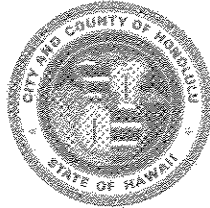


DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 & (808) 523-4411



EILEEN R. ANDERSON  
MAYOR

MICHAEL M. MCELROY  
DIRECTOR

80/WSDD-38 (MK)

March 3, 1981

Mr. Donald Bremner, Chairman  
Environmental Quality Commission  
550 Halekauwila Street, Room 301  
Honolulu, Hawaii

Dear Mr. Bremner:

Chapter 343, HRS  
Environmental Impact Statement  
Hasegawa Komuten Condominium Project  
Liliuokalani Trust Property, Waikiki

In accordance with Section 1:72 of the EIS Regulations implementing Chapter 343, HRS, we are notifying you of our acceptance of the above as an adequate fulfillment of the provisions of the Chapter.

Should you have any questions regarding this matter, please contact Marge Kimmerer of our staff at 523-4077.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Michael M. McElroy".

MICHAEL M. MCELROY  
Director of Land Utilization

MMM:ey  
Attach.

cc: Mr. Mel Roop,  
Architects Hawaii, Ltd.

Department of Land Utilization  
80/WSDD-38(MK)  
March 3, 1981

ACCEPTANCE REPORT: Environmental Impact Statement (EIS)  
Hasegawa Komuten Condominium Project  
Liliuokalani Trust Property, Waikiki

A. Background

The EIS was prepared for Hasegawa Komuten (USA) Inc. by Architects Hawaii, Ltd. The document describes the anticipated environmental impacts of the development of a residential condominium containing a maximum of 396 units. The proposed project consists of two 24-story towers, approximately 220 feet high; a 4-story parking garage, approximately 32 feet high; and on-site park and recreation facilities for the residents. New curbs, gutters, and sidewalks will be constructed and catch basins will be installed.

The proposed project lies within the Waikiki Special Design District (WSDD), as defined by Ordinance No. 4573, as amended. Accordingly, the project was assessed by the Department of Land Utilization, and an EIS was required of the applicant.

B. Procedures

1. The Department of Land Utilization issued an EIS Preparation Notice, which appeared in the Environmental Quality Commission's Bulletin of November 8, 1980, under the Register of Chapter 343, HRS documents. This was distributed to all interested Federal, State, and the City and County agencies, as well as public officials, community organizations, and private citizens.
2. Comments from consulted parties were received until December 8, 1980, allowing all parties the required 30-day minimum consultation required by Section 1:41(b) of the EIS Regulations. Twenty-four parties submitted written comments during this consultation period.
3. The Draft EIS was received by the EQC on January 2, 1981; notice of its availability appeared in the "EQC Bulletin" of January 8, 1981. The deadline for the public review period was then set for February 7, 1981. A list of reviewers is attached.
4. The applicant responded to all comments received within the 14-day response period. Only six comments required responses of a technical nature.

C. Content

The revised EIS meets all of the basic content and style requirements specified in Sections 1:42 and 1:43 of the EIS Regulations.

D. Response

The applicant made adequate point-by-point responses to all comments and incorporated the comments as an appendix to the Draft EIS document.

E. Determination

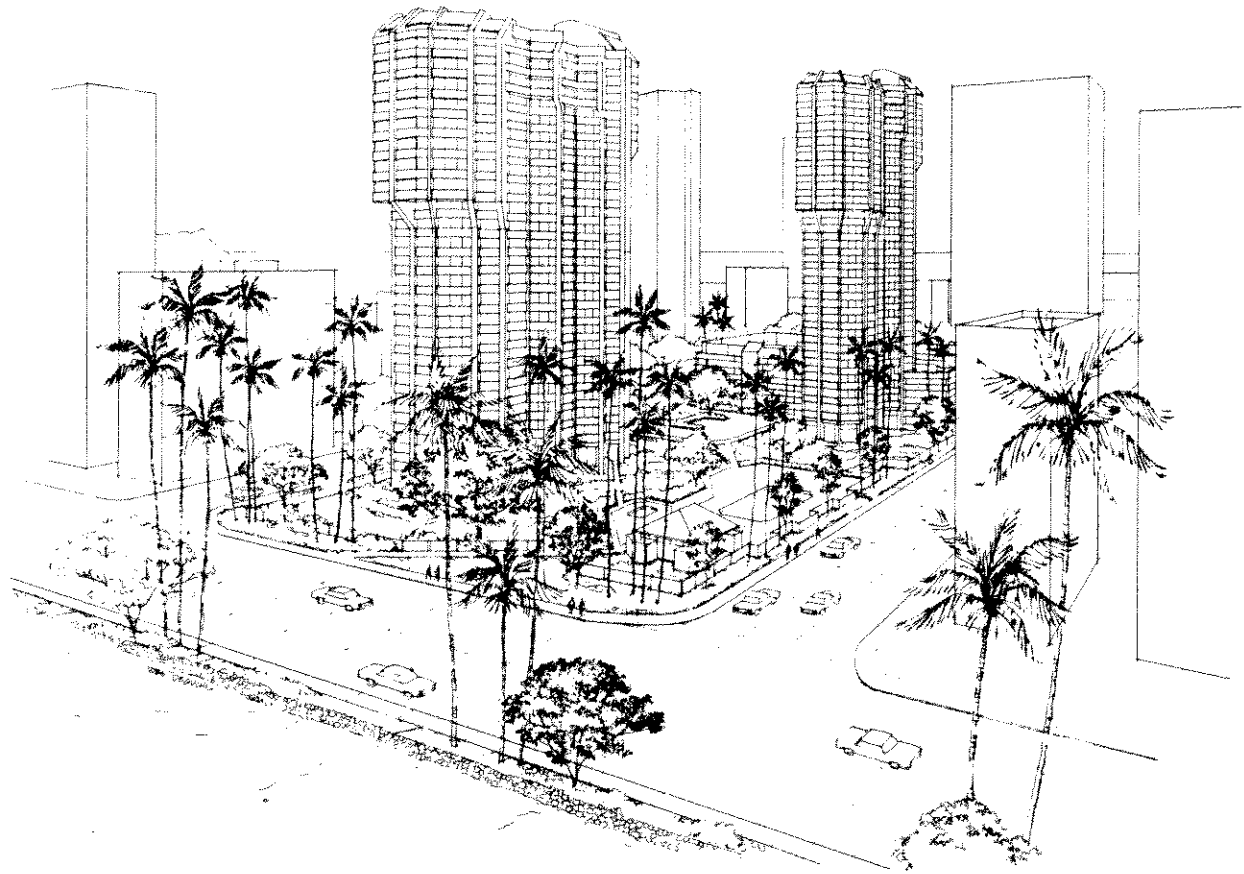
The Revised EIS is determined to be acceptable under the criteria for acceptance established in Section 1:71 of the EIS Regulations.

This determination in no way implies a favorable recommendation on the applicant's request for any subsequent permits required by this department for this project, where applicable.

APPROVED

  
\_\_\_\_\_  
MICHAEL M. McELROY  
Director of Land Utilization

MMM:ey



REVISED ENVIRONMENTAL IMPACT STATEMENT  
HASEGAWA KOMUTEN CONDOMINIUM PROJECT  
LILIUOKALANI TRUST PROPERTY, WAIKIKI

FEBRUARY, 1981

ARCHITECTS  
HAWAII LTD.

Architecture  
Planning  
Interior Design  
Graphic Design

Suite 300  
Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

OA  
268



REVISED  
ENVIRONMENTAL IMPACT STATEMENT  
FOR  
HASEGAWA KOMUTEN CONDOMINIUM PROJECT  
LILIUOKALANI TRUST PROPERTY

Waikiki, Oahu, Hawaii

TMK: 2-6-28: 49

Prepared for  
Hasegawa-Komuten (USA) Inc.

February, 1981

Prepared By  
ARCHITECTS HAWAII LTD.



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I. SUMMARY:

The site of the proposed project is located in Waikiki and is bounded by Ala Wai Boulevard, Paoakalani Avenue, Pualani Way, and Wai Nani Way. The total site is approximately 2.75 acres in size.

The proposed project consists of two 24-story towers containing 396 residential condominium units. The project will also contain a 4-story parking garage and on-site park and recreation facilities for the residents. Approximately 71% of the total site will be in open space, landscaping and recreation.

The proposed condominium project would require the demolition of the existing 1- and 2-story structures on the property.

The property is located within the apartment precinct of the Waikiki Special Design District. The project is consistent with all of the design standards and zoning controls of this ordinance.

The present land use on the property consists of of several 1- and 2-story single family residences and small apartments. This block also includes the Waikiki Community Center and the Waikiki Health Center. The properties surrounding the project presently contain several high rise apartment condominium buildings.

The site is rich in mature trees, most of which will be saved and preserved in their present location or relocated elsewhere on the site, including the large banyans.

No resources of historic or archaeological value are known to exist on the site. However, during construction, steps will be taken to assure that any materials found will be properly handled.

As a part of the project new curbs, gutters and sidewalks will be built around the site. Catch basins will be installed in Paoakalani Avenue and Wai Nani Way to handle water runoff.

Although a commitment for water service cannot be made at this time it appears that all utility systems are adequate to satisfy the utility demands of the project. All new utilities will be underground.

The sole vehicular access to the project will be off of Wai Nani Way. The project will increase traffic on the local roadways but existing service levels will be maintained in the vicinity of the project as these roads have sufficient capacity to accomodate the

additional traffic. Streets further from the project already have demands in excess of capacity.

Because the traffic added by the project is insignificant, noise levels from traffic will not significantly increase in the area. Accepted noise standards will not be exceeded by the project. Site noise such as from the automobiles in the parking garage should be mitigated by proper construction materials. During construction there will be noise impact on the surrounding area including the driving of piles which will occur for 3-6 weeks.

The impact of the project on air quality may cause short term impacts which exceed Hawaii State standards. However in the long term, both the State and Federal air quality standards will be maintained.

Because the project proposes two 24-story buildings in an area presently inhabited by 1- and 2-story structures there will be an impact on views. Although 71% of the site will remain in open space some views from surrounding high rise buildings will be reduced. No public views will be affected.

The project will require 26 small rental units presently on the property to be demolished and the Waikiki Community Center and the Waikiki Health Center activities must be relocated.

II. PROJECT DESCRIPTION:

A. LOCATION:

The site for the proposed 2.75 acre development is located in Waikiki, Honolulu, Oahu, (Figure 1) and is identified as Tax Map Key: 2-6-28: Parcel 49. The property is bounded by Ala Wai Boulevard on the mauka side, Paoakalani Avenue on the Ewa side, Pualani Way on the makai side, and Wai Nani Way on the Diamond Head side (Figure 2).

