Fishpond is assessed as "significant solely for information content" even though it was not located during the current archaeological survey.

Your comments on the Nioi Heiau and "other sacred sites at issue" are noted. The Nioi Heiau is not within or adjacent to any of the study areas evaluated in the Draft EIS; thus it was not included in the PHRI survey. In the absence of specifics, we are unable to respond to any issues that might relate to "other sacred sites."

6. Water Resources: The "Water Supply Report and Groundwater Resources Summary," prepared by Ron Jackson of Condor Earth Sciences and incorporated in your comments on the Draft EIS, is essentially an opinion and does not offer specific comments on the Draft EIS. The following is in response to the report.

Reference to Water Production Areas Outside the La'ie Subarea: In the "Groundwater Resources Summary for the La'ie Master Plan EIS" report prepared by Water Resource Associates, reference is made to the Ko'olauloa Aquifer System (which extends from Punalu'u to Kahuku), of which the hydrology of the La'ie study area is an integral part. To analyze the groundwater resources of the La'ie study area, the regional Aquifer System must be referenced on a scientific and engineering basis. The regional hydrogeology as well as the subarea hydrology for La'ie has been well studied by Stearns and Vaksvik (1935), Takasaki and Valenciano (1969), and Mink (1982). There is simply no correlation, as you claim, between references to water production areas outside the La'ie subarea and poor management of water resources in the La'ie subarea.

More Detailed Information: The detailed information which Mr. Jackson says Zions should provide (inventory of the operational status, water quality, aquifer classification with vertical detail, and production level of existing water wells; records of pump draw-down tests, head and draft of existing water wells; inventory of water users-names and quantities; economic water source assessment; etc.) is not needed in order to achieve the purpose of this EIS, which is to make an assessment of impact of the proposed developments on water resources. To the extent that the existing water supply system may be used to serve the new developments, the relevant information will be provided in connection with the appropriate review and approval process.

Water Resource: This section of Mr. Jackson's report attempts to reduce the figure for groundwater recharge in the La'ie subarea, as derived by both Takasaki and Valenciano (1969) and Mink (1982). As explained below, the basis for the reduction is unsubstantiated and illogical; therefore, Mr. Jackson's resulting figure for sustainable yield is not supported.

Geographic Area of Influence: Based upon available studies of groundwater in the La'ie area, the Water Resource Associates' study respects the boundaries of well accepted hydrogeologic boundaries to summarize the occurrence and availability of ground water in the La'ie area. Both Takasaki and Valenciano (1969) and Mink (1982) estimated the water recharge quantity within the "La'ie Subarea" as a subset of the Ko'olauloa Aquifer System.

The report by Mr. Jackson attempts to reduce the water recharge quantities established by these previous studies. The reductions are based upon the percentage of land owned by the applicant within the La'ie Subarea, and the percentage of land within the La'ie Subarea located directly above the fully confined dike aquifer. The hydrogeologic boundaries of the La'ie Subarea are not required to coincide with the ownership boundaries of either properties owned by Property Reserve, Inc. or the requested DP amendment area boundaries in order to establish the occurrence and availability of ground water to serve the proposed developments. The resulting figure could be

termed the landowner's share of groundwater recharge calculated as a factor of acreage owned.

This figure is neither scientifically derived nor relevant to the question of recharge to the groundwater which serves the DP amendment areas. In general, the estimated groundwater recharge of 17 mgd to the La'ie Subarea provided by Takasaki and Valenciano, and by Mink is an appropriate figure to consider.

Sustainable Yield: The calculations by Mr. Jackson of an estimated 6 mgd sustainable yield are based upon a groundwater recharge figure for the La'ie Subarea of 12 mgd, rather than 17 mgd as put forth by Takasaki and Valenciano, and by Mink. For the reasons cited above, the 12 mgd figure is unsubstantiated. Mr. Jackson's subsequent calculations of sustainable yield and the related conclusions are also not supported by any study or an understanding of the sustainable yield equation. They offer no basis or reason to doubt the findings of the EIS and previous studies in this area.

We believe the Water Resources Associates' estimate of 8 - 10 mgd to be more reasonable, given the historic use of over 16 mgd within the La'ie Subarea during the 1960-1970 time period when Kahuku Sugar Plantation pumped irrigation water for its crops.

Zions Securities meters all of the water wells in La'ie which are used for domestic water service. The meters are read each week and the figures reported to the State of Hawaii on a monthly basis. The irrigation wells are used only intermittently, during dryer times of year. Not all of the irrigation wells are metered. Zions Securities is preparing to place meters on the most important irrigation wells, a list of which has been provided to the State. Zions has estimated the flow of irrigation water from its wells. This information is included in the EIS.

Any development of water will have the effect of reducing the head. The basis for the conclusion drawn in your statement "the head on the Po'ohaili artesian well has decreased over the last twenty years which indicates production beyond safe yield levels" leaps to a conclusion which is inconsistent with widely accepted approaches to the evaluation of safe yield levels.

Water Pollution: The concerns expressed in Mr. Jackson's report over groundwater pollution are unsupported by any data whatsoever.

There is an obvious connection in the recharge area between the deep groundwater and the "surface". This is how the people of Hawaii obtain drinking water. The specifics of that connection are not even superficially explained in Mr. Jackson's report. In general terms, the deep aquifer that serves the La'ie area is a confined aquifer which is under pressures greater

than the water level in the shallow surface aquifer, which forces the water flow upward. This is the reason the wells in La'ie are "flowing". In some cases the pressure level is 6 - 10 feet above the surface of the ground. With a flowing, confined aquifer as in La'ie, the conditions are not present in which surface water could contaminate the deep water aquifer. Further, the confining caprock layer separates the deep aquifer from the shallow water aquifer.

Chlorides in a few wells in La'ie, and in more wells in Kahuku, did increase between 1932 and 1970. The wells of increased salinity in La'ie were those that were drilled deeper and closer to the ocean. The present condition of the deepest and saltiest wells in La'ie is as follows:

<u>Well No.</u>	<u>Location</u>	<u>Ownership, Depth and Use</u>
3955-02	Puuahi St.	Privately owned - 529 ft. deep. Rarely used, and only for plant irrigation.
3855-03	South of PCC	PCC - 482 ft. deep. Pump is removed, and well is no longer used.
3855-09	PCC Lagoon	PCC - 468 ft. deep. Used only to maintain water level in PCC lagoon.

Recommendations: Any plans for water well development must be reviewed and approved by the State Commission on Water Resource Management. The applicant will provide whatever data is required by the Commission for their review. The DP amendments do not have the effect of approving new water development.

The EIS includes the best available data on groundwater resources and sustainable yield estimates. Considering the history of intensive water use in this subarea, the sustainable yield estimates are believed to be quite conservative.

The recommendation for approving one residential unit per 70 acres of land is not discussed in the report and is wholly unsubstantiated.

Wetlands, flooding, erosion and nearshore waters are all issue areas which are discussed in the EIS, as suggested. The comment regarding the early determination of how "costs will be shared" does not specify what the costs might be for. The EIS concerns proposed development areas in the context of existing or past development, and does not analyze the impact of previous development, as appears to be requested in the report.

Specific Issues

1. Long-Term Wastewater Effluent Disposal: We are aware that the effluent disposal drainfield is an interim device and is subject to assessment as to whether it will work over the long term. Long-term effluent disposal could be safely achieved through agricultural irrigation, assuming proper tertiary-level treatment and disinfection processes are implemented, as proposed.

The need to have a long-term disposal method (irrigation or otherwise) on line before any development occurs in the proposed DP amendment areas is recognized. The ultimate disposal technique will be determined by the La'ie Wastewater Reclamation Facility Plan and the corresponding EIS, both of which are currently in preparation and scheduled completion and approval prior to consideration of a rezoning application for any of the subject DP amendment areas. The decision will be made by the State Department of Health with the concurrence of the Board of Water Supply, City and County Department of Public Works, the the designated independent authorities, Drs. Gearheart and Finney.

2. and 3. Timing: See response to overarching comment number 2, above.

4. Previously Filled Wetlands: The EIS includes a survey of existing vegetation within the study area, including vegetation that is indicative of wetland. The potential wetland areas are identified in the EIS. The identification of wetlands or ponds that no longer exist is not part of the scope of the EIS.

5 - 8. Traffic: Regarding night bus traffic, an average of 30 buses travel from PCC each night (except Sunday) at about 9:00 PM, when the evening show ends. These returning buses travel on Kamehameha Highway during a non-peak traffic period. Some additional buses may be added to this total when new attractions are added to PCC in its proposed expansion area. However, since the size of the theater will not be increased, the number of buses on the highway at the peak time of 9:00 PM when the evening show ends, should not increase.

The number of "motor coaches" attending the evening show has declined over recent years; however, there has been an increase in the number of mini-buses and rental cars. This trend is expected to continue, which will tend to minimize any future increase in the number of buses serving the evening show. PCC representatives are working closely with the various transportation companies serving the center to coordinate traffic issues.

The expansion area is planned to be used for additional parking and storage area for the short-term. This should not add to or otherwise impact the traffic being generated by the existing facilities.

Typical traffic impact studies must consider the potential growth in ambient traffic, including traffic to be generated by known or potential future development in the region. This provides an estimate of future baseline traffic volumes to which the proposed project traffic is added. The State Department of Transportation provided an ambient traffic growth projection of 2.9 percent per year for Kamehameha Highway in this region. Traffic studies for the Kuilima Resort and "The Country Courses at Kahuku" provided future project information for this area. Including this traffic in the analysis is an extremely conservative approach to traffic prediction, which demonstrates the careful approach used in this EIS to not underestimate the potential traffic impacts of the DP amendments and other future traffic.

Please refer to your copy of the Draft EIS page 91 (Table 9) and page 92, and carefully examine the information presented. The proposed DP Amendments include the land uses which are predicted to generate additional traffic, such as residential development, industrial use and PCC expansion. These land uses are anticipated to cause a 12 to 15 percent increase in Kamehameha Highway traffic volumes. The other uses mentioned (p. 92) such as Commercial (parking lot expansion), Resort (private recreational amenities), Park and Public Facilities are not expected to generate any substantial additional vehicular traffic.

[It should be noted that the traffic impact study does not reflect the reduction from 16 to 5 acres which has been made to the size of the proposed egg farm road industrial area. This reduction will reduce the total projected traffic generated by the proposed DP amendments by about 19% during the weekday morning peak hour, by 13% for the afternoon peak hour, and by approximately 3% for the Saturday peak hour.]