The location is two to three blocks from major resort hotel developments of Waikiki and the Honolulu Zoo/Kapiolani Park area. The Ala Wai Canal and Ala Wai Golf Course are across Ala Wai Boulevard from the project. Jefferson Elementary School is one block Diamond Head of the site. The beach at Waikiki is five blocks away.

The project site presently contains several one and two-story single family residences and small apartments. Most of the existing structures are old and in poor condition. Also located within the bounds of the project site are the Waikiki Community Center and the Waikiki Health Center.

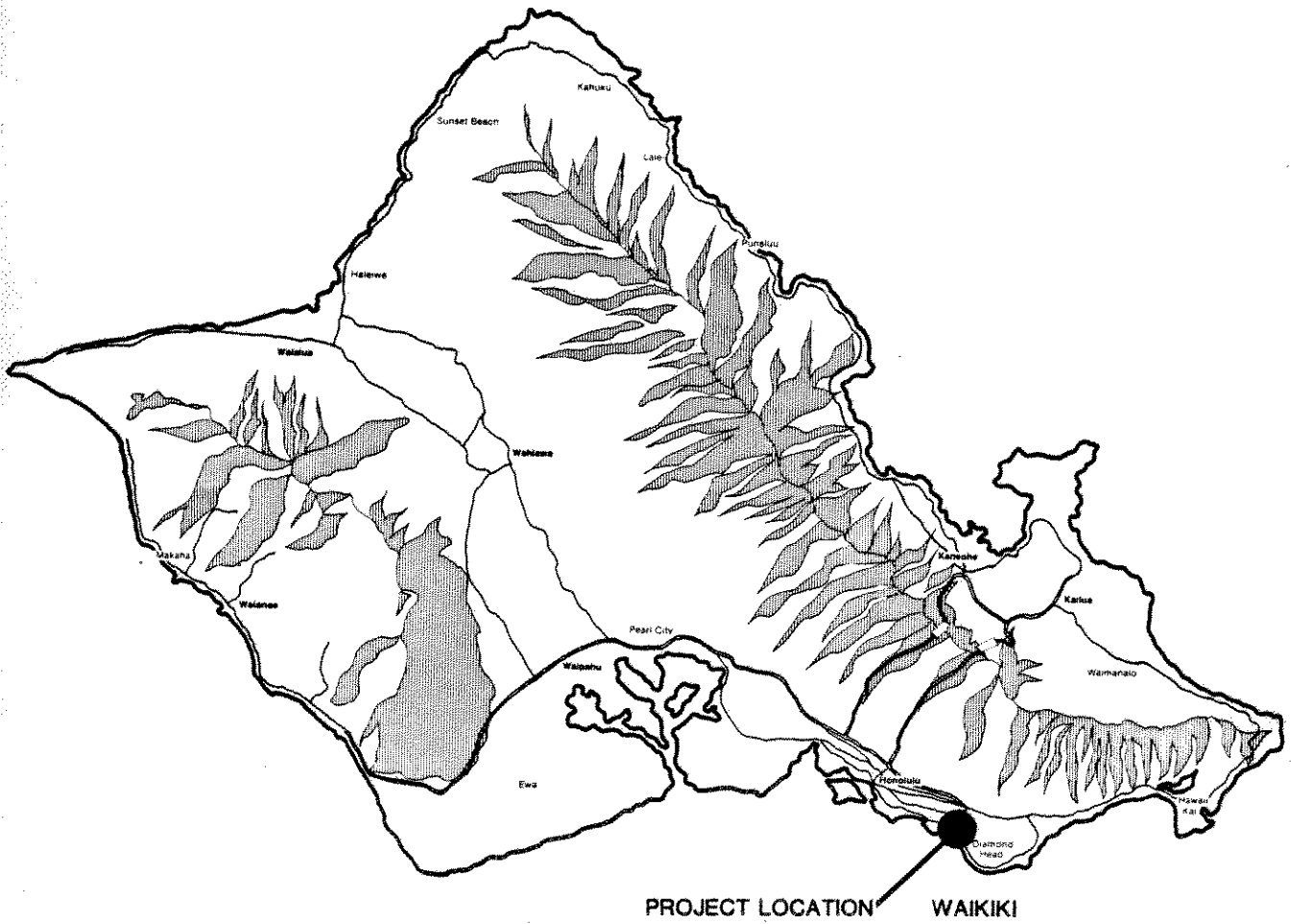
Automobile and pedestrian access to the site is via all of the surrounding streets. Ala Wai Boulevard is one-way in the Ewa direction. Paoakalani is one-way in the mauka direction. Wai Nani Way and Pualani Way are both two-way.

B. PROJECT OBJECTIVES:

The objectives which the developer is seeking to obtain with the proposed project are:

1. To provide a high quality residential condominium project which will provide added housing for the residents of Hawaii as well as investor opportunities.
2. To develop a project which is aesthetically pleasing and enhances both the project site and the surrounding area, while conforming with the intent and letter of the Waikiki Special Design District Ordinance.
3. To maximize the development opportunities provided by the Waikiki Special Design District Ordinance.





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ISLAND WIDE LOCATION MAP  
HK Liliuokalani - Waikiki

FIGURE  
**1**



ARCHITECTS  
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REGIONAL LOCATION MAP  
HK Liliuokalani - Waikiki

FIGURE

2

C. DESIGN CONCEPT:

The project is located on a site which is oriented, by the nature of the available views, toward the Ala Wai Canal and the Koolaus. The normally desirable Diamond Head and makai views are obscured by numerous high rise buildings which surround the site, making the mauka views from the site the more advantageous.

The density generated, coupled with the maximum height limit set by the Waikiki Special Design District and the desire for open space, dictated a dual tower concept utilizing two slender towers to obtain views from all units across the Ala Wai Canal.

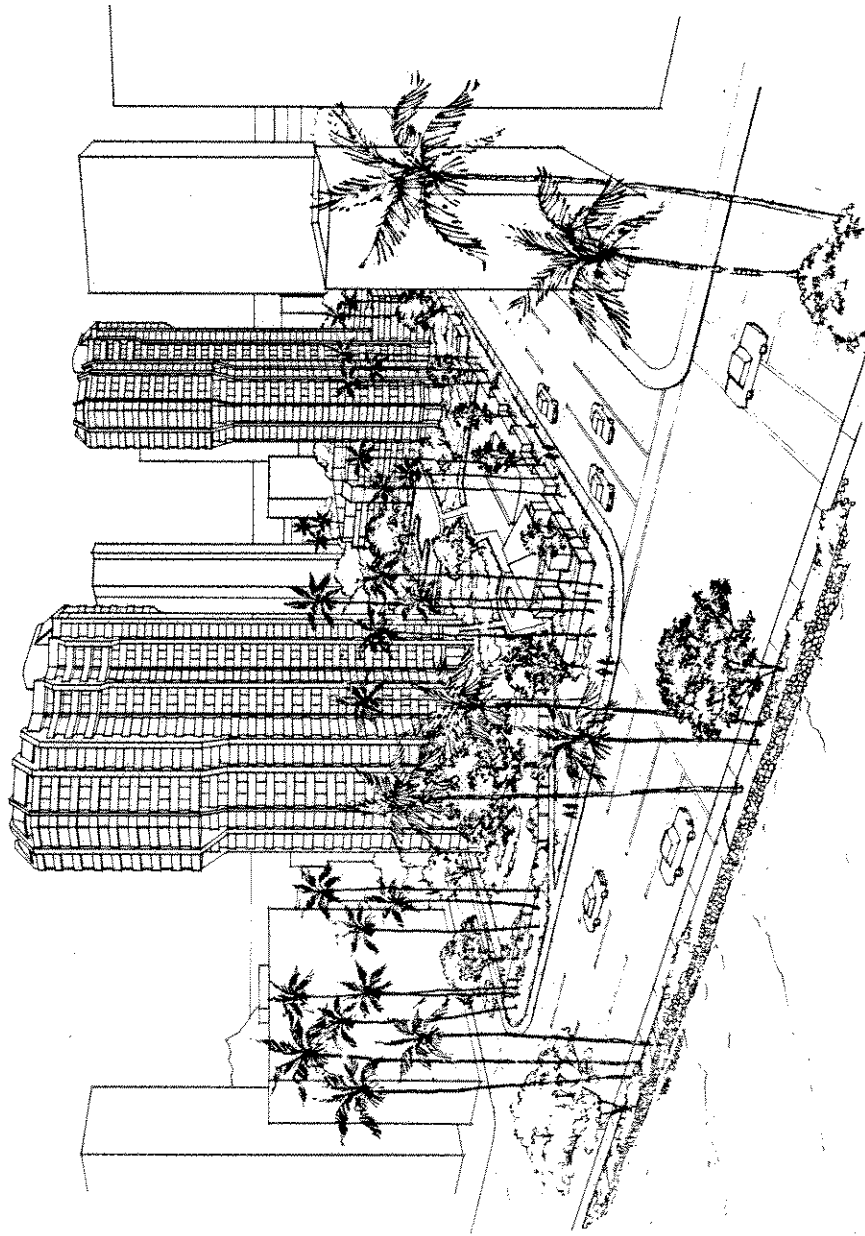
The 396 dwelling units are incorporated in a site design which utilizes two similar, but different size towers, both 24 stories in height (see Figures 3-5). The larger of the two towers is located close to the Ala Wai Boulevard/Wai Nani Way corner. This places the majority of the units close to the Ala Wai. The second and smaller tower is located on the Paoakalani Avenue side of the site approximately 135 feet mauka of Pualani Way. The two towers are approximately 115 feet apart.

Each tower expands outward at the upper floors. This places the greater area on the upper portion of the structure, thus minimizing the building bulk and providing more open space at ground level.

Parking for the project consists of 400 spaces located in a single 4-story parking structure located along the Pualani Way end of the property. Loading spaces will be provided within the project entry area. Vehicular entry to the project and the parking garage is from Wai Nani Way.

The site design also includes a significant amount of landscaping and recreation facilities. Private park and recreation facilities consist of a swimming pool, pavilion, recreational deck, two tennis courts (located on the top of the parking garage) and extensively landscaped grounds.

There will be no commercial use or use other than residential within the project.



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PROJECT RENDERING

HK Liliuokalani - Waikiki

FIGURE

3

ALA WAI BOULEVARD

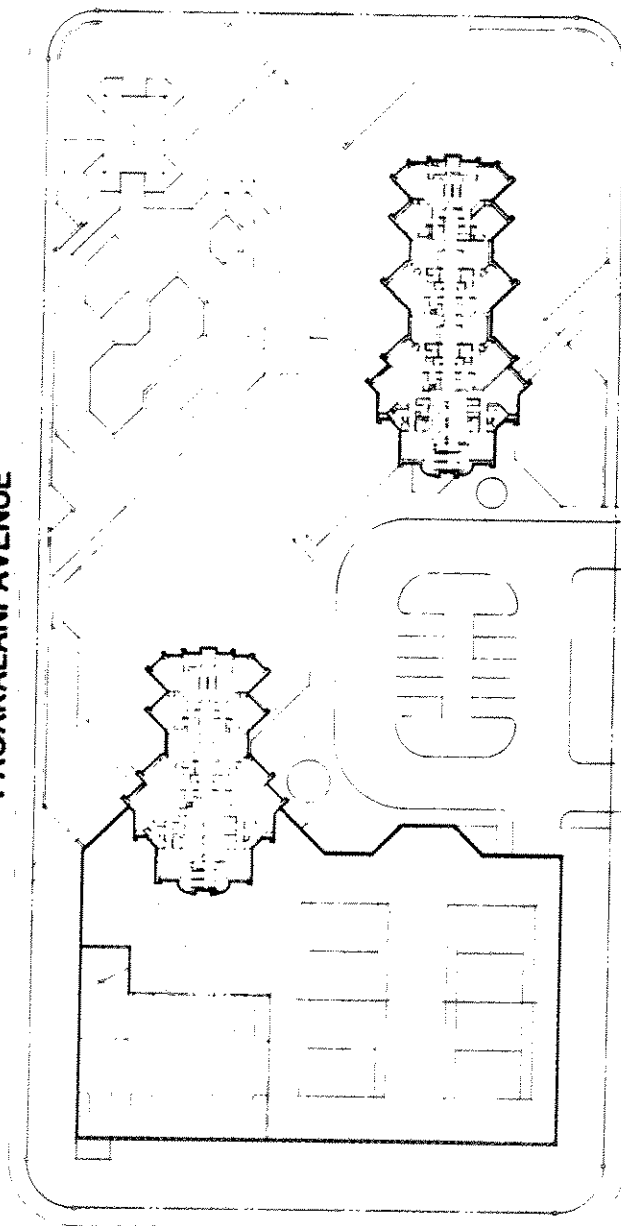
PAOKALANI AVENUE

WAI NANI WAY

PUALANI WAY



SCALE



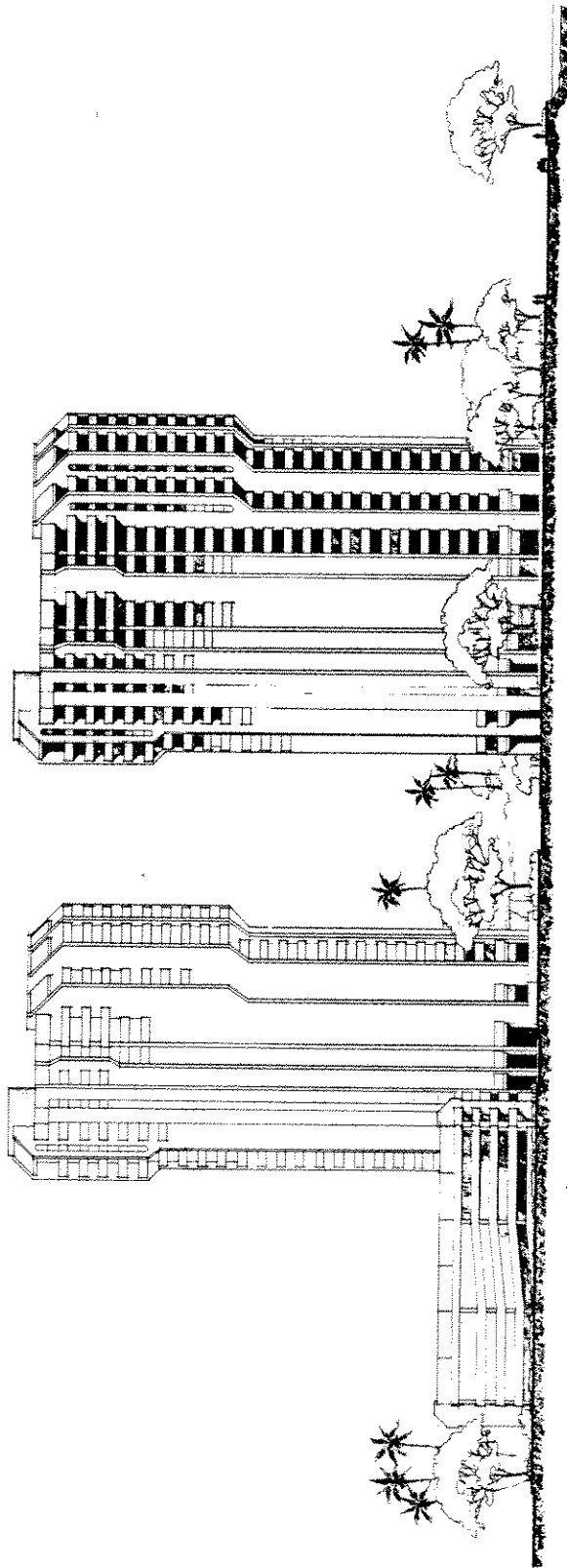
ARCHITECTS  
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SITE PLAN

HK Liliuokalani - Waikiki

FIGURE

4



EAST ELEVATION

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ELEVATION

HK Liliuokalani - Waikiki

FIGURE

5

D. DESCRIPTION OF UNITS:

The project will contain 86 studio units, 250 one-bedroom units and 30 two bedroom units. The sizes of the units will be approximately 300 sq. ft. for the studios, 530-610 sq. ft. for the one-bedroom units, and 900-1340 sq. ft. for the two-bedroom units. Except for some of the upper units, the units do not have exterior lanais. The two-bedroom units may be designed with a separate lock-out unit which, if utilized, would revise the total unit count to 396 units.

E. BUILDING HEIGHT, AREA AND LOT COVERAGE:

The two towers will each be approximately 220' high, (Figure 5) the maximum height allowed in this area of the Waikiki Special Design District. The parking structure will be approximately 32 feet high with a 10 ft. tennis court fence on top.

The total floor area of the project will be approximately 254,000 square feet. The maximum allowable floor area according to the zoning is 255,376 square feet.

The proposed lot coverage based upon the preliminary site plan will be 34,554 square feet or 29% of the total lot area of 119,657 square feet. The lot coverage of existing buildings on the site is 28,704 square feet or 24%. A maximum of 50% lot coverage is allowed by the WSDD ordinance.

F. CONSTRUCTION COST AND UNIT PRICES:

The total construction cost of the project and all improvements will be approximately \$30,000,000. Units are expected to sell for between \$100,000 and \$300,000 on a leasehold basis.

G. DEMOLITION AND CONSTRUCTION SCHEDULE:

All of the existing structures on the site will be demolished at one time. The entire demolition period will take approximately one week and will occur sometime in late 1981.

Construction of the project is scheduled to begin in February 1982 and will take about 20-24 months to complete. The project will be constructed in one phase.

H. PROJECT FUNDING:

The entire cost of project construction will be borne with private funds. No public funds will be used.

I. PROJECT HISTORY:

The proposed project will be developed by Hasegawa Komuten (USA) Inc. on land leased from the Liliuokalani Trust. It will be the last major development on Liliuokalani Trust land in Waikiki.

Hasegawa Komuten (USA) Inc. was selected to develop the property following an 18 firm design competition held by the Trust for the purpose of choosing a design concept and developer for the site.



III. RELATIONSHIP OF PROJECT TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA:

A. STATE LAND USE DESIGNATION:

The State Land Use designation for this property and all other properties in the area is "urban". This designation permits the county to zone this land to allow a variety of urban uses including the proposed multi-family residential use.

B. THE GENERAL PLAN - CITY & COUNTY OF HONOLULU:

The General Plan of the City & County of Honolulu is a document written to serve as a guide in the formation of policy by primarily the city, but also the State and Federal governments as well as citizens. The General Plan contains a series of long range objectives and policy statements addressing nine (9) different areas of concern. While a single project such as the proposed action can only be related to such a document in a very general way, and many of the policies are simply not relevant, the following is a list of those objectives and policies to which the proposed project relates:

1. Population:

Policy C-1 - Facilitate the full development of the primary urban center.

This project maximizes the amount of development permitted on the site by the zoning.

2. Economic Activity:

Objective A - To promote employment opportunities that will enable all the people of Oahu to attain a decent standard of living.

Jobs will be provided by the project, primarily during construction.

Policy B-4 - Provide public and encourage private improvement to facilities in Waikiki.

Improvements will be made to roads, sidewalks and drainage in the project area.

Policy B-5 - Discourage further high density development in Waikiki.

The Waikiki Special Design District ordinance implements this policy by making substantial reductions in the density of development that was formerly permitted. It also contains requirements for extensive open space. This project is in conformance with all provisions of that ordinance.

3. Natural Environment:

Policy A-8 - Protect mature trees on public land and encourage their integration into new developments.

Existing mature trees will be integrated into the project design.

4. Housing:

At the suggestion of the County Department of Housing and Community Development (see letter, Section X), an item-by-item evaluation of the General Plan Housing Element was made. The "Reference Report Summarizing the Basis for the Objectives and Policies" of the General Plan was reviewed where clarification of the policies was required.

Objective A

To provide decent housing for all the people of Oahu at prices they can afford.

Policy A-1

Develop programs and controls which will provide decent homes at the least possible cost.

Discussion

The development of these programs and controls is the responsibility of the City and County government.

Policy A-2

Make full use of State and Federal programs that provide financial assistance to low and moderate income home buyers.

Discussion

These programs are not applicable in the price range of the proposed project.

Policy A-3

Streamline permit procedures for housing and other development projects.

Discussion

The streamlining of permit procedures is not within the power of the developer and is the responsibility of the City and County government.

Policy A-4

Encourage the private sector to build homes for low and moderate income residents through such methods as tax incentives and long term leases.

Discussion

It is the County responsibility to provide these incentives. This method is utilized where the Hawaii Housing Authority is involved in the development of the project.

Policy A-5

Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.