The exact percentage of future residents of the new BYU Mauka residential area that will work at BYUH, PCC, Laniloa Lodge and the industrial area was assumed to be 50 percent for the purposes of this analysis. This is a conservative assumption because approximately 70 percent of all residents in La'ie currently work at these centers of employment. Our analysis definitely does not overstate the potential for this type of local employment. People who work at these locations will not need to enter Kamehameha Highway in order to go between work and home, thus significantly reducing the potential additional traffic on the highway as compared to the other two housing site alternatives.

9. **Noise:** Traffic noise along Kamehameha Highway in La'ie is similar to traffic noise along a busy two-lane roadway in areas more traditionally considered as urban. Future traffic noise as a result of the DP amendments will not cause adverse noise effects to rural areas of La'ie which are not already experiencing traffic noise. The EIS addresses potential noise impacts of the proposed DP amendments upon the surrounding community, including residential areas. Specific noise studies can be conducted once

specific site plans are available for individual development proposals. This is appropriately considered at a more detailed land use review stage.

Blasting is not expected to be required at this time. However, the need to implement this construction technique will be assessed on a site specific basis later in the planning process, when geotechnical studies are completed.

10. Energy Conservation: Section 4.17 of the EIS describes anticipated impacts of the proposal on infrastructure, including electrical supply facilities. The proposed development of 450 housing units will generate an electrical load which could be reduced with the installation of solar hot water heating and/or other energy saving devices. It is important to note that the proposal is a private sector endeavor to develop affordable housing to meet a pent up demand for affordable homes in the La'ie area. This goal is foremost and will be achieved only through creative measures to curb development costs.

The following mitigative measure has been added in Section 4.17 of the EIS in response to your comment:

Alternative Energy Sources: The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize alternative energy sources, such as solar water heating devices, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.

11. Visitors to PCC: Your comment is noted.

12. Development Agreement for Affordable Housing Site Prior to DP Amendment: The applicant has no problem with "tying down" the details with respect to the proposed housing, before any approvals or permits are granted which would legally establish or "vest" development rights in the property. Such a vesting does not occur with the adoption of a DP amendment. It occurs no sooner than when zoning is granted, and may not even occur then if additional discretionary approvals are required.

Therefore, there is no need for enforceable contractual agreements in connection with a DP amendment. DP amendments deal with policy issues, and it would be inappropriate to clutter such deliberations with a lot of minute details. Please also refer to our April 6, 1992 response to your March 31, 1992 memorandum.

13. Employment: It is not clear to us what is meant in this comment by underemployment. Some people who work in La'ie are students, and census data summaries of income characteristics for La'ie include part-time employed students as part of the workforce. These individuals are the lowest

paid portion of the La'ie workforce, but they could not truly be considered underemployed.

14. Personal Income Figures and Housing Prices: The income data for La'ie is skewed somewhat by the large number of part-time employed students from BYUH. It overstates the proportion of lower income people in La'ie. Actual family income is higher for La'ie when the student employment is not included in the median family income calculation. It is important to note that BYUH students are not intended to be housed at the new residential area, as dormitories and married student housing facilities exist and are being planned separately by BYUH.

The median family income in La'ie without including working students is still below that of Oa'hu as a whole and, therefore, the pricing of the new residential units will be formulated with the local income characteristics as a basis. Specific housing prices cannot be defined accurately without detailed information about site development costs, which will be generated by technical studies in the subsequent land planning and rezoning application phase. Housing price levels and income figures will be "matched" in the information that is provided as part of the rezoning application.

15. Discussion of Freshwater Biota: The section you refer to (4.7) deals with water quality, not biota. This is covered in Section 4.8, which discusses the types of vegetation in the study area, and in Section 4.9, which presents the results of a study of faunal wildlife (mammals, introduced and indigenous birds) and a biological reconnaissance of Kahawainui Stream.

16. Trend Toward Higher Wage Levels: We disagree with your assertion that the anticipated growth in unionized workers in the region, due to the development of hotels at the Kuilima Resort, will not result in somewhat higher wage levels in the area. The willing movement of agricultural workers to hotel jobs in rural areas where new resorts are being developed provides ample evidence of this. You offer no evidence to support your contrary conclusion.

17. Unit: The term unit on page 120 refers to "dwelling" unit, such as an apartment or single-family residence.

18. Tailoring Home Prices to the La'ie Market: See response to overarching comment number 2 and specific issues comment number 12. The only reference we can find to a "\$179,000 median home figure" is the reference on page 120 to the median price of owner-occupied housing in La'ie area (\$179,500). As indicated in Appendix M, the source is the U.S. Census.

19. Lifestyles: We have no evidence, nor have you provided us with any in your comment letter and attachments, of the denial of surface water rights to *kuleana* landowners. No diversion or realignment of streams, or diversion

Letter to The Hawai'i-La'ieikawai Association, Inc.
20 April 1992
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of water from existing streams, is proposed in connection with the requested DP amendments. Since there will be no impact on existing instream flows, a discussion of instream flow standards is not relevant to this EIS.

Thank you for your comments. Please feel free to call either me, Ralph Portmore or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom
Kari D. Kilstrom
Planner

The Hawai'i — Lā'ieikawai Association, Inc.

P.O. Box 720, Ka'a'awa, Hawai'i 96730 • Phone (808) 237-7015

March 31, 1992

By Fax Transmission

APR 02 1992

Memo To: Mr. Ralph Portmore
Ms. Kari Kilstrom
Group 70

From: Jim Anthony 

Subject: La'ie Development Plan Amendments Draft EIS: Interim Summary / formalization of principal issues discussed at our meeting 3/26/92

1. I hereby confirm my request that we be given a three months extension from April 1, 1992 to secure the necessary professional services to review and prepare comments on critical aspects of the EIS - in particular the section that deals with water (appendices D and E);
2. Contrary to your view that there are no serious disputes about water (your letter of 21 February 1992, pp. 7-8) I confirm what I told you: You have been misinformed. There are serious disputes about water in La'ie. Hui Malama 'Aina 'O La'ie has made that repeatedly clear to Zions. There are collateral, appurtenant and riparian rights of kuleana landowners which are at issue. These disputes have been of longstanding and remain unresolved. Zions knows all of this very well.
3. With respect to whether Zions sells water without a permit I suggest you check with the Public Utilities Commission. Material in their files should convince you that Zions does not have a license to sell water.
4. These are important and potentially far reaching unresolved matters that are related to the remediation issues that are a significant part of the Consent Decree filed in Civil No. 90-00638 HMF, U.S.D.C. Until these matters are resolved it is premature, in our view, for your clients to proceed with any matters related to further development in La'ie.
5. I raised far reaching issues with you about the housing component of the proposed plans. None of your answers were convincing. Briefly stated, the way your clients and their apparent agent, the La'ie Community Association (LCA), have handled this matter is gravely misleading. No information

has been provided to the La'ie community or anyone else concerning price of homes; size of lots; types of homes and other minimally pertinent information that any prudent prospective buyer would need. The way that LCA has proceeded with site selection is a charade - see our memo to Theresa Bigbie dated March 27, 1992.

6. Since no basic information on housing has yet been provided all of your proposals for DP amendments are premature. Furthermore unless there are enforceable contractual agreements in place with appropriate community groups (and we would certainly insist that H-LA is one of them) that protect the interests of the community with respect to the entire housing package we think that it would be inappropriate to proceed with DP amendments until such enforceable agreements are in place. In this connection many more options need to be explored by the community. Herein lies, as I emphasized, much room for wider discussion in the interests of good planning. I have noted your arguments about the 'prematurity' issue. My view is that they are without foundation and are fatally flawed.
7. I mentioned the destruction of Hawaiian sacred sites, their reconstruction and access to them. This issue ought to be addressed now. We are prepared to discuss this further. We would want to secure the services of our archaeologist to give us a second opinion on any work done by Zions/Property Reserve hired archaeological consultants.

The foregoing are just 'tip of the iceberg' issues. We have many additional matters to raise with you. We believe, as I told you both, that the reasonable course is to have all the parties search for common ground. That is the path along which good planning should proceed. We trust that you concur.

If your clients and LCA wish to meet with us we will give serious consideration to that prospect.

Please let me know urgently about the extension.

I am pleased that you thought our meeting last Thursday was productive. I concur with that idea and hope that there can be further talks of a productive nature. Aloha.

xc: OEQC
Department of General Planning, Attn. Mr. Murakami
Neighborhood Boards #27, 28, 29



6 April 1992

Dr. Jim Anthony
The Hawai'i La'ieikawai Association, Inc.
P.O. Box 720
Ka'a'awa, Hawai'i 96730

**Subject: La'ie Development Plan Amendments
Draft Environmental Impact Statement (EIS)**

Dear Dr. Anthony:

This letter is in response to the first point made in your March 31, 1992 memorandum which follows up on the points discussed at our March 26, 1992 meeting. Specifically, you request a three-month extension (from April 1, 1992 or until July 1, 1992) of the Draft EIS review and comment period.

Unfortunately, the applicant is unable to grant your request for an extension beyond April 8 for the following reasons:

1. The issues you raise in your memorandum are, for the most part, outside or independent of the issues and concerns addressed by the requested Development Plan amendments, and are not related to the impacts being assessed in the Environmental Impact Statement (EIS). Where they are related to some degree, they are being appropriately addressed in the EIS.

For example, to the extent that there may be a legitimate issue concerning the "collateral, appurtenant and riparian (water) rights of kuleana landowners," it affects innumerable existing as well as proposed developments throughout the State. It is by no means particular to Laie. We have no information which connects the "dispute" about water rights to these proposed DP amendments in a manner which requires its resolution before proceeding further with the EIS and processing of the application. Addressing it is outside of the scope and intent of the impacts analyses and mitigation measures which should be included in the EIS.

As another example, the applicant agrees that the details on how the housing will be done should be spelled out and agreed to by all concerned parties (i.e., the community and government, as well as the applicant) before any vesting occurs. This would occur before zoning is granted.

Letter to Dr. John Anthony
6 April 1992
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"Enforceable contractual agreements" are not necessary or appropriate to a thorough environmental impact analysis, or to making a policy decision on whether or not an affordable housing project should be permitted in Laie. The Department of General Planning, which is the government agency responsible for accepting the EIS and processing the proposed DP amendments, has itself expressed this position. Information on the proposed housing which is sufficient for government to make a well informed policy level decision, and for the residents of Laie and surrounding communities to form an intelligent opinion and well founded position on the proposal, will be provided in the EIS.

2. If your requested extension was granted, acceptance of the Final EIS would be delayed beyond the deadline for consideration in the 1992 Development Plans Annual Review. This would postpone further consideration of the application, and ultimately the construction of the affordable homes, for a minimum of 12 months. For the reasons stated above, we consider such a lengthy delay to be without justification. In addition, further unnecessary delays in selecting and obtaining City and County approval of a site for the affordable housing -- a process that has already taken nearly five years -- are likely to cause the applicant to abandon the effort altogether. The considerable public benefits that would result will then be lost.

We will address the various issues you have raised in your memorandum more completely in a formal response letter, which will be included in the Final EIS. The purpose of this letter is only to respond to your request for an extension of the Draft EIS review period.

If you have any further questions, please feel free to call me or Kari Kilstrom.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom, for

Ralph Portmore
Vice President

cc OEQC
Department of General Planning
Zions Securities Corporation



KOOLAULOA NEIGHBORHOOD BOARD NO. 28
(Kahuku, Laie, Hauula, Punahoa, Kaawa-Kahana)

c/o HAUULA SATELLITE CITY HALL • 54-010 KUKUNA ROAD • HAUULA, HAWAII 96717

April 13, 1992

TO: Ben Lee, Chief Planning Officer

FR: Creighton Mattoon, Chair
Koolauloa Neighborhood Board

RE: La'ie Development Plan Amendments Draft
Environmental Impact Statement (DEIS)

Please accept these comments as the official comments of the Koolauloa Neighborhood Board regarding the above referred to Draft Environmental Impact Statement.

GENERAL COMMENTS

The Board has been told many times that one housing site would be chosen prior to the deadline for comment. We have not been informed of this selection and thus adequate review of the EIS is difficult. The Board can not support an EIS that goes forward for decision making which possesses three housing sites. Housing is of major importance to the La'ie community and the fact that the community and the applicant have not been able to agree on a site in five years lead me to believe that the applicant is less than sincere when they say that the site will be that of the community's choice.

The Board is pleased that the EIS recognizes the importance of recycling and other waste stream reduction methodologies but would suggest that the applicant also look at flow restrictors for water reduction and solar water heating units for any residential units built. The Board would also like to see the applicant address the policy of the City and County to reduce waste stream flow by 25% by 1993 and 50% by 1996.

The Board would also request that for any land removed from agriculture that the applicant replace this with an in perpetuity designation of prime agricultural land equal to the amount being removed. An example would be that should the BYU mauka housing site be chosen 50 acres of prime agricultural land would be lost. This could be replaced by designating in perpetuity the 40 acres at the egg farm and the 15 acres at La'iemalo'o. The Board would also suggest that the applicant make provisions for the relocation within the community of any displaced agricultural activities. There is no discussion of this in the DEIS as a mitigated impact on dislocation of existing agriculture.



Oahu's Neighborhood Board System-Established 1973

The DEIS is also flawed in general because it assumes in all of its calculations and mitigation that the majority of new residential units will be taken by residents all ready living in the area, yet nowhere in the DEIS does it say how this will be accomplished or how the applicant will make these units affordable to those members of the La'ie community in need of housing. There is a more complete discussion of these issues under the housing section of these comments.

How do the proposed population increase numbers in the DEIS compare with the population guidelines for the area found in the general plan?

PROJECT DESCRIPTION

The DEIS needs to define community when it says on page 24 that Zion has pursued community approval of their master plan. Also on page 24 they state that they hope that the master plan will be jointly supported by the owner and this "community" from which I gather there is not total support currently.

On page 26 the DEIS talks very briefly about options to make housing affordable to the members in the community that are in need. This single paragraph on the subject states that "These include government programs". The Board has held meetings on this project in the community and has been told that the community does not support government programs because they open the housing to everyone thus not guaranteeing that the housing will go to residents in the area that need it. The Board has also heard from the community that the applicant agrees with this so why is it an option in the DEIS?

The Board would request that the applicant recognize that any grading should be done during the dry season as a mitigating measure as regards coastal run off and pollution. The applicant should also provide to the reader some idea as to the reasons for blasting in the area and where it might occur or be necessary.

The DEIS should give the reader some idea as to the quality of the agricultural land left to continue agriculture as opposed to that which is requested for removal from the agricultural designation.

We will deal with the specific elements of the proposed project under separate headings.

RESORT EXPANSION

If the intent of the applicant is to provide for passive resort use a change of zoning to resort is not necessary. The DEIS does not address what can be done under the existing zoning to provide for this passive use. The idea of a swimming pool right on the ocean in this area would create problems of chlorine contamination of near coastal waters during flooding and possibly just during maintenance and should not be allowed.

COMMERCIAL AT EGG FARM OUTLET AND SURF SHOP

The egg farm outlet is allowable under current zoning as it is ancillary to an agricultural use. These uses exist and can continue to exist under the existing zoning. The only reason to propose to change the zoning would be to have freedom to change the uses and further develop a commercial area. The DEIS does not address this possibility.

COMMERCIAL EXPANSION AT SHOPPING CENTER

This additional expansion may be necessary, however concern has been expressed in the community about whether the applicant is sincere about addressing community needs in the shopping center. Every effort should be made by the applicant to meet community needs with the shopping center especially the retention of the laudramat and the inclusion of recreational opportunities in the expansion.

INDUSTRIAL

The applicant already has industrially zoned land and more vacant industrial zoning exists in Kahuku. The existing industrial should be developed and marketed to assess the need and market before increasing the acreage on the market. The DEIS does not include any reference to a market study on the need for industrial land. The DEIS does not adequately address the environmental impacts of the types of business and their waste products with respect to potential impacts on the coastal waters. This is especially crucial as some of the proposed sites back up to a drainage channel which feeds straight to the ocean. There is also mention that some of this land was once used by the City and County for a landfill - Are there any toxic leachates in the area - Is the area giving off methane gas which could be set off by industrial uses?

There is also a need to evaluate the expansion needs of the existing cemetery bordering one of these sites prior to accepting a change in in development plan designation to industrial.

BYU EXPANSION

The DEIS is so vague as to the intended uses for this expansion that it is difficult to assess their impact. Much more specificity on types of uses and density of uses needs to be provided. At one of the public meetings the Board held the question was asked as to what impact if any the student population had on the housing problem in La'ie. The answer given was none because all students were housed on campus. The DEIS however states that only 60 to 65% of students are housed on campus with the rest either commuting to school or living within the community. It appears that there may be a need for student housing but this need is not quantified in the DEIS and I can not see that the size of the area under consideration is necessary for housing. Much more detail needs to be provided on this expansion. Any expansion of BYU should not displace viable agricultural businesses.

PCC EXPANSION

Here again the analysis of what this expansion is needed for is far to vague. When first it was presented to the Board it was for parking and would not cause growth in the visitor count. Now it is for parking and exhibits and may cause minor increases in visitor count. Until PCC can deal with its adverse traffic impacts on the Ko'olauloa area any expansion of visitor count creates problems. The Board will discuss this more under traffic.

HOUSING

There is a great need for housing in La'ie and the Board supports the meeting of this need. The need has not been adequately enough described in the DEIS. The document does not tell us what is affordable to the community. One can gather for looking at the raw data in the appendix that satisfying the city's definition of affordable housing will not meet the needs of this community. If you look at appendix B you will find the following:

"It was found that: 39.6 percent (145 units) of the demand would be from families making less than \$18,000 per year; 25.4 percent (93 units) of the demand would be from families in the \$18,00 to \$24,000 per year income range; 15.9 percent (58 units) of demand would be from families in the \$24,001 to \$30,000 per year range; and 19.1 percent (70 units) of the demand would be from families making more than \$30,000 per year.

"If conventional financing were used by La'ie residents to purchase the projected housing, those making less than \$18,000 per year would not be able to buy units in excess of approximately \$58,000. For those in the \$18,000 to \$24,000 range, the maximum purchase price would be approximately \$68,000. For families making between \$24,001 and \$30,000 the maximum purchase price could not exceed approximately \$87,000 while those making more than \$30,000 would be able to afford conventionally financed homes in excess of approximately \$97,000."

"Maximum rental rates, assuming not more than 30 percent of income for rent would be as follows: for families making less than \$18,000 per year \$450 per month, for families making between \$18,000 and \$24,000, \$525 per month, for families making between \$24,001 and \$30,000, \$675 per month and families making more than \$30,000 would be able to spend more than \$750 per month in rent."

Anyone could see the problems inherent in meeting this market when these numbers are compared with the numbers in the DEIS (pg.120) of median rents in the area of \$509 and median purchase prices of \$179,500.

The Board sees no discussion in the body of the DEIS that addresses how this proposed housing is going to be affordable to this identified population. We see statements such as "the applicant and community can pursue" meeting community housing needs or "Efforts will be made to design, construct and finance the housing such that it can be offered to existing community residents at lowest feasible cost while maintaining design standards which are consistent with the rural character of the area..." "The home prices will be tailored to the La'ie area market and, as a result, are expected to meet and exceed current State standards for affordability." The Board does not see how this can be done unless the applicant is willing to turn over to the community infrastructured lots at no cost for a self help housing project and we see no indication in this document, nor does the applicant's past history suggest that this is likely.

There is very little discussion of the role of the market housing (40% of proposed units) on the community and the traffic. Especially some idea of what these units will sell for and the socio/economic background of the target audience for these units.

Several of the proposed housing sites have archaeological sites of significance recommended for preservation there is no discussion of the impact of this on the developability of those sites.

TRAFFIC

The Board finds the traffic analysis particularly troubling. We find the assumptions overly biased in favor of the applicant. For establishing baseline the applicant assumes full development of projects that don't have zoning and aren't even under formal consideration (i.e. the golf courses), most of which have been withdrawn due to community opposition which makes it unlikely that they will happen. They assume full build out at Kuilima which is unlikely to happen based on past experience and the current market, one might almost assume that full build out has been achieved. The Board would like to see an analysis of impact percentage based on present day and more realistic growth and development assumptions.