Discussion

According to the reference report, the intent of this policy was to have the City and County government encourage techniques such as mass production and innovative zoning controls as a means of reducing housing costs while adding convenience and privacy. While this project will utilize convenience and privacy, innovative techniques such as mass production are not applicable in this case.

Policy A-6

Promote the construction of inexpensive dwellings which take advantage of Oahu's year-round moderate climate.

Discussion

The intent of this policy is to discourage the use of insulation which is not required in Hawaii and air conditioning in single family dwellings, among other concerns. The use of solar energy is also suggested in the background information on the policy. This project will utilize

windows that open to minimize the use of air conditioning and solar energy will be considered in the final design. See the discussion on Energy in Section IV.

Policy A-7

Establish public and encourage private, programs to maintain and improve the condition of existing housing.

Discussion

It will be required that the existing housing on the property be removed in order to develop the subject project.

Policy A-8

Encourage the provision of housing designed for the elderly and handicapped.

Discussion

Waikiki is primarily a resort area and is not as appropriate for elderly housing as other sites on Oahu. The project will be designed to accomodate the handicapped.

Policy A-9

Encourage equitable relationships between land owners and leaseholders, between landlords and tenants and between condominium developers and owners.

Discussion

According to the background information on this policy, there was a concern about the rights and obligations of each of these groups which periodically would have to be reviewed, "as popular and legal concepts of property rights continue to evolve". The condominium owners in this project will have a leasehold interest. At present the residents living on the property are in a landlord/tenant relationship with Liliuokalani Trust.

Objective B

To reduce speculation in land and housing.

Policy B-1

Encourage the State government to coordinate its urban area designations with the developmental policies of the City and County.

Discussion

This is a governmental agency responsibility.

Policy B-2

Discourage private developers from acquiring and assembling land outside of areas planned for urban use.

Discussion

This policy is satisfied since the project is within the planned urban area.

Policy B-3

Seek public benefits from increases in the value of land owing to City and State developmental policies and decisions.

Discussion

The applicant is not requesting a zone change to higher use or other permit which would increase the value of the land. Consequently this policy is not applicable. Conversely, when the Waikiki Special Design District Ordinance was adopted by the County and the amount of allowable development on properties was reduced, the County did not reimburse the land owners for this reduction in value.

Policy B-4

Require government-subsidized housing to be delivered to appropriate purchasers.

Discussion

This is not applicable since these units will not be government-subsidized.

Policy B-5

Prohibit the selling or renting of government-subsidized housing for large profits.

Discussion

This policy is also not applicable since government subsidies are not involved.

Objective C

To provide the people of Oahu with a choice of living environments which are reasonably close to employment,

recreation, and commercial centers and which are adequately served by public utilities.

Policy C-1

Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.

Discussion

This policy is implemented by the County through its variety of zoning districts.

Policy C-2

Distribute low and moderate income housing throughout the island.

Discussion

County and State programs are designed to do this.

Policy C-3

Encourage residential development near employment centers.

Discussion

The project site is near the major employment centers of Hawaii including Waikiki, Kakaako and downtown Honolulu.

Policy C-4

Encourage residential development in areas where existing roads, utilities, and other community facilities are not being used to capacity.

Discussion

As noted in the section on utilities in this EIS the utilities are adequate to handle the project. Adjacent roads are adequate for the traffic generated by the project but roads further away from the project are operating at capacity.

Policy C-5

Discourage residential development where roads, utilities and community facilities cannot be provided at a reasonable cost.

Discussion

The developer will provide road, utility and park improvements required for this project.

Policy C-6

Preserve older communities through self-help, housing-rehabilitation, and other governmental programs.

Discussion

The older building units which exist on the property will be removed in order for the site to accommodate the proposed project.

5. Transportation and the Utilities:

Policy D-5 - Require the installation of underground utility lines wherever possible.

All utility lines will be placed underground.

6. Physical Development and Urban Design:

Policy D-4 - Require the consideration of urban design principals in all development projects.

See the discussion on urban design in the section describing conformance with the Waikiki Special Design District.

7. Energy:

Policy B-2 - Provide incentives and, where appropriate, mandatory controls to achieve energy-efficient design in new development.

While indirectly related to this policy, the project design has voluntarily included several energy saving devices, as explained in the utilities section of this report. All of these devices increase the energy efficiency of the project and reduce potential energy usage. The County has not provided any incentives.

8. Culture & Recreation:

Policy B-6 - Require all new developments to provide their residents with adequate recreation space.

The project will provide extensive private recreation facilities on-site.

C. WAIKIKI SPECIAL DESIGN DISTRICT ORDINANCE - CITY & COUNTY OF HONOLULU:

1. Intent:

The proposed project is located within the jurisdiction of the Waikiki Special Design District (WSDD). Because of its location, the project must conform to both the intent and the specific requirements of the WSDD Ordinance.

The WSDD ordinance sets out twelve (12) goal-like statements which express the legislative intent of the ordinance. Among these 12 statements are six goals which are general in nature, and six goals which are implemented specifically through the specific requirements of the ordinance. Following are those six statements of intent from the ordinance which are general in nature and impart general guidelines for development within the district:

- a. "To encourage developments that would improve and complement the public facilities and utilities in Waikiki and the physical and visual aspects of the urban environment in the area."

The proposed project completely replaces an entire block within Waikiki, which is characterized largely by aged, and dilapidated structures with a project which consists of two modern and aesthetically designed towers, as well as extensive landscaping, open space, and private recreation facilities. It improves the ground level appearance of the property from Ala Wai Boulevard, a major thoroughfare, as well as from the rest of the surrounding area. Also, it complements public facilities by providing private park and recreation facilities.

- b. "To ensure that future developments would alleviate traffic and utility problems and would prevent detrimental impact on the existing development."

Possible negative effects of the project will be mitigated. See the sections describing traffic, noise, views, and utilities.



- c. "To make provision for utilities and offsite improvements either publicly or privately in advance of new development."

All improvements required by the project will be provided.

- d. "To provide for the efficient and safe movement of people and goods."

The proposed project has been designed to provide for the entrance and exit of automobiles, both resident and guest, off of the less congested secondary street, Wai Nani Way, which is also a two-way street, to allow for the freer movement of traffic in either the mauka or makai directions or indirectly in the Kapahulu Avenue direction. Offstreet loading zones are provided inside the front entrance to the project to provide for the efficient and safe movement of goods and people to and from the site without interrupting the safe flow of traffic along the perimeter streets, especially along the congested Ala Wai Boulevard. New sidewalks will be provided by the developer to allow pedestrians to move safely to and from the site and around its perimeter.

- e. "To bring about a desirable level of urban design compatible with the climate and the character of Hawaii within the district."

The project has been designed to be aesthetically pleasing, with good scale and proportion and relationship to the buildings in the surrounding area. The architecture is compatible with other structures in the area. The two towers have been offset to the maximum degree possible to allow for greater openness to maximize views, both from and through the site.

Large ground level open spaces which are extensively landscaped and encourage "outdoor living" have been provided to serve the residents of the project. While units will be designed to include air conditioning, they will also have windows which open to take advantage of Hawaii's natural tradewinds.

- f. "To provide additional properly distributed open spaces and vistas."

As stated above, the proposed project is designed to include large areas of extensively landscaped ground level open space. While this open space is private and will be improved as a private park, it does aesthetically improve the ground level appearance of the property for the public.

Quantitatively, while increasing the actual number of dwelling units on the site from 29 to 366, roughly 12 times, the lot coverage in terms of structures has only been increased from an existing lot coverage of 24% for the block, to a proposed lot coverage of 29%. According to specific requirements of the Waikiki Special Design District, the maximum allowable lot coverage in terms of buildings and structures is 50%. Therefore, the proposed development provides approximately 21% more open space within the site than is required by the ordinance. This open space has also been landscaped and planned so that large recreation areas are usable by the greatest number of residents possible instead of the present small cluttered yard areas around individual units.

While ground level views and appearance will be improved from the surrounding area, the new condominium structures will penetrate the high level open space and reduce mauka views for some nearby residents. Two slender towers are utilized rather than one large tower in order to give the feeling of more "apparent" open space at the higher elevations.

The other six goal statements included in the WSDD ordinance are implemented through the specific requirements of the ordinance or are not relevant to this project. They are listed below for information:

- a. To guide the development of Waikiki with due consideration to optimum community benefits;
- b. To promote health, safety, social, and economic well-being for the community as a whole;

- c. To protect, by means of proper planning and control, the value of private and public investment within the district and its surrounding communities;
- d. To provide a means to control apartment and hotel density in Waikiki;
- e. To provide greater access to public beach areas;
- f. To encourage the development of a variety of land uses which are compatible with and enhance the unique character of the district.

2. Land Use Control System:

In addition to the general statements which express the intent of the ordinance, the WSDD also sets forth specific requirements through its Land Use Control System. The next few paragraphs will discuss the specific requirements and the degree to which the proposed project satisfies them:

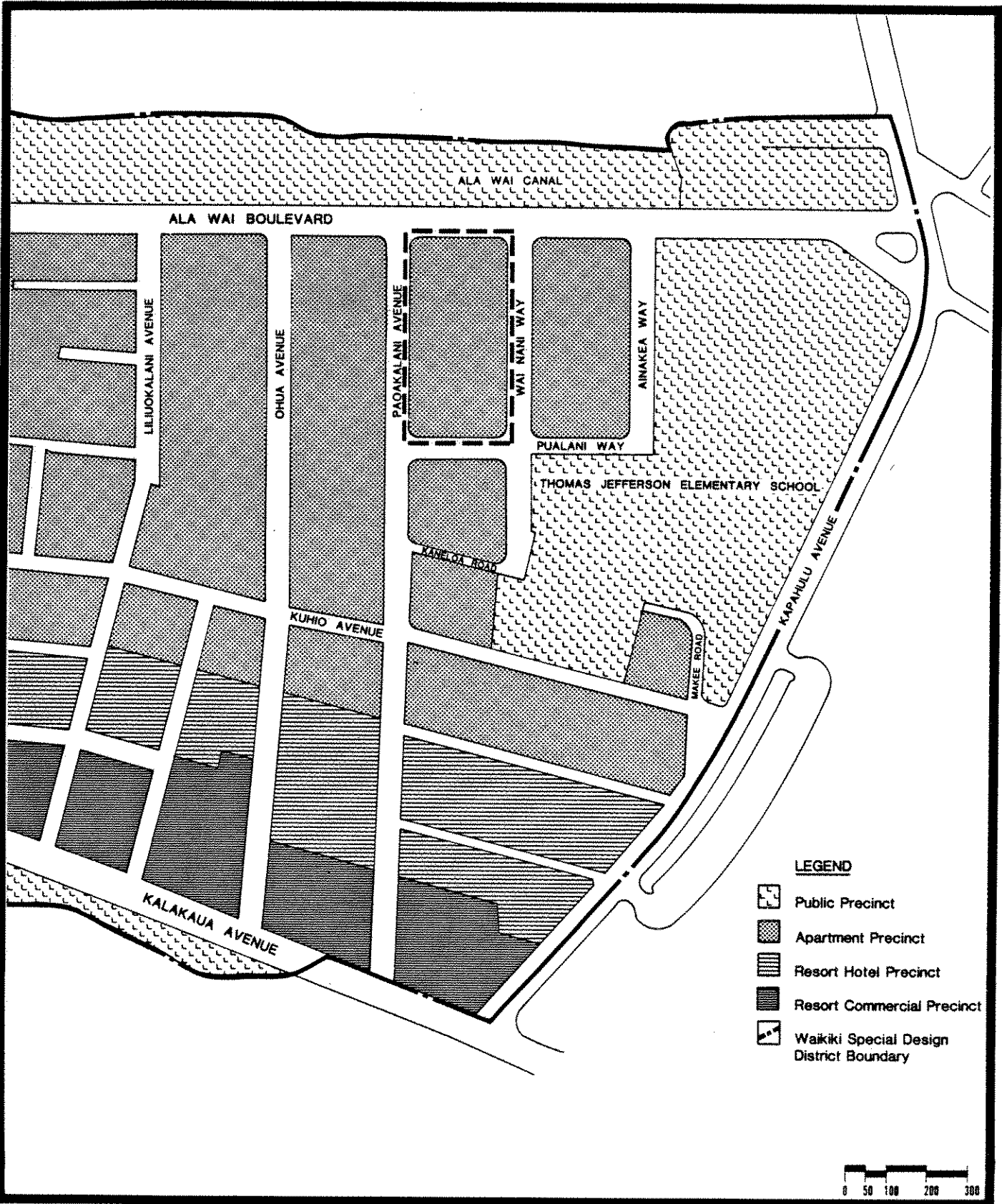
a. Use:

The proposed project is located within the apartment precinct of the WSDD (Figure 6). The proposed use is multiple family dwelling units/condominiums which is a permitted use in this precinct. No other use is proposed.

b. Circulation:

The land use control section of the WSDD includes a circulation plan for all of Waikiki. This plan first proposes that Pualani Way be widened. This widening has already been completed. In addition, curbs, gutters and sidewalks which at present do not exist along Wai Nani Way, Pualani Way and Paoakalani Avenue will be constructed and paid for as part of the development of the proposed project. The actual number of curb cuts or driveways will be reduced significantly, and will be replaced at safe sight distances from major intersections. Off-street loading for passenger and freight will be provided in designated loading areas and will be landscaped and screened where possible.







c. Urban Design Guidelines:

The next section of the land use control system describes, both in map and written form, a set of urban design guidelines which shall be addressed by any proposed development. These guidelines include both general and specific requirements.

The long axes of both new towers have been oriented in a mauka-makai direction as required by the ordinance, to minimize the interruption of mauka-makai views through the site. The effect of these towers upon the views from surrounding buildings are discussed in more detail in a view study portion of the EIS. The proposed towers as well as the parking structure and pavilion have been located to respect the required 30 foot average setback along Ala Wai Boulevard and the 20 foot setbacks along all other streets. They have also been located to satisfy the additional setback requirements based upon the proposed 220 foot height of each tower.

The urban design guidelines of the WSDD require that the architectural design of the project shall be compatible with the area and harmonize with the natural surroundings. In accordance with these guidelines, the project has been designed to be proportionately compatible with other buildings within the surrounding area. It will be constructed of plaster finished concrete and will be of natural muted colors. Windows will be of solar glass. The project shall not include any mirrored glass. Buildings have been located at an adequate distance apart to insure adequate light and air circulation.

Open areas will be extensively landscaped to reflect a Hawaiian character and will significantly improve the appearance and beauty of the project area. Existing major trees will be preserved.

As stated before, the project will be extensively landscaped and all open areas and recreation space will be served by irrigation systems. Planters will be used to

soften the corners of the recreation deck which will be located on the top level of the parking structure. Street level portions of the parking structure will be landscaped and street trees will be planted to soften the visual impact of the structure. An attempt will be made to make street level plantings compatible with those used by the Diamond Head Vista to create a uniform streetscape along Pualani Way. Guest parking areas and loading zones will be screened where possible. All rooftop equipment will be screened so as to soften its appearance and help to conceal it.

All electrical and telephone equipment which could potentially detract from the visual appearance of the project will be placed inside the buildings or in areas where it will not be visible.

There are no known historical sites or structures which require preservation.

d. Other requirements:

Finally, the ordinance sets specific height, setback and density regulations which have been met by the proposed project. These are as follows:

- (1) The maximum allowable building height is 220 feet. The proposed height of each of the two towers proposed is between 210 and 220 feet.
- (2) Side and rear yard setbacks shall be a minimum of 10 feet plus all front, side and rear yards for any portion of a building above 40 feet in height shall be an additional one foot for each 10 feet in height. Setbacks along the three peripheral streets, including Ala Wai Boulevard, have been shown at 38 feet which is the required setback for a 220 foot building. Along Ala Wai Boulevard, the basic requirement of 30 feet average setback plus 18 feet for the additional height up to 220 feet has been shown.



- (3) The maximum allowable floor area for the site has been calculated to be 255,376 square feet. The floor area of the proposed project is approximately 254,000 square feet.
- (4) A minimum of 50% of the zoning lot shall be devoted to open space at the ground level. The proposed project includes a total of 71% ground level open space of which over 50% will be landscaped.
- (5) All of the sign requirements for apartment precinct will be respected by the proposed project.
- (6) The ordinance requires that there be at least one parking space per dwelling unit. This would require that there be as many as 396 spaces provided for the project. Under the proposed plans, there will be 400 parking spaces provided, thereby satisfying the requirements of the ordinance. The ordinance also requires that there be two loading spaces located on the site. These two loading spaces have also been provided.

D. PROPOSED DEVELOPMENT PLAN - CITY & COUNTY OF HONOLULU:

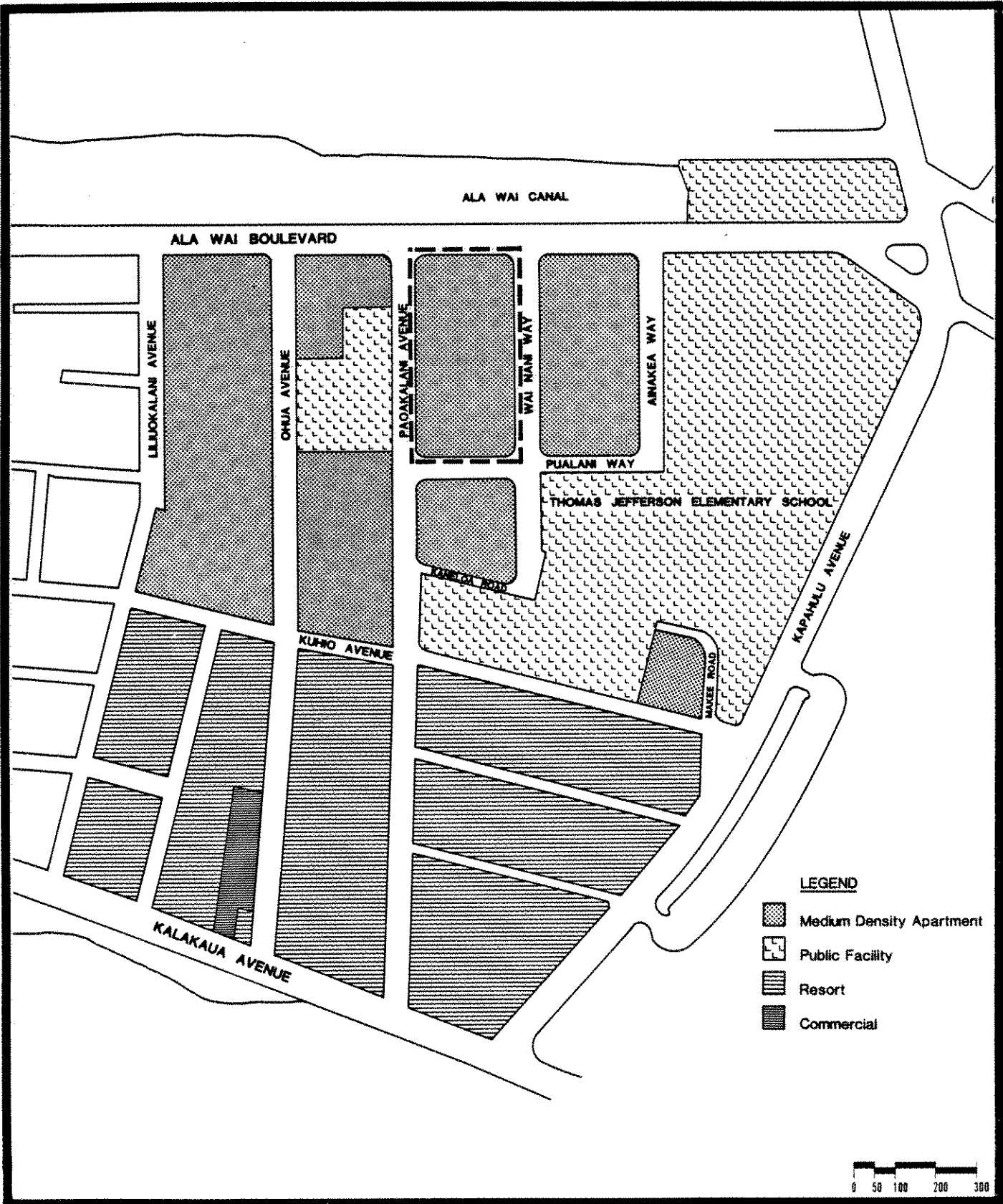
The City and County of Honolulu is presently considering proposed "Development Plans" which, when adopted in their final form, will provide guidelines with which future zoning on Oahu must conform. These plans and their accompanying ordinances have been reviewed by the Planning Commission but have not yet been considered by the City Council.

As shown in Figure 7, the proposed Development Plan for the Primary Urban Center shows the area of Waikiki surrounding the project site as a mix of resort, medium density apartment and public facilities.