The Board's concern is not just the volume of traffic but the type of traffic generated. No where do they address the fact that any increase in POC traffic is likely to be buses and that these buses travel in caravans down the coastline through the rest of the communities at nine at night. Fumes and noise are a major problem from this activity and the applicant does not address this anywhere in the DEIS. When the NB has guests many familiar with the area ask to be allowed to leave prior to the cultural center's let out so that they do not have to enveloped with the fumes and noise all the way back to town.

The only mitigating measures that the applicant discusses are for the La'ie area the rest of the coastline needs to be addressed and the traffic burden shared equally on both sides of La'ie. There is also an assumption in this section about the occupants of the new housing being existing residents within the community, again no where

does the DEIS address how this will be assured and unless they can assure this the traffic analysis tied to this assumption is also invalid.

NOISE

The applicant should recognize that just meeting noise standards is not sufficient. Noise standards are set by the Department of Health for urban areas and their impact on quieter rural areas is more significant. This factor needs special consideration due to the proximity of housing to the proposed industrial site. Construction should also be prohibited on Saturdays especially blasting and continuous heavy machinery noises. The applicant should look at propane powered construction and maintenance vehicles to decrease pollution in the area in any new vehicle purchase required by the project.

VISUAL IMPACTS

The shopping center is currently applying for a lighting variance so the statement in the DEIS that the shopping center will be sensitive in its lighting does not ring true.

EMPLOYMENT

While the DEIS discussed the employment rate of the residents in La'ie nowhere does it discuss the rate of under employment in the area or the percentage of person employed full time as opposed to part time. This discussion needs to be included to create an adequate picture of the La'ie area.

POTABLE WATER

There is no discussion in the DEIS concerning the impact of the pending windward aquifer designation on this issue. There is also no discussion of the McBride decision on the ownership of water in this area.

WASTEWATER FACILITIES

There is no discussion in the DEIS as to timing of the development of adequate wastewater treatment and the proposed project, i.e.:

- when will the EIS for system be complete,
- what is the timetable for hooking up the rest of the community (this should happen prior to any of the currently proposed uses),
- what are the costs of these hookups and who will pay, and
- when are the CUP hearings proposed.

"Discussions are ongoing between the community and Zions Securities Corporation to determine the most feasible method for financing these improvements. The results of these discussions are planned to be included in a final La'ie Master Plan, scheduled for completion near

the end of 1992." (DEIS pg 131) Question if the final master plan is not completed and the DEIS and the pending DP amendments are supposed to implement the master plan is not the acceptance of either of these premature at this point?

The DEIS discussed using wastewater on agricultural land but nowhere can the Board find an assessment of the water needs of land currently under production as it relates to the proposed amount of sewer effluent to be generated. The DEIS pg 133 states "nitrate in groundwater will be rapidly mixed to background levels, and rapidly utilized by algae and phytoplankton." Does this mean that the area may be prone to algae blooms similar to those happening on Maui due to high nitrate contents in runoff?

OTHER IMPACTS

According to the appendix Kahawainui Stream has significant breeding populations of native Hawaiian gobies how will these be protected from runoff and industrial impacts. On page 73 you mention wetland and the need for Corps permits for any work done in these areas - is there any work proposed in wetlands and if there is for what use and to what extent?

CONCLUSIONS

The DEIS appears inadequate in many areas. The Board recommends acceptance of those sections of the DEIS dealing with wastewater treatment expansion, park dedication, shopping center expansion and the BYU Mauka housing site (the La'ie Community's choice of site for housing) due to the need for these uses in the community in the short term. The acceptance of these sections would clear the way to process the needed DP amendments. None of the other uses would suffer from the delay caused by nonprocessing at this time as by the applicant's own timetable they are not proposed for development until several years in the future.



20 April 1992

Mr Creighton Mattoon, Chair
Ko'olauloa Neighborhood Board No. 28
55-110 Kamehameha Highway
La'ie, Hawaii 96762

Subject La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i

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Dear Mr. Mattoon:

Thank you for your April 13, 1992 letter regarding the above referenced Draft Environmental Impact Statement. The following is in response to your comments.

General Comments

Alternative Residential Sites: We consider it entirely reasonable, and even preferable, to open up to public review and comment the process of selecting a proposed residential site from among three potentially suitable alternatives. The Final EIS does specify a single proposed housing site -- the BYU Mauka site. It was clearly stated in the Draft EIS that, "[f]ollowing the Draft EIS public review and comment period, a preferred residential site will be selected." This was also made clear when the DP Amendment Application was initially submitted. The application has since been amended to include only the BYU Mauka site.

Recycling: As noted in your comments, the EIS recognizes the importance of recycling and other waste stream reduction methodologies. Mitigative measures have been recommended for the proposed development areas to reduce waste stream flow, consistent with City and County policy concerning solid waste disposal.

Section 4.17 of the EIS describes anticipated impacts of the proposal on infrastructure, including electrical supply facilities. The proposed development of 450 housing units will generate an electrical load which could be reduced with the installation of solar hot water heating. It is important to note that the proposal is a private sector endeavor to develop affordable housing to meet a pent up demand for affordable homes in the La'ie area. This goal is foremost and will be achieved only through creative measures to curb development costs. The following mitigative measure will be added to Section 4.17.6 of the EIS:

Alternative Energy Sources: The developer of the areas designated for Residential and Low Density Apartment use will, wherever feasible, utilize alternative energy sources, such as solar water heating devices, in the housing designs. Short term (installation) and long term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating alternative energy infrastructure are mutually supportive.

The following mitigative measure will be added to Section 4.17.1 of the EIS:

Water Conservation: Measures to conserve water, such as re-use of treated wastewater effluent for irrigation purposes, production of compost from effluent sludge and green-waste materials, and water flow restrictors for new domestic water use, will be incorporated wherever possible in the design of new facilities to be located within the requested DP amendment areas. Short-term (installation) and long-term (operational) costs will be considered carefully to ensure that efforts to achieve the goals of providing affordable housing and incorporating water conservation measures are mutually supportive.

Agriculture: About 660 acres of the land owned by the applicant in La'ie have sufficiently gentle slopes to be potentially suitable for agricultural production. The applicant has historically utilized much of this land for diversified agriculture, and has plans to continue these activities. Approximately 465 acres would remain available for continued agricultural uses and expansion of agriculture if the DP amendments are adopted. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. This organization's operations will significantly increase active agricultural use in La'ie, and should more than compensate for the loss of crop production that is expected to result from development in the DP amendment areas. Displaced farmers will be welcomed if they are interested in joining the organization.

EIS Assumptions Concerning Housing: The EIS does not assume the majority of new residential units will be taken by residents already living in the area. Your comment indicates that you have confused the analysis with the qualifications concerning the specifics of La'ie's current housing shortage and the project goals that are pointed out in the mitigative measures. For worst case analysis purposes, the EIS assumes that all 450 proposed new housing units will be occupied by people from outside La'ie. Considering that the purpose of the proposed new housing development is to off-set the current overcrowded housing conditions -- i.e., to meet an existing pent-up demand -- the qualifications are appropriate. The EIS does not quantify the percentage of homes that might be occupied by existing residents of the area, and relies upon standard assumptions which ignore this goal to analyze the new housing development.

Population Guidelines: According to the Development Plan Status Review (Volume I, Table II-1), the development capacity of the Ko'olauloa DP Area was 16,400 as of June 30, 1990. Application of the DBEDT Series M-K Oahu population projection for the year 2010 (999,950) to the General Plan (GP) population distribution guideline for Ko'olauloa (1.3% -1.4%) yields a population range of 13,000 to 14,000. Thus, the existing population capacity exceeds the upper figure by 2,400. The capacity is equal to 1.64% of the 2010 Oahu population projection, and exceeds the upper percentage of the GP population distribution guideline by 0.24%.

The Department of General Planning has calculated that the population capacity which would be added to Ko'olauloa, if the requested DP amendments are adopted, is 1,294. (Phone conversation with Mr. Ralph Ukishima on January 28, 1992.) This is based on an average of 3.26 persons per unit, and a net increase of 397 units. The three areas requested for redesignation from Residential to other uses [Po'ohaili Street Park (3.6 acres), the Resort amenities area (2.6 acres), and the La'ie Shopping Center expansion for parking (0.5 acre)] were calculated as having a capacity of 53 units.

We have re-checked DGP's calculations and find that, using its specified residential density of 6.1 units per gross acre, the 6.7 acres being redesignated to other uses has a capacity of 41 units, not 53 units. Therefore, the revised net increase of 409 units yields an additional population capacity of 1,334, or 0.13% of the 2010 Oahu population projection. With the adoption of the requested DP amendments, the degree to which the Ko'olauloa DP Area's population capacity exceeds the upper range of the GP population guideline would increase from 0.24% to 0.37%.

It should also be noted that, as we understand it, DGP applies the 3.26 persons per dwelling unit figure only to single-family dwellings. A different, much lower figure is used for multi-family dwellings. The assumption made by DGP in calculating the population capacity for the DP amendment areas is that 100% of the new housing units would be single-family dwellings. This is not true. As noted in the application, eight acres are requested for Low Density Apartment designation. This area is intended to accommodate 90 to 100 apartments. Therefore, the calculation of 1,294 additional population capacity (corrected by us to 1,334) could be incorrect on the high side.

Project Description

Community: The La'ie Community Association expressed its desire for Zions Securities to prepare a long term master plan several years ago. The Draft La'ie Master Plan in Appendix A of the EIS and these DP amendments are and outgrowth of an effort by Zions Securities and the La'ie Community Association to cooperatively plan for the needs of the community. The La'ie Community Association is the largest single organization of residents in La'ie. Other groups in the community have also been extensively involved.

Government Programs: At this preliminary stage in the planning process, the applicant is researching and considering all options to ensure that an affordable residential neighborhood can be viably developed within La'ie. Subject to Development Plan approval, the applicant will research the design, financing and construction options further. As with the Development Plan amendment process, the applicant will endeavor to work with the La'ie Community Association and other parties who are interested in the pursuit of affordable housing, including the City and County and the State of Hawaii, prior to making further development applications. Please also review the response letter to DGP comments on the Draft EIS, a copy of which is included in the Final EIS, for a more detailed discussion of this issue.

Your question about the apparent conflict between the desire to limit the new housing primarily to residents of the area who live in overcrowded units, and the possible need to utilize government housing programs in order for the project to be feasible, does not have an easy answer. For example, because lower income renters are generally not in a position to look islandwide for a home, it may be possible to utilize a government low-income rental housing program without having it result in a significant amount of in-migration. But right now, we don't know enough to say this for sure. Much more research is needed before the pros and cons of various housing programs can be properly evaluated, and a decision made on what to do. The applicant and the La'ie Community Association would welcome your input into this process.