The only "Commercial" designated land in the area is along Ohua Avenue at Kalakaua Avenue. Otherwise, the entire area makai of Kuhio Avenue is designated as "Resort".

Between Kuhio Avenue and Ala Wai Boulevard, the majority of the area is designated as "Medium Density Apartment", including the project site. Only the Roman Catholic School property and Thomas





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PROPOSED COUNTY DEVELOPMENT PLAN

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FIGURE  
**7**



Jefferson Elementary School are designated as "Public Facilities". Kapiolani Park and the Honolulu Zoo are designated "parks and recreation".

According to the October 1980 draft of the proposed Development Plan Ordinance, "Medium Density Apartment" means, "multi-family residential structures having densities of up to 90 dwelling units per gross acre". The proposed project has a density of 133 dwelling units per acre which exceeds the density recommended by the proposed development plan at this time.

The proposed ordinance also recommends a maximum building height of 350 feet in Waikiki. The two towers proposed will each be approximately 220 feet high.

E. PARK DEDICATION ORDINANCE - CITY & COUNTY OF HONOLULU:

The Honolulu County Park Dedication Ordinance requires that a developer either dedicate land to the public to be held in perpetuity, develop private park land, or pay an in-lieu fee to the County to provide for parks and playgrounds.

For a residential project of the type proposed, the developer is required to dedicate or develop a private park area equal to 110 square feet per unit or pay an in-lieu fee equal to the market value of that same amount of land.

Specifically, for this project, the park dedication requirement is equal to 110 square feet times 366 units, which equals 40,260 square feet. The preliminary site plan for the proposed project shows a private park of approximately 44,600 square feet. This area exceeds the amount of land required by about 4,000 square feet. If lock-out units are utilized in the two-bedroom units, the total unit count could be 396 units, requiring 43,560 square feet of park area (396 x 110).

#### IV. EXISTING ENVIRONMENTAL SETTING, PROJECT IMPACTS AND MITIGATION MEASURES:

##### A. LAND USE:

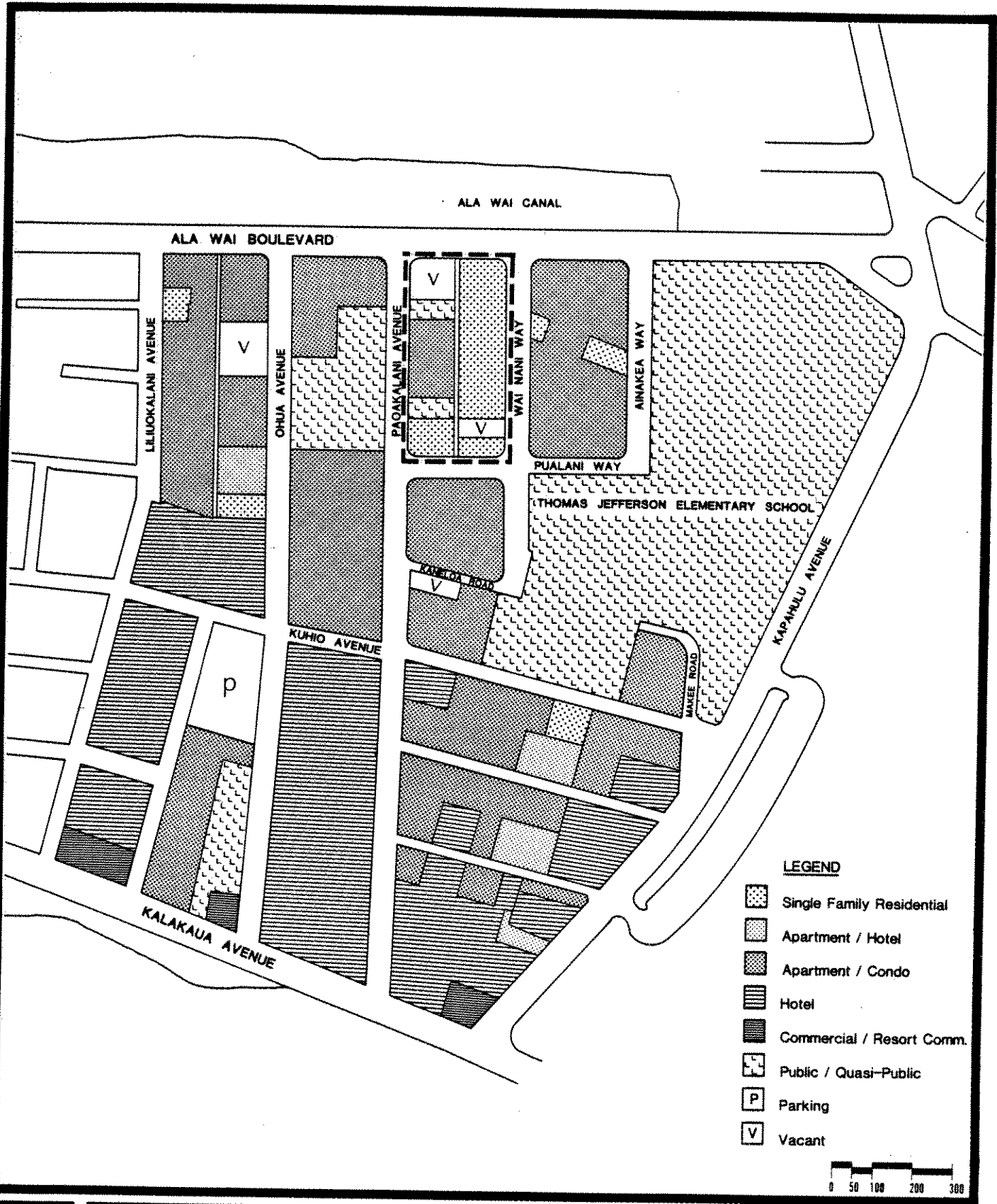
##### 1. Existing Environmental Setting:

The proposed project is located in the Waikiki area of the City of Honolulu. Waikiki is characterized as a resort area which consists of a mix of high and low rise apartment and hotel structures, resort/commercial activities and some single family residential units. Hotel and resort commercial activities are clustered primarily around the Kalakaua Avenue and Kuhio Avenue areas with the mauka sections of Waikiki developed in high density condominium and apartment uses (see Figure 8).

The area immediately surrounding the project site is similarly characterized by high, mid and low rise apartment and condominium developments. While some older structures such as single family residential units remain in the area, the majority of the surrounding structures are newer, high rise condominium buildings. In the vicinity of the project site are the Roman Catholic Church School site located immediately Ewa of the project site and the Thomas Jefferson Elementary School located approximately one block Diamond Head of the project site. Kapiolani Park and the Honolulu Zoo are located within a quarter mile of the project site, as is the Ala Wai Golf Course located mauka of the project.

Land uses immediately surrounding the project include the Roman Catholic Church School, located Ewa of the project, mid rise and high rise apartment/condominiums, Ewa and makai of the site, and a mix of low and high rise apartment/condominiums, Diamond Head of the project. The Ala Wai Canal and Ala Wai Golf Course are located mauka of the project.

The project site presently contains twenty-six (26) single family attached and detached dwelling units (Figure 9). These units are one and two-story structures which are generally old and in poor condition. Also on the site is the Waikiki Community Center and the Waikiki Health Center. Both of these uses are seeking new locations for their operations. Relocation of



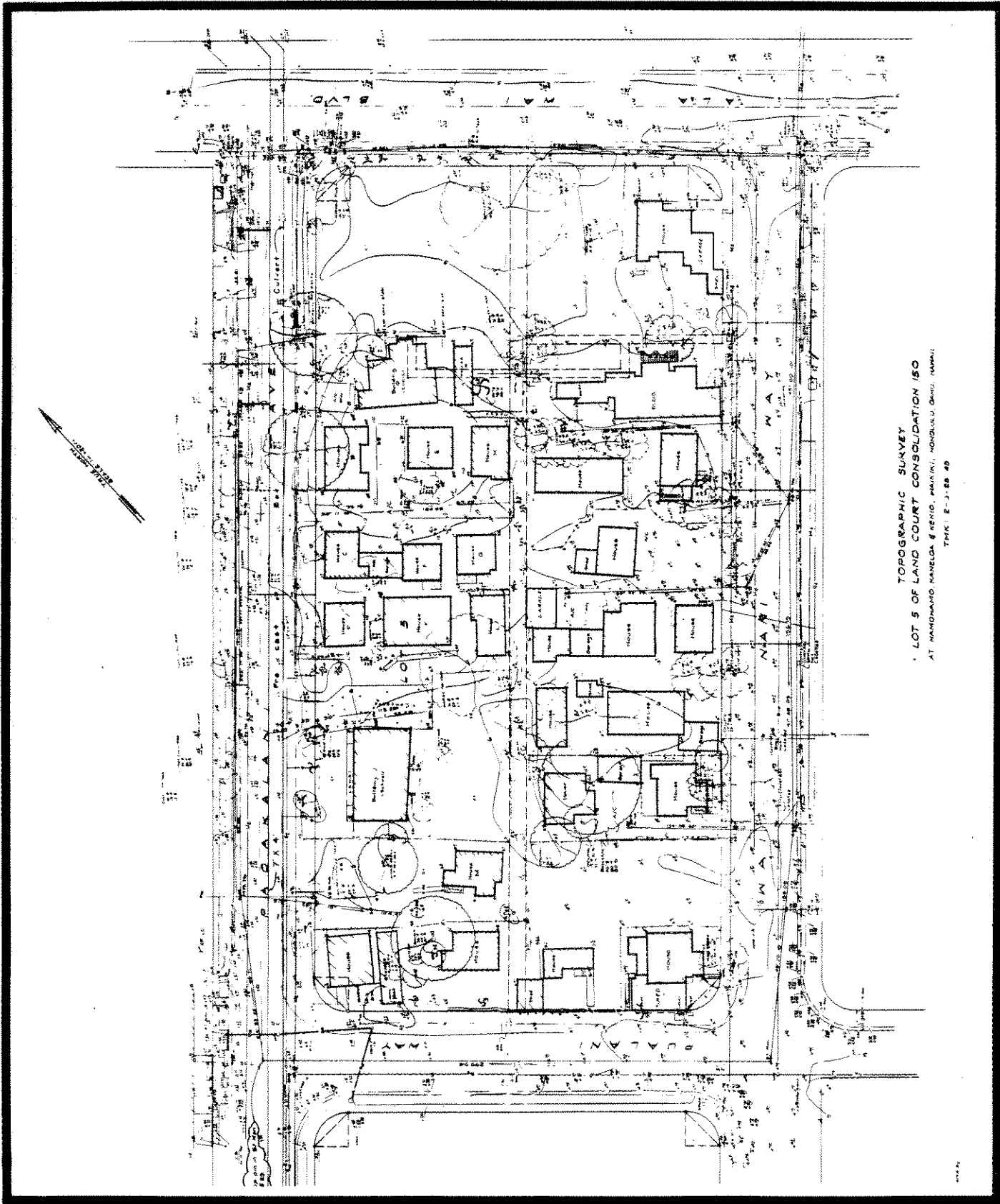
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EXISTING LAND USE  
HK Liliuokalani - Waikiki

FIGURE  
8







TOPOGRAPHIC SURVEY  
 LOT 5 OF LAND COURT CONSOLIDATION 150  
 AT HANOHANO MANELOA & NEIGIO, MAHIKI, MOLOKAI, OAHU, HAWAII  
 T.M.K. 1-2-1-55-49

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EXISTING SITE CONDITIONS  
 HK Liliuokalani - Waikiki

FIGURE  
 9



these facilities as well as the present residents of the site will be discussed in a later section. Some areas of the site are presently vacant and undeveloped.