Grading: Grading activities for the new development project will be undertaken following the requirements of the Grading Ordinance of the City and County of Honolulu, as enforced by the Department of Public Works. The State Department of Health also will require that a NPDES Permit be obtained for clearing and grading of areas greater than five acres. These two regulatory procedures should adequately address the potential for silt runoff to coastal waters as a result of grading activities. Controls for drainage and erosion during construction will be required through both of these procedures, and specific timing for construction activities could be applied in site-specific instances.

At this time, blasting is not expected to be used for any of the projects to be located in the DP amendment areas. However, it will be necessary to assess the need to implement this construction technique on a site specific basis later in the planning process, when geotechnical studies are completed.

Agricultural Land: In Section 4.4 of the Draft EIS and elsewhere in the document, reference is made to the planned establishment of a farm management organization for La'ie farmers to utilize lands owned by the applicant. There are substantial amounts of lands with prime agricultural soil in La'ie which are owned by the applicant and are currently not being

utilized. Of the roughly 465 acres which would remain designated for agricultural use after the DP amendments are adopted, more than one-half is classified as prime. These will be the first areas considered for new agricultural development to replace those areas which will be lost as a result of the development of the BYU Mauka residential area. Most of the remainder is classified under ALISH as "other important agricultural lands".

Resort Expansion: A change in zoning is necessary. Outdoor recreational uses are not permitted as principal uses in Residential districts. While uses permitted under Resort designation are generally more intrusive than those permitted under the Residential designation, it is intended that the allowable uses for this particular site be limited through a unilateral agreement. This agreement would limit the uses to activities which are less intrusive than what is permitted for this site under the existing residential zoning.

The unilateral agreement would stipulate the types of activities which could be established under the new designation, such as swimming pool, tennis courts, restrooms, changing areas, showers, beach gear and equipment storage, lifeguard facilities, and a snack bar. The snack bar would be small in size and character, and clearly accessory to the recreational facilities. There are no plans for a stand-alone restaurant or other significant commercial use of this parcel. The unilateral agreement will specifically prohibit the placement of new lodging units, restaurant and other significant commercial use. The agreement will be legally binding in perpetuity, and is carried forward with the land should its ownership be transferred at some future date. Because of the legal restrictions placed on the allowed uses, it would not be possible to develop other more intensive uses.

The applicant is committed to including a public beach access as part of the plan for this site. There is no intention of developing public or resort parking on this site, which will avoid causing new traffic safety and congestion problems along Kamehameha Highway.

It is not clear to us why you believe there will be problems if a swimming pool is located "right on the ocean". This situation already exists in innumerable locations in Hawai'i, without any apparent serious problems. Maintenance procedures for the swimming pool facilities on the resort parcel would follow State Department of Health requirements for chlorinated pool water disposal. Laniloa Lodge is connected to the La'ie wastewater system, and the beach support area would also be connected to this system. Pool water could be safely discarded into this system. By following these requirements for maintenance operations, coastal waters would not be placed at risk.

Ocean flood waters would possibly place the swimming pool at risk under unusually rough storm conditions, with waves washing over the shoreline

properties. Under these extreme mixing conditions, the ocean water quality and ecosystems would not be adversely affected by the displaced pool water.

Commercial at Egg Farm Outlet: The requested DP Commercial designation for the 0.3 acre "corner commercial" site on Kamehameha Highway is intended to make conforming the existing commercial building. We agree that the egg farm outlet is a permitted ancillary use under the existing agricultural zoning, although its use character is certainly commercial. TT's surf shop, on the other hand, cannot be considered ancillary to an agricultural use. The egg store has not always been there, and it most likely will not always be there. The intent is merely to legitimize a long-standing commercial service building. This proposal is reflected in the comprehensive Master Plan for La'ie, and represents an opportunity to update the City and County Development Plan Map to correctly depict current land uses.

Commercial Expansion at Shopping Center: The applicant understands your concern, and will endeavor to continue to meet community needs in its operation of the shopping center. For example, in response to the strong support for a supermarket that was indicated in the 1987 Community Survey, a Foodland is under construction at the shopping center. (The Community Survey is included in the Appendix of the Draft EIS.) There is no intention to terminate the lease for the current laundromat. The theater was not closed down by the applicant; the operator went out of business. This space is not suited for normal commercial operations, and the applicant is seeking to lease the space to another theater operator.

Industrial: It is evident from attending over five years of public meetings in the La'ie community that a light industrial area is desired by residents for La'ie. Given the common knowledge and apparent need, the requirement for a market study seems unnecessary. Many activities that are considered to be service commercial or light industrial in nature are currently being conducted out of homes in La'ie and elsewhere in Ko'olauloa, often causing some nuisance to neighbors. With proper planning, many of these activities could be located at the new industrial areas.

The proposed industrial area on the north side of Kahawainui Stream has been reconfigured and greatly reduced in size to avoid potential wetlands and a Army Corps of Engineers flood control easement. This change reduces its size from 16 to five acres. Three of these acres are already designated for Industrial use on the DP Land Use Map.

Expansion needs of the existing cemetery are currently being considered, and less land intensive methods for accommodating burials are also being evaluated. There are still a significant number of grave sites available within the existing cemetery area. There are likely to be much less expensive alternatives to the demolition of the existing industrial buildings at this location. The vacant portion of the industrial area is believed to have a

relatively high water table, and could present possible problems for cemetery use.

BYUH Expansion: There are no plans at this time for expanding the enrollment at BYUH beyond the current level of about 2,000. Current plans for the area covered by the requested DP amendment are limited to the provision of additional student housing and the addition of new outdoor recreational facilities.

Of note, the addition of university facilities in the subject area does not require the processing of a DP amendment or rezoning. Only a Plan Review Use (PRU) approval is required for university facilities within an agricultural zoning district.

This proposal simply recognizes the existing land ownership boundaries of the university. The area has been intentionally acquired by the university to provide a "land bank" or logical area for efficiently expanding the campus, should there be a need to do so at some time in the future. In the spirit of disclosure of long-term planning goals, the applicant and BYUH feel it should be included on the Ko'olaupia DP Land Use Map, which is the City and County's long-range land use plan for the area.

The change of designation from Agriculture to Public Facility on the DP Land Use Map will not only define the logical boundary of any future expansion that may be planned for the campus. This also provides a definition of the makai boundary of the proposed BYU Mauka residential area which reflects actual land ownership and restrictions on future use of the area. The alternative of showing the new residential area in the midst of lands designated for Agricultural use is both a misstatement of actual conditions and undesirable from the perspective of planning for new urban uses to adjoin other urban uses.

As noted earlier, the expansion of active agricultural uses which is currently underway will more than compensate for the loss of existing areas under cultivation.

PCC Expansion: The expansion area is planned to be used for additional parking and storage area for the short term. Some new attractions may be added in the future; however, no specific plans have been prepared or are under consideration at this time. The flexibility for a limited amount of expansion over the long term is considered essential to maintaining the viability of this visitor attraction. The designation of this area is consistent with the long-range land use planning purpose of the Development Plans.

Since the size of the theater will not be increased, the number of buses on the highway at the peak hour at night (i.e., after the evening theater show lets out) is not expected to increase. Please refer to the discussion included below

and under Section 4.12 (Roadways and Traffic) of the EIS for additional coverage of this subject.

Housing: The statement in the Draft EIS that a variety of approaches will be used to provide the affordable housing is not intended to be general or vague. Rather, it recognizes the reality that the only feasible way to achieve the desired number and prices of affordable housing will be to use in combination several different approaches. No one approach will be sufficient.

The purpose of the 1987 report, "An Evaluation of Below Market Housing Programs and Financing Options for the Development of Affordable Housing in La'ie" (Appendix B), was to investigate and determine if there were sufficient funding programs and/or development techniques which would make it possible to provide the desired number and price of affordable housing in La'ie. Its conclusion was that there is no one program or technique which could sufficiently reduce development costs. However, the use of several programs in combination with each other was found to be a realistic possibility. These various programs and techniques are described in detail in Appendix B.

It is not possible at this time to pinpoint exactly what programs will be used when the housing is built, without going through the complex and expensive exercise of designing specific programs for building low-income rentals, affordable senior citizen housing, for-sale housing for families, etc. Undertaking such an effort at this time would be premature.

The beginning of actual construction is probably 1-1/2 to two years away, and the types of available programs, program eligibility and funding availability can all change in that time. Also, without some indication from government that it considers the purpose of the proposed housing development to be in the public interest, and will give fair consideration at the zoning stage to specific proposals to provide the affordable housing in accordance with the purposes put forth in this EIS and the DP amendment application, there is little point to going through such an exercise. The applicant considers the adoption of the requested DP amendments to be an appropriate and necessary indication of City and County support, at least in concept, for this proposal. The specific programs will be developed and submitted for government review as part of the zoning process.

Of the various programs and techniques which are discussed in Appendix B, those which are most likely to be used are as follows:

- *Owner-built or self-help housing* -- This type of program offers the opportunity to achieve significant savings in the cost of producing new housing. Predominantly Mormon communities such as La'ie have a long and well established history of joining together to help each other

in meeting social and economic needs. The construction of housing by those who will occupy it, with no doubt a significant amount of help from their neighbors and fellow church members, would be a natural application of this common approach to living together as a community.

- *Below-market land cost* -- A selling price for the BYU Mauka site has not yet been established. While the applicant wishes to receive some form of return on the land, it is realized that the price could be an important element in making it feasible to build the proposed affordable housing. An agreement on the price of the land will be an integral part of the effort to establish specific programs to build the desired housing. It is understood and accepted by the applicant that this will need to occur prior to the approval of zoning.

It should be noted that neither the applicant (Zions Securities Corporation) nor any other entity of the Mormon Church intends to be the developer of any of the housing. An important first step in the effort to put together the affordable housing program will be to find a qualified developer (or possibly to establish a non-profit corporation staffed by qualified personnel) who will build the housing.

- *Government-sponsored rental project* -- The income levels of many of the doubled-up families in La'ie are not sufficient to allow them to save even a modest down payment for a new home. Therefore, a rental project will be an important element in La'ie's affordable housing program. Both the City and County and the State government have programs to support the construction of affordable rental housing, and are actively seeking suitable developers and sites for such projects.
- *Farmers Home Administration (FmHA) Loan Program* -- This program, which is restricted to rural areas like La'ie, makes it possible for lower-income families to achieve home ownership. Interest rates are set based on income, and can go as low as one percent. There is also no required down payment.

Market housing will be provided only to the extent that it is needed to help provide the affordable units at prices that are within the income range of La'ie residents in need of housing. Exactly what that extent will be cannot, for the reasons stated above, be determined at this time. If there are market priced homes built to help write down the cost of the affordable homes, the target market for these homes will be identified. We do expect to determine this prior to rezoning.

The alternative housing areas with significant archaeological sites are not longer under consideration. The preferred residential alternative is the BYU Mauka site. There are no significant archaeological impacts associated with development of this site.

Traffic: We fail to understand how the reviewer reached the conclusion that the traffic analysis is overly biased in favor of the applicant. The traffic impact study has taken an extremely conservative approach to addressing future traffic impacts, because it includes future ambient traffic growth as well as known or proposed project traffic for the region. Should any of these projects be delayed or cancelled, traffic conditions in La'ie and the region would be better than predicted in this analysis. How is this favoring the applicant?

Your conclusion that the analysis assumed only existing residents will be moving into the new housing is not correct. The opposite is true -- namely, it was assumed that none of the new residents would come from La'ie. Nevertheless, we are confident that there will be a substantial relocation of families from existing overcrowded homes in La'ie to the new residential area. (For further details on why we believe this will be the case, see the response letter to the Department of General Planning comments on the Draft EIS, which is contained in the Final EIS.)

Bus Traffic: Regarding night bus traffic, an average of 30 buses travel from PCC each night (except Sunday) at 9:00 PM when the evening show ends. These returning buses travel on Kamehameha Highway during a non-peak traffic period. Some additional buses may be added to this total when new attractions are added to PCC in its proposed expansion area. However, since the size of the theater will not be increased, the number of buses on the highway at the peak time of 9:00 PM, when the evening show ends, should not increase.

The number of people attending the evening show in "motor coaches" has declined over recent years; however, there has been an increase in the number of mini-buses and rental cars. This trend is expected to continue, which will tend to further minimize any possible future increase in the number of buses serving the evening show. PCC representatives are working closely with the various transportation companies serving the center to coordinate traffic issues.

Windward Region Traffic: The traffic burden on the rest of the communities along the windward coast was not analyzed, as this would require completion of a detailed regional study of future traffic conditions. Also, as has already been noted, the primary intent of these proposals is to increase the amount of affordable housing available to La'ie residents living in overcrowded conditions. There will not be a corresponding increase in the number of jobs. Because significant new employment is not being provided, residents of other distant communities are not expected to be drawn to the somewhat remote community of La'ie. Some people who already work in the region and live in surrounding communities of Kahuku and Hau'ula are also expected to be part of the new resident group.

The fact that some people from outside the region may move to La'ie does not challenge the merits of providing affordable housing at this location. The EIS examines a worst-case scenario in which all residents of the new residential area are now residents of communities outside of La'ie. Potential impacts addressed, such as traffic, population, wastewater, water use, and schools, all considered the introduction of 450 new families to La'ie. The actual impacts of the new residential area should be considerably less due to the anticipated relocation of families from a substantial portion of the overcrowded households in the La'ie community.

Air Quality: Engine emissions from construction equipment and worker vehicles could be considered as a short-term adverse effect on local air quality. The use of propane powered construction equipment will be considered, pending availability by the different builders winning the contracts for projects in La'ie. The purchase of new maintenance equipment by the applicant for use in public areas will also consider propane fuel systems. We understand that the use of propane fuel for tour buses is also being studied.

Noise: Future use of the proposed industrial area located near the existing residential community will be limited in the types of uses allowed and hours of operation. The need to maintain a suitable environment for nearby housing will be respected in the design and location of the industrial buildings. For example, noisier activities will be placed on the opposite side of buildings from the homes or restricted to the egg farm road industrial area.

The projected noise impacts of vehicle traffic along Kamehameha Highway in La'ie are a function of the amount of traffic and speed of travel. Rural and residential locations near the highway which are presently affected by vehicle noise will continue to be affected, with a slight increase in noise levels anticipated due primarily to building traffic volumes associated with ambient traffic growth, and to a minor degree to the DP amendment area projects.

Limits for hours of operation for construction activities in sensitive residential areas will be considered. Construction activity is a short-term nuisance that could affect a rural area which is normally very quiet. However, very few homes are located adjacent to the proposed residential area. Saturday construction activities are fairly standard in the industry, and loss of workdays on weekends could extend the construction period by over 50 days in a period of a year. Once constructed, noise generated from the new homes and roads, schools and parks serving them will be comparable to typical residential noise levels in existing residential portions of La'ie.

Visual Impacts: In conjunction with obtaining the necessary approvals to complete the renovation of the existing La'ie Shopping Center, a variance has been required by the City and County for the existing internally lit cabinet signs which identify tenant businesses. These signs were conforming when installed, but changes have since been made to the sign ordinances. The

variance is being sought on the legitimate basis of economic hardship and unique circumstances. It does not involve a request to install lighting that is insensitive or not in keeping with the rural character of the area.

Employment: It is not clear to us what is meant in the comment concerning underemployment. Some people who work in La'ie are students, and census data summaries of income characteristics for La'ie include part-time employed students as part of the work force. The income statistics for La'ie provided by the 1990 Census include all employed individuals, such as these part-time employees of PCC, which lowers the average income statistic for all of La'ie. These individuals are the lowest paid portion of the La'ie workforce, but they could not truly be considered underemployed. We are not aware of any other unusual unemployment trend in this community.

Potable Water: The reviewer raises the question about a pending designation of the Windward O'ahu aquifer as a water management area and the McBride decision on ownership of water in this area. Neither of these issues are expected to affect the availability of water for the future development in La'ie in the proposed DP amendment areas. These issues could only affect the process which must be completed to gain approval for use of existing water resources.

Any procedural changes and limits imposed on future development of water sources serving this area would be expected to equally affect all future development projects in this region. The Water Resource Associates' study (Appendix E in the EIS) indicates that there is sufficient water resources available to serve the proposed developments. We do not anticipate any special problems with obtaining the required permits, should a water management area be established.

Wastewater Facilities: The development of adequate wastewater treatment and disposal facilities for the La'ie community is the subject of a Consent Decree established in 1990. The preparation of a Facility Plan for the La'ie Wastewater Reclamation Facility is currently underway. This document will establish the technology and design for the improvement to the wastewater treatment and disposal process. An EIS process has also been initiated, with a Draft EIS planned to be completed later this summer.

All decisions on the processes selected for this facility, including the treatment and disposal methods and locations, are subject to approval by independent reviewers, Drs. Gearheart and Finney, as well as by the State Department of Health. Additional approval processes will be required for this facility, such as a City and County Conditional Use Permit and a State Special Use Permit. These approvals will be pursued following acceptance of the Facility Plan and the EIS.

At this time, there is no timetable for connecting the entire La'ie community to the wastewater collection system. However, discussions with resident groups have begun with the purpose of working out a plan to accomplish this. The final version of the La'ie Master Plan is intended to address the substantive issues concerning the design, financing and building of the required water, sewer, drainage and roadway improvements. The current schedule is to complete this effort by the end of 1992.

While this matter is relevant to the overall La'ie community needs, it is not part of the areas being put forward in the DP amendment proposals. The proposed BYU Mauka residential area will be served by its own infrastructure. City standards will be met in the design and construction.

There has been general community/applicant agreement on the land use issues covered in the La'ie Master Plan since the initial draft was prepared in 1987. The Final EIS reflects the community's decision to designate the BYU Mauka site as the proposed new residential area. The main task that remains to "finalize" the Master Plan -- i.e., to put it in a form which is suitable for formal adoption by the applicant and community organizations in La'ie -- is to update its various sections to reflect current conditions and plans. In particular, the discussions of methods for providing affordable housing and improving infrastructure in the existing community will be updated to focus more on what specifically will be required to achieve these goals in La'ie. As indicated in the EIS and DP Amendment Application, this effort will be initiated shortly, with the objective of completing it by the end of 1992.

The disposal of tertiary treated effluent through either the interim subsurface drain field or effluent irrigation is not expected to have an adverse effect on groundwater or ocean water quality due to the substantial nutrient concentration reduction resulting from the proposed treatment method. However, ocean water quality is an important concern, and ocean water studies are being conducted to address this issue. Specifically, the concentration of nutrients available to the ocean water from leached effluent in groundwater is being studied as part of the EIS process for the LWRF.

Agricultural disposal would provide additional plant uptake of residual nitrate. Substantial dilution of any residual nitrate in the aquifer would further ensure that concentrations are below levels which could cause nearshore algae blooms such as those occurring off West Maui.

Other Impacts: Runoff from the industrial area will be controlled through on-site drainage measures which route runoff to detention facilities. Runoff from these areas will not be directly routed into the stream; rather, it would pass through detention facilities and grassed swales which are proven effective in removing much of the silt and allowing uptake and degradation of chemicals in typical urban runoff. Safe chemical storage and use practices will be required, following State Department of Health and EPA

requirements. Measures can also be imposed on industrial site tenants through lease conditions which establish contingencies for accidents such as fuel or chemical spills. Those uses with the greatest potential for fuel or chemical spills will be located in the more distant areas of the complex, away from the stream channel. As a result of these measures, stream life species in Kahawainui Stream, such as the endemic gobies, are not expected to be affected by the runoff from the new light industrial land uses.

Potential wetland areas have been preliminary identified at the proposed industrial site, although the exact boundaries of these areas have not been delineated. These wetland areas are located in the central and *mauka* portions of the proposed industrial area. The U.S. Army Corps of Engineers has also defined a flood easement area in this portion of the proposed industrial site. Due to the presence of these features, the applicant has reduced the proposed industrial area to the *makai* portion of the site which is outside of wetlands and the flood easement area. The total area is reduced from 15 acres to five acres. There will be no need for a Federal wetlands permit because the industrial area has been reconfigured outside the potential wetlands area.

Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Kari D. Kilstrom
Planner

24/92-1087



KOOLAULOA NEIGHBORHOOD BOARD NO. 28
 (Kahuku, Lale, Hauula, Punahoa, Kaaawa-Kahana)

c/o HAUULA SATELLITE CITY HALL • 84-010 KUKUNA ROAD • HAUULA, HAWAII 96717

March 23, 1992

Ben Lee, Chief Planning Officer
 Department of General Planning
 650 S. King St.
 Honolulu, Hawaii 96813

RE: Draft EIS for Lais Development Plan Amendment

Dear Mr. Lee,

I have been in contact with CEQC and they have informed me that as accepting agency on the Draft EIS you may extend the comment period. On behalf of the Koolauloa Neighborhood Board I am requesting an extension of the comment period from April 9, 1992 until April 30, 1992. The reasons we are requesting this extension are several:

- The draft was not received by the committee for review until Tuesday March 10,
- The amendments being requested are complex and have major impacts on the area,
- The Board needs to gather public input to adequately assess the impacts of the amendments (we are holding public meetings now), and
- The Board will have preliminary discussions on the amendments at their April meeting but will probably need time to finalize them later in April.

The Board does not feel that an extension in review time is unrealistic due to the size and variety of the amendments being proposed. The Board respectfully requests that you grant the extension for review time on the DEIS.

Thank you for your consideration.

Sincerely,

Creighton Mattoon, Chair
 Neighborhood Board #28



Oahu's Neighborhood Board System - Established 1973



GROUP 70
INTERNATIONAL

7 April 1992

Creighton Mattoon, Chair
Koolauloa Neighborhood Board No. 28
c/o Hauula Satellite City Hall
54-010 Kukuna Road
Hauula, Hawaii 96717

Re: Draft EIS for Laie Development Plan Amendment

Dear Mr. Mattoon:

Yesterday, we received a copy of your request to the Chief Planning Officer, Ben Lee for an extension of the Draft EIS comment period to April 30, 1992. Unfortunately, the applicant is unable to grant your request for the following reasons:

As stated in your letter, the Neighborhood Board hosted two public meetings, on March 19th and March 24th, which, in part, provided an opportunity for the Neighborhood Board to express concerns and ask questions about the requested Development Plan Amendments for Laie. A representative from Group 70 was present at each meeting to answer questions concerning the information contained in the Draft EIS. We also understand from your letter that you are considering the "public input" gathered in the two public meetings (March 19th and 24th) and will have "preliminary discussions on the amendments" at the regularly scheduled April Board meeting on April 9th.

The Draft EIS comments need not contain the Board's recommendation on the requested DP Amendments. Rather, they need only to pose questions, concerns, or recommendations regarding the information and analysis of potential environmental impacts, as contained in the Draft EIS. Many of the public comments offered in the community meetings are not directly related to the information contained in the Draft EIS, but may have some bearing on your recommendation on the Development Plan Amendment requests. Discussion of these and submittal of comments to the Department of General Planning may occur later in April, beginning with your regularly scheduled April Board meeting, since the deadline for receipt of these comments is different from the DEIS comment deadline.

If your requested extension was granted, acceptance of the Final EIS would be delayed beyond the deadline for consideration in the 1992 Development Plans Annual Review. This would postpone further consideration of the application, and ultimately the construction of the affordable homes, for a

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Robert K. L. Wong, AIA
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Jen-Chih "Jack" Lee, AIA
Michael A. Gami
Eric G. Crispin, AIA
Danilo M. Herrera

Letter to Koolauloa Neighborhood Board No. 28
Creighton Mattoon, Chair
7 April 1992
Page 2

minimum of 12 months. We consider such a lengthy delay to be without justification. In addition, further delays in selecting and obtaining City and County approval of a site for the affordable housing -- a process that has already taken nearly five years -- are likely to cause the applicant to abandon the effort altogether. The considerable public benefits that would result will then be lost.

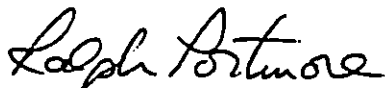
We urge you to deliver your comments or questions regarding matters pertaining to the Draft EIS by April 8th. We will include a written response to letters received on or before that date in the Final EIS. In addition, we will endeavor to be responsive to any letters received after that date, but can make no assurances given the deadlines for processing the DP Amendments.

The applicant would welcome the opportunity to discuss further with the Neighborhood Board any issues or concerns it may continue to have concerning the proposed amendments. There is ample time between now and the end of the year, which is the earliest time that the City Council would consider their adoption, to fully address your concerns.

If you have any further questions, please feel free to call me or Kari Kilstrom.

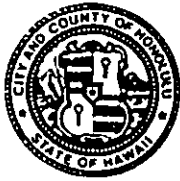
Sincerely,

GROUP 70 INTERNATIONAL, INC.



Ralph Portmore
Vice President

cc: OEQC
Department of General Planning
Zions Securities Corporation



KAHALU'U NEIGHBORHOOD BOARD NO. 29

(He'eia Kea/'Ahuimanu, Kahalu'u, Waihe'e, Ka'alaea, Waiahole, Waikane, Hakipu'u, Kuloa)

c/o KEY PROJECT • 47-200 WAIHE'E ROAD • KANE'OHE P.O., HAWAII 96744

"Let us not ever have an unhappy minority; rather, let us build a community consensus."

March 13, 1992

Benjamin Lee, Director
Department of General Planning
City & County of Honolulu
Honolulu, HI

MAR 23 1992

Dear Mr. Lee:

The Kahalu'u Neighborhood Board #29 has recently become aware of a proposed development in Laie. While we are aware that this is not within the boundaries of our Neighborhood Board, our area will be affected. Our concern is primarily focused on the availability of water for the entire Windward district and traffic that would traverse our area to reach the site. We feel that we should have automatically been determined by your office to have consulted party status and are disappointed that we were not.

Therefore, Kahalu'u Neighborhood Board #29 is asking to be afforded consulted party status now for the Property Reserves Development proposal in Laie. We would like the opportunity to comment on the Environmental Impact Statement and to be involved in any future discussions concerning this proposal.

Since we just received the Draft Environmental Impact Statement on March 11, 1992, we are currently reviewing it. We should be prepared with our more specific comments after our next Board meeting on April 8, 1992.

Please call me (239-5603) if you have any questions. Thank you.

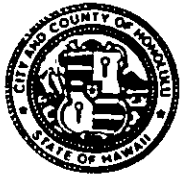
Sincerely,

Amy S. Luersen, Chair
Kahalu'u Neighborhood Board #29

cc: Koolauloa Neighborhood Board #28
Dr. James Anthony, Laie Ika Wai
Group 70



Oahu's Neighborhood Board System - Established 1973



KAHALU'U NEIGHBORHOOD BOARD NO. 29
(He'eia Kea/'Ahuimanu, Kahalu'u, Waihe'e, Ka'alaea, Waiahole, Waikane, Hakipu'u, Kualoa)

c/o KEY PROJECT • 47-200 WAIHE'E ROAD • KANE'OHE P.O., HAWAII 96744

"Let us not ever have an unhappy minority; rather, let us build a community consensus."

April 8, 1992

RECEIVED
APR 17 1992

GROUP 70
LIMITED

City & County of Honolulu
Department of General Planning
650 S. King Street 8th Floor
Honolulu, HI 96813
Attn. Mel Murakami

Dear Mr. Murakami:

The Kahalu'u Neighborhood Board #29 is writing concerning the proposed Development Plan Amendments in La'ie. As we stated in our letter to you on March 13, 1992, we are very disappointed that we were not automatically given consulted party status on this project and we wish to have that status afforded now.

The Kahalu'u Neighborhood Board # 29 has serious concerns with this proposal due to its potential impacts on the entire Windward side of O'ahu. These impacts include: increase in traffic, loss of water resources, loss of agriculture lands, increase in population and the precedent for future development.

The traffic analysis indicates that with these proposed amendments Kamehameha Highway will have a LOS E and specific intersections, depending on which residential alternative is selected, would have LOS F. This is unacceptable when one is discussing the major highway serving the entire Windward side.

The water analysis indicates that two new well sources would be required. Any water taken from the artesian aquifer is likely to affect the entire Windward side. Development of well resources in one watershed for use in another has had major detrimental impacts in Windward valleys, both agriculturally and ecologically. As with other residential development, water is planned for municipal use and not other uses. It is not a mitigative measure to build two new wells. A mitigative measure would be to reduce the amount of water needed.



Oahu's Neighborhood Board System - Established 1973

The analysis of agriculture states that the total development proposals would remove 210 acres from the potential for agriculture. It further states that 450 acres owned by the applicant in La'ie would remain available for agricultural purposes. We are concerned about what measures, such as long term leases to farmers or dedication of lands for agricultural, would be taken to ensure this continued agriculture use. Farming is central to the lifestyle of the Windward side and any erosion of the opportunity to farm is critical.

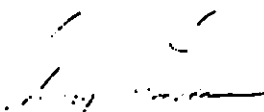
One of our major criticisms of the Environmental Impact Statement (EIS) and the proposal in general is the statement that the housing units will be meeting the existing demand in La'ie and not promoting new growth. While this is a laudable goal, what are the guarantees that it will be in fact used by existing residents? While we see statements about overcrowding, the timing of construction and that some of the units will be "affordable", these are not guarantees. Without these guarantees, the premise of the entire EIS is questionable.

We are also concerned that although this DP amendment proposes one site of three alternatives, what will control future expansion into these areas as Phase I, II, and III?

At our regular Board meeting on April 8, 1992, the Kahalu'u Neighborhood Board #29 voted unanimously to oppose the proposed Development Plan amendments until these issues have been adequately addressed.

Thank you for the opportunity to comment on this proposal. We look forward to your response. If you have any questions, please call me at 239-5603 or John Reppun at 239-5777.

Sincerely,


Amy Luersen, Chair
Kahalu'u Neighborhood Board # 29

cc: Zion Securities Corp.
Group 70 International, Inc.
Koolauloa Neighborhood Board # 28



20 April 1992

Ms. Amy Luersen, Chair
Kahalu'u Neighborhood Board No. 29
c/o Key Project
47-200 Waihe'e Road
Kane'ohe, Hawai'i 96744

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Jen-Chih "Jack" Lee, AIA
Michael A. Garni
Eric G. Crispin, AIA
Danilo M. Herrera

Subject **La'ie Development Plan Amendments
Draft Environmental Impact Statement
La'ie, Ko'olauloa, Oahu, Hawai'i**

Dear Ms. Luersen:

Thank you for your March 13, 1992 and April 8, 1992 letters to the Department of General Planning regarding the above referenced Draft Environmental Impact Statement. The following is in response to your comments.

Traffic: It is true that traffic volumes on Kamehameha Highway are substantial, and delays presently occur during peak periods. However, the traffic analysis conducted by The Traffic Management Consultant for the EIS shows existing weekend peak period traffic conditions along the highway to not be saturated. Traffic flow conditions at area intersections rated LOS D or E, which represents near capacity and at capacity conditions.

The traffic impact study makes several very conservative assumptions which cause it to overstate the potential impacts. In particular, it was assumed that none of the new residents would come from La'ie. Nevertheless, we are confident that there will be a substantial relocation of families from existing overcrowded homes in La'ie to the new residential area. (For further details on this issue, see the response letter to the Department of General Planning comments on the Draft EIS, a copy of which is contained in the Final EIS.)

This assumption is just one of several that results in a worst-case analysis. The inclusion of five proposed golf courses that have not received any development approvals in another example. Actual traffic impacts will undoubtedly be lower in the final outcome.

It should also be noted that the traffic impact study does not reflect the reduction from 16 to 5 acres which has been made to the size of the proposed egg farm road industrial area. This reduction will reduce the total projected traffic generated by the proposed DP amendments by about 19% during the

weekday morning peak hour, by 13% for the afternoon peak hour, and by approximately 3% for the Saturday peak hour.

Water Resources: Water taken from the groundwater aquifer in the La'ie subarea will not affect groundwater availability for the entire windward coast. The development of the proposed new wells should not significantly affect groundwater sources outside of the La'ie subarea. No other windward communities are deriving water from this source. A water supply study prepared by Water Resources Associates indicates that there is adequate surplus capacity in this subarea aquifer to support the proposed DP Amendments, plus accommodate future BWS plans for source development in the area.

The availability of groundwater for agricultural irrigation will not be limited by the proposed projects. Water conservation measures have been proposed to reduce the amount of potable water demand for the new residential development. In fact, the applicant is planning to implement agricultural irrigation with tertiary treated and disinfected recycled wastewater from the upgraded wastewater treatment facility. This measure will serve to reduce the agricultural irrigation water demand on the aquifer.

Agricultural Lands: About 660 acres of the land owned by the applicant in La'ie have sufficiently gentle slopes to be potentially suitable for agricultural production. The applicant has historically utilized much of this land for diversified agriculture, and has plans to continue these activities. Approximately 465 acres would remain available for continued agricultural uses and expansion of agriculture if the DP amendments are adopted. A farm management organization has been formed by Zions, and it is in the process of establishing farming operations on this land. This organization's operations will significantly increase active agricultural use in La'ie, and should more than compensate for the loss of crop production that is expected to result from the development of the new housing area.

Housing and Population

Specific Housing Strategy, and Affordability of the Housing for La'ie Residents: The statement in the Draft EIS that a variety of approaches will be used to provide the affordable housing is not intended to be general or vague, or to simply express a "laudable goal". Rather, it recognizes the reality that the only feasible way to achieve the desired number and prices of affordable housing will be to use in combination several different approaches. No one approach will be sufficient.

The purpose of the 1987 report, "An Evaluation of Below Market Housing Programs and Financing Options for the Development of Affordable Housing in La'ie" (Appendix B of the Draft EIS), was to investigate and determine if there were sufficient funding programs and/or development techniques

which would make it possible to provide the desired number and price of affordable housing in La'ie. Its conclusion was that there is no one program or technique which could sufficiently reduce development costs. However, the use of several programs in combination with each other was found to be a realistic possibility. These various programs and techniques are described in detail in Appendix B.

It is not possible at this time to pinpoint exactly and guarantee what programs will be used when the housing is built, without going through the complex and expensive exercise of designing specific programs for building low-income rentals, affordable senior citizen housing, for-sale housing for families, etc. Undertaking such an effort at this time would be premature.

The beginning of actual construction is probably 1-1/2 to two years away, and the types of available programs, program eligibility and funding availability can all change in that time. Also, without some indication from government that it considers the purpose of the proposed housing development to be in the public interest, and will give fair consideration at the zoning stage to specific proposals to provide the affordable housing in accordance with the purposes put forth in this EIS and the DP amendment application, there is little point to going through such an exercise. The applicant considers the adoption of the requested DP amendments to be an appropriate and necessary indication of City and County support, at least in concept, for this proposal. The specific programs will be developed and submitted for government review as part of the zoning process.

Of the various programs and techniques which are discussed in Appendix B, those which are most likely to be used are as follows:

- *Owner-built or self-help housing* -- This type of program offers the opportunity to achieve significant savings in the cost of producing new housing. Predominantly Mormon communities such as La'ie have a long and well established history of joining together to help each other in meeting social and economic needs. The construction of housing by those who will occupy it, with no doubt a significant amount of help from their neighbors and fellow church members, would be a natural application of this common approach to living together as a community.
- *Below-market land cost* -- A selling price for the BYU Mauka site has not yet been established. While the applicant wishes to receive some form of return on the land, it is realized that the price could be an important element in making it feasible to build the proposed affordable housing. An agreement on the price of the land will be an integral part of the effort to establish specific programs to build the desired housing. It is understood and accepted by the applicant that this will need to occur prior to the approval of zoning.

It should be noted that neither the applicant (Zions Securities Corporation) nor any other entity of the Mormon Church intends to be the developer of any of the housing. An important first step in the effort to put together the affordable housing program will be to find a qualified developer (or possibly to establish a non-profit corporation staffed by qualified personnel) who will build the housing.

- *Government-sponsored rental project* -- The income levels of many of the doubled-up families in La'ie are not sufficient to allow them to save even a modest down payment for a new home. Therefore, a rental project could be an important element in La'ie's affordable housing program. Both the City and County and the State government have programs to support the construction of affordable rental housing, and are actively seeking suitable developers and sites for such projects.
- *Farmers Home Administration (FmHA) Loan Program* -- This program, which is restricted to rural areas like La'ie, makes it possible for lower-income families to achieve home ownership. Interest rates are set based on income, and can go as low as one percent. There is also no required down payment.

The possibility of continued overcrowding even with the construction of new housing: You raise a question as to what what guarantees there are that the new housing would be used by existing residents. Others have also raised questions about what would prevent new families from moving into the existing overcrowded units when the current doubled-up families move to the new housing, and/or what would keep the new units from accommodating more doubling up. While there will be no legal way to prevent any of these things, we believe the proposed housing will significantly reduce overcrowding.

The primary reason for this is simple supply and demand. The existing overcrowding is a manifestation of an existing shortage of housing in the area. The proposed housing will significantly increase supply in La'ie, while the job creation resulting from the requested DP amendments will be small and result in a much smaller increase in demand.

Construction of the affordable housing will, subject to receipt of the necessary approvals, occur before the anticipated completion of major hotel development at the Kuilima Resort. Consequently, the impact of the resort development on housing demand in the Ko'olauloa and North Shore areas will not be felt until after the existing overcrowding in La'ie has been relieved by the proposed housing.

The extent to which the new resort development might create pressures to "re-establish" the levels of overcrowding that existed in La'ie prior to the construction of the proposed affordable housing, or even cause doubling up

in the new housing, is really a larger issue. It is a matter of how effectively the resort developer and government address any housing shortages that may arise in the area as a result of the substantial increase in jobs at the resort. The purpose of these amendment requests is not to address this potential issue. How it is finally addressed is not related to, and should not detract from, the merits of the applicant's proposal.

We also believe the proposal has more than sufficient merit to warrant adoption even without this argument. It proposes a higher proportion of affordable housing at more affordable prices than typify housing projects that have been both routinely approved for private development and built by public housing agencies. The effort that will go into this project to relieve existing overcrowding in La'ie will be an added benefit.

Precedent for Future Development: The development of the individual projects proposed in the DP amendment areas is intended to serve the needs of the people of La'ie for the next twenty years. These projects represent the first step in the implementation of the La'ie Master Plan. This Master Plan is being finalized this year, now that a residential development site has been selected, which has been the main unresolved issue in this five-year planning process. The community of La'ie has actively participated in the planning for these land use changes during this period. This planning process is one which demonstrates that active and patient community participation, in combination with a comprehensive land use planning approach, yields results which represent sensible planned growth that will serve the good of the community as a whole. Future development proposals for the windward coast may be measured against the time, effort and expense this applicant has made in committing to this cooperative planning approach with its neighbors.

We are somewhat surprised that the Kahalu'u Neighborhood Board has taken a position on the DP amendment application without first requesting responses from the applicant to your many questions, or even consulting with the residents of La'ie. This does not strike us as a good example of exercising leadership in establishing effective community participation in the government decision making process, which we understand to be one of the key functions of a neighborhood board. Should you be interested, we would be happy to discuss the proposed amendments with you. We also urge you to invite representatives of the La'ie Community Association to one of your meetings. The President of the LCA is Ms. Theresa Bigbie. Her phone number is 293-3780. The Association can be reached by mail at P.O. Box O, La'ie, HI 96762.

Letter to Kahalu'u Neighborhood Board No. 29
20 April 1992
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Thank you for your comments. Please feel free to call either me or Danielle Putnam if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Kari Kilstrom

Kari D. Kilstrom
Planner



DEPARTMENT OF THE NAVY

COMMANDER
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U.S. GOVERNMENT
PRINTING OFFICE

Mr. Mel Murakami
Department of General Planning
City & County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Murakami:

LAIE DEVELOPMENT PLAN AMENDMENT

We have reviewed the subject Draft Environment Impact Statement (DEIS) and have no comments to offer. Since we have no further use for the DEIS, it being returned to the Office of Environmental Quality Control.

Thank you for the opportunity to review the draft.

Sincerely,

W. K. LIU
Assistant Base Civil Engineer
By direction of
the Commander

Copy to:
Zions Securities Corp.
(Mr. Lucky Fonoimoana)
GROUP 70 INTERNATIONAL INC. ←
(Ms. Karl Kilstrom)
OEQC (w/DEIS)

LA'IE DEVELOPMENT PLAN AMENDMENTS
•Final Environmental Impact Statement•

LIST OF PREPARERS

This Environmental Impact Statement has been prepared by the planners and environmental analysts at GROUP 70 INTERNATIONAL, INC. Architects/Planners/Interior Designers, 924 Bethel Street, Honolulu, Hawaii 96813, Telephone (808) 523-5866. The GROUP 70 INTERNATIONAL staff involved in the preparation of this document included:

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