2. Project Impact:

The proposed project will not change or affect surrounding land uses and will be of a character which is generally consistent with those uses which surround the site.

The use of the site will remain residential in nature, however it will specifically change from low rise single family attached and detached residential to two (2) high rise condominium apartment structures. The number of dwelling units on the site will increase from twenty-six (26) to three hundred and sixty-six (366). This is a net increase of three hundred and forty (340) units. The utilization of lock-out units would increase the total unit count to 396. Also included on the site will be recreational and parking facilities which will change the character of the site significantly.

3. Mitigation Measures:

The change in land use character on the site will be mitigated by project design, retention of open space and preservation of major trees.

B. CLIMATE:

1. Existing Environmental Setting:

The climate of the area is generally mild and dry for the tropics. The Honolulu Raingauge Station is the closest raingauge station to the project site. According to data for the station from the National Weather Service, Pacific Region, average monthly rainfall ranges from a low of less than 1" for June and July to 5" for December. Average yearly rainfall is between 20" and 30", and the greatest monthly rainfall on record is approximately 20".

According to the Waikiki Temperature Station, the average monthly maximum temperature ranges from a low of 75 degrees for January to 85 degrees for August. The average monthly minimum temperature ranges from 60 degrees for January to 72 degrees for August. The highest and lowest monthly temperatures of

record are approximately 93 degrees and 50 degrees, respectively.

The nearest station of the National Weather Service where wind records are kept is Honolulu. In summer, tradewinds are primarily from the northeast; in the winter, they are more evenly distributed. Average wind speed for January is 9.3 miles per hour. Average wind speed for July is 12.8 miles per hour.

2. Project Impacts:

No significant impacts on the climate of the area are anticipated.

3. Mitigation Measures:

No mitigation measures are required.

C. LANDSCAPE:

1. Existing Environmental Setting:

The existing landscape at the project site is the result of man's efforts. The plantings, occurring between the numerous residential structures, consist mainly of large mature trees, a result of the labors of the various occupants of the buildings over the years. These trees include a variety of introduced species, all generally considered non-native to the Hawaiian Islands (the arrival of Cocos nucifera (Coconut Palm) to Hawaii is unknown. Even during prehistoric times it was so widely distributed that its exact origin is not known today). A few plants can be traced to the first Hawaiians for their introduction to the Islands; the remaining majority are more recent however. Some are considered highly ornamental, some are not.

The ornamental species existing on the site are those considered desirable by the local landscape industry and by public opinion. These species, in general, have full or unique form, foliage texture, flower and/or foliage color, non-aggressive root systems and are relatively clean in their habits. No one tree species may include all the above characteristics. The following list are the on-site ornamental trees possessing one or more of the above characteristics:

<u>Common Name</u>	<u>Botanical Name</u>
African Tulip	Spathodea campanulata
Banyan	Ficus retusa
Coconut	Cocos nucifera
False Olive	Elaeodendron orientale
False Wili-Wili	Adenanthera pavonina
Hau	Hibiscus tiliaceus
Kukui	Aleurites molucanna
Milo	Thespesia populnea
Monkeypod	Samanea saman
Norfolk Island Pine	Araucaria heterophylla
Octopus	Brassaia actinophylla
Phoenix Palm	Phoenix spp.
Plumeria	Plumeria spp.
Royal Poinciana	Delonix regia
Shower Tree	Cassia javanica
Traveller's Tree	Ravenala madagascariensis
Ulu (Breadfruit)	Artocarpus communis

None of the trees presently on the site are listed on the County's Exceptional Tree ordinance.

## 2. Project Impacts:

The purpose of the proposed landscape development is to provide an interesting variety of enjoyable outdoor experiences ranging in classification from passive to active. Most importantly, the landscape provides an opportunity for people to experience nature within an otherwise highly urbanized environment.

The functional aspects of the landscape occur in three types of spaces - Public, Semi-public and Private.

The public spaces are at ground level and serve to provide pedestrian and vehicular circulation around the project. Public streets and sidewalks surround the project on all four sides and extensive landscaping is visible from the surrounding public areas.

The semi-public spaces include the main entry area serving both vehicular and pedestrian circulation systems. There are also two secondary pedestrian entrances. At both of these areas, views into the landscape are permitted for the passing public. The pedestrian entrance along the Ala Wai Boulevard is focused on the large, existing Banyan, providing the opportunity for not only the residents to enjoy this tree but for the passing traffic as well.

The private areas within the project are located both on the ground level and garage roof deck level. The development of these private areas provides an interesting visual pattern when viewed from the Towers above. It also provides both passive and active recreational opportunities. The design of the passive areas has been intentionally natural and free-form conveying a casual, restful atmosphere, while the design of the active use areas is more structured relating to or repeating the building geometry.

The passive area is enhanced by a "naturalistic" water element which winds through the core of the passive ground level landscape. The stream meanders through a grove of coconut palms providing a peaceful landscape with dappled shade patterns. This area is buffered from the adjacent streets.

The active recreation areas include roof deck tennis courts with an adjacent landscaped sitting area and a ground level swimming complex.

The concept of the landscape planting is one of massing like individuals (such as Coconuts) and emphasizing the unique (such as the Breadfruit or Traveller's Tree) in defining the spaces and uses of the landscape. Some desirable trees will require relocation to provide open areas to accommodate the project buildings and new curbs and sidewalks. This provides an opportunity to reorganize the plant masses to accomplish the above planting concept. Trees requiring relocation are:

<u>Qty</u>	<u>Common Name</u>	<u>Botanical Name</u>
13	Coconut	Cocos nucifera
5	Banyan	Ficus retusa

<u>Qty</u>	<u>Common Name</u>	<u>Botanical Name</u>
7	Plumeria	Plumeria spp.
4	Phoenix Palm	Phoenix spp.
1	Ulu (Breadfruit)	Artocarpus communis
1	Monkeypod	Samanea saman

Figure 10 shows the location of existing trees to remain, those to be relocated as well as those to be removed.

Removal of a tree will occur when the tree is determined to be:

1. Unhealthy and diseased.
2. Not safe.
3. Near the end of its life span.
4. Of no ornamental value.
5. The type of tree that will not recover from the transplant shock.

These trees include:

<u>Common Name</u>	<u>Botanical Name</u>
Avocado	Persea americana
Bestill	Thevetia peruvina
Christmas Berry	Schinus terebinthifolius
Mango	Mangifera indica
Norfolk Island Pine	Auracaria heterophylla
Octopus	Brassaia actinophylla
Opiuma	Pithecelobium dulce

With the removal of the 37 trees listed above, there will be 85 trees (at existing or relocated locations) on the project site. These trees will greatly contribute to the quality of the new landscape. The existing and relocated trees will be supplemented with new plantings of trees, palms, shrubs and ground covers to further define and articulate the landscape spaces and uses. It is anticipated that these new plantings will include:



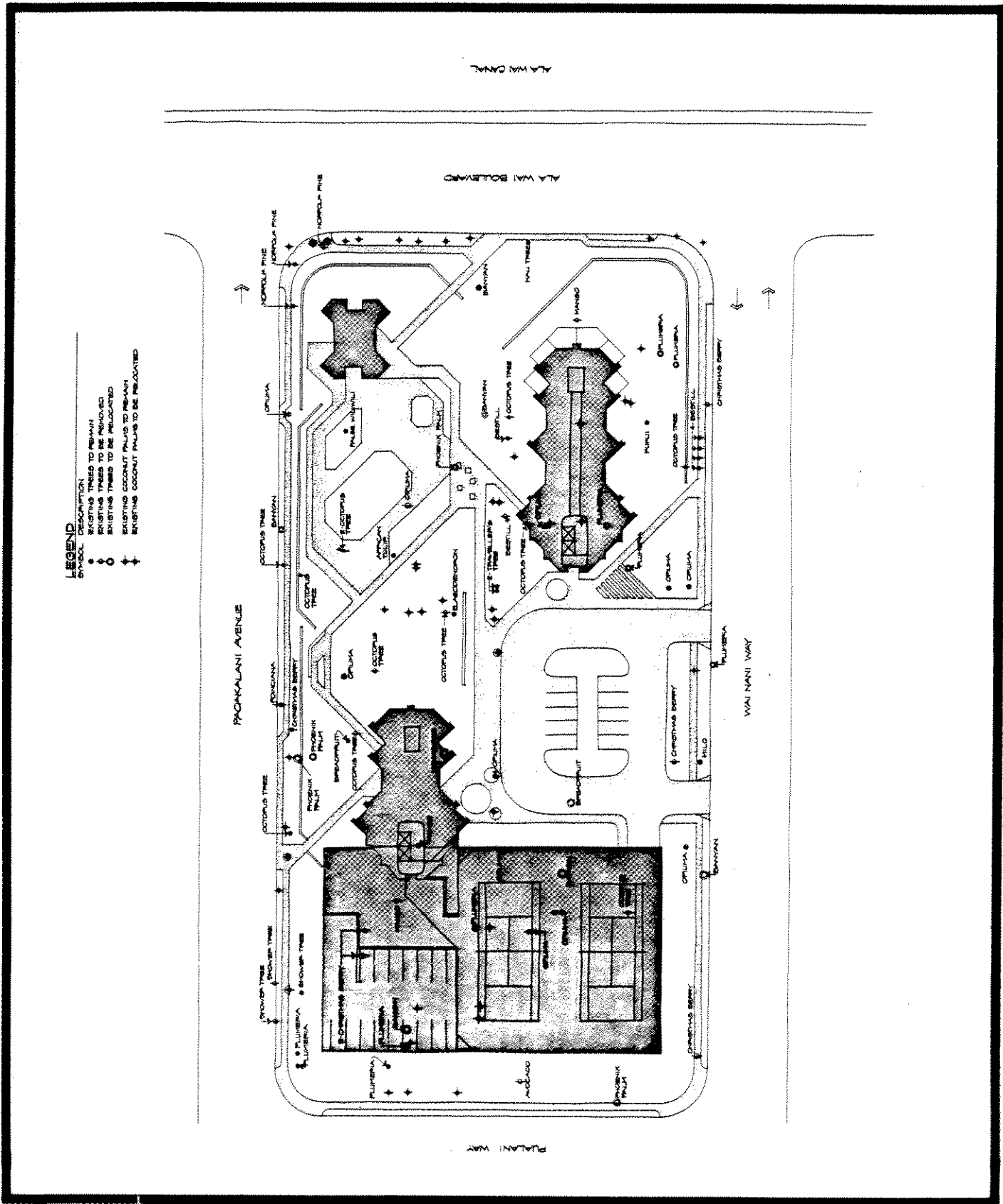


EXISTING LANDSCAPE

HK Liliuokalani - Waikiki

FIGURE

10



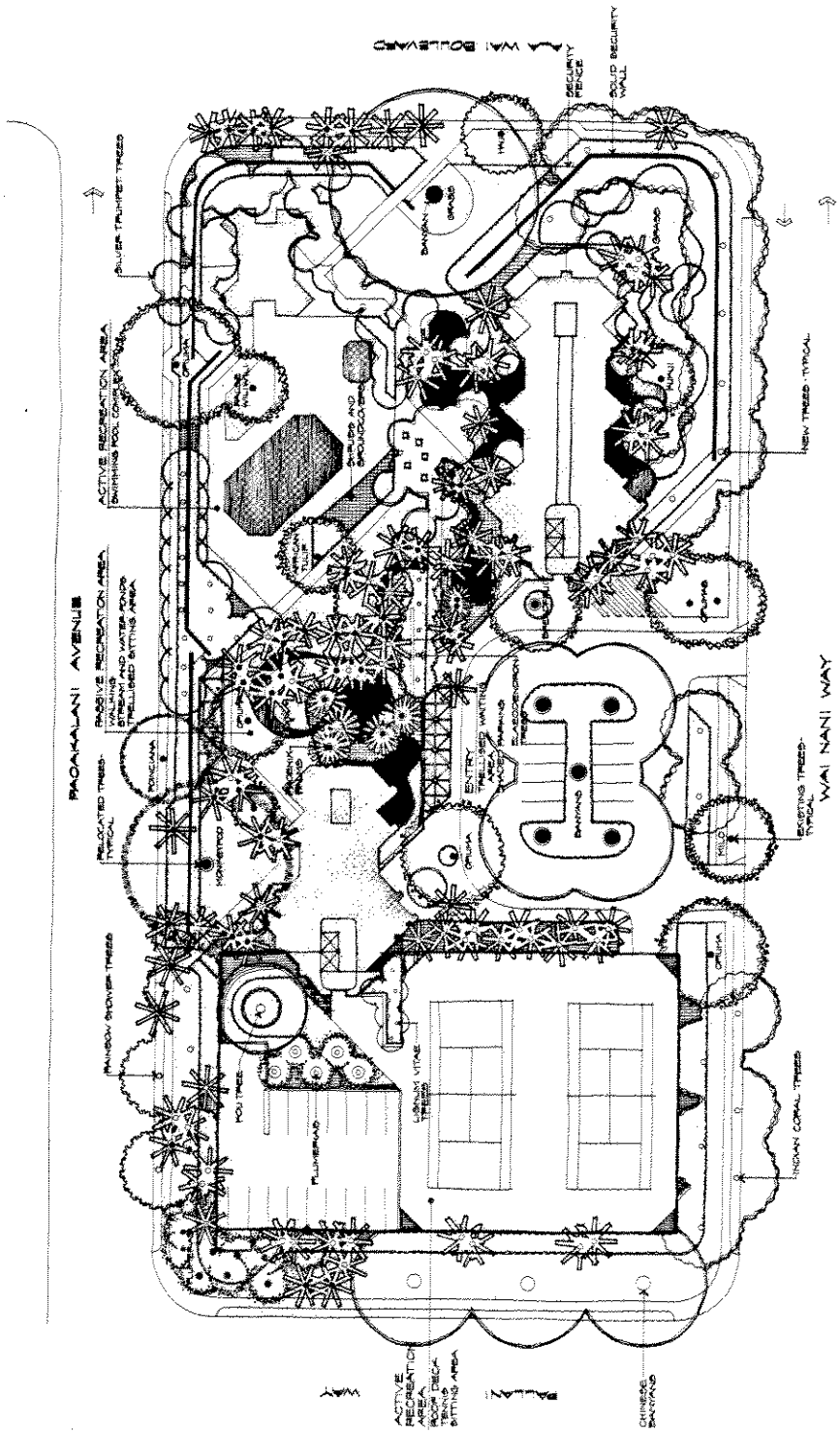


<u>Common Name</u>	<u>Botanical Name</u>
<u>TREES</u>	
Fiddlewood Tree	Citharexylum spinosum
Indian Coral Tree	Erythrina variegata var. orientalis
Kou	Cordia subcordata
Lignum Vitae	Guaiaacum officinale
Octopus	Brassaia actinophylla
Silver Trumpet Tree	Tatebuia argentea
<u>PALMS</u>	
Areca Palm	Chrysalidocarpus lutescens
Clustering Fishtail Palm	Caryota plumosa
Manila Palm	Veitchia merrillii
Pigmy Date Palm	Phoenix roebelinii
<u>SHRUBS/VINES</u>	
Beach Naupaka	Scaveola frutescens
Bird of Paradise	Strelitzia regina
Chinese Hibiscus	Hibiscus rosa-sinensis
Lobster Claw	Heliconia sp.
Self-heading Philodendron	Philodendron selloum
Spider Lily	Crinum asiaticum
Tiare	Gardenia taitensis
<u>GROUND COVERS</u>	
Asparagus Fern	Asparagus sprengeri
Dwarf Heliconia	Heliconia "Jamaican"
Ice Plant	Carpobrotus edule
Joyweed	Alternanthera amoena
Laua'e Fern	Microsorium scolopendria
Mondo Grass	Ophiopogon japonicus
Spider Plant	Chlorophytum comosum
Wedelia	Wedelia trilobata

The character of the new landscape is graphically illustrated in Figure 11. In addition, it distinguishes between existing (including those relocated) and new trees. All shrub and ground cover materials would be new material obtained from the local nursery trade.



AA WAI CANAL



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# PROPOSED LANDSCAPE CONCEPT PLAN

HK Liliuokalani - Waikiki

FIGURE

# 11



In conjunction with the relocation of trees and the installation of new plant materials, the site soils will be improved both physically, by the addition of organic amendments, and chemically, by the addition of fertilizers. It is the intention to improve the soils to the degree necessary to obtain optimum plant growth. Existing trees will be pruned and receive special fertilization to improve their general condition.

Impacts upon the existing flora of the site include the relocation of 31 trees, all highly ornamental and desirable trees for landscape development. There will be 37 trees removed for varying reasons ranging from safety to lack of ornamental value. No trees to be removed are native to the Hawaiian Islands - all are rather recent introductions.

The use of new plant materials on the project will have no effect on dwindling populations of native endangered or threatened plant species since all new plant materials will be provided from nursery-grown container stock.

The health condition of the existing trees will be improved, as will the condition of the soil. The resulting landscape, once implementation of the plan is complete, will provide for more intense utilization of the landscape for circulation and recreation facilities.

3. Mitigation Measures:

Most major trees on the site will be preserved in their present locations or relocated elsewhere on the site. New plant materials will be added.

D. FAUNA:

1. Existing Environmental Setting:

since the site is essentially fully developed and is located in an urbanized area, it is assumed that the bird and animal populations are similar to those found elsewhere in Waikiki.

Bird species commonly found in Waikiki include:

Mynah	( <u>Acridotherus tristis</u> )
House sparrow	( <u>Passer domesticus</u> )

House finch	( <u>Carpodacus mexicanus frontalis</u> )
Mocking bird	( <u>Mimus polyglottos</u> )
Cardinal	( <u>Cardinalis cardinalis</u> )
Barred dove	( <u>Geopelia striata</u> )

Animal species found in the surrounding environment probably include:

Dogs	( <u>Canis familiaris</u> )
Cats	( <u>Felis catus</u> )
Rats	( <u>Rattus</u> sp.)

2. Project Impact:

As a result of the demolition of the existing structures and clearing of the site, the existing animal population will likely be forced to relocate. However, since the desirable animal species are dogs and cats, they will likely be relocated with their owners and impacts will be minimal.

The high degree of mobility and large populations should guarantee that there will be no measurable effect upon bird species.

3. Mitigation Measures:

No mitigation measures are required.

E. SOILS AND SUBSURFACE GEOLOGY:

1. Existing Environmental Setting:

a. General geology:

The general geology of Waikiki in the vicinity of the site is characterized by a coral reef deposit with a nominal surface elevation of -15 feet (all elevations are referenced to Mean Sea Level), although the reef generally occurs between -15 and -20 feet. The coral layer is overlain by soft lagoonal deposits to the sea level, and a surficial blanket of fill and beach sand in the upper 5 feet of the surface. The coral layer is somewhat variable in characteristics but generally on the order of 10 feet thick. Beneath this reef, coralline deposits are inter-layered with occasional aluvial lenses down to about 90 feet where a basalt flow (presumably from Kaimuki Shield) is encountered. Below this flow, coralline deposits and



some alluvium extends down to the top of Koolau basalt at roughly -700 feet.

Seaward from the site, in Waikiki, a different coral layer at approximately -30 feet is found. These various coral layers are the result of the sea level fluctuations which have taken place in the last million years due to periods of glaciation when the world's waters were largely locked in ice accumulations on the continents.

A complicating factor in interpreting Waikiki geology is the fact that there are a number of old alluvial channels which have been mapped in the subsurface, which cross Waikiki perpendicular to the shoreline (that is, traveling from the mountains toward the sea). These channels were excavated by the natural drainage during periods when the sea level was much below the present sea level and they have subsequently been filled by relatively soft alluvial deposits on the order of 100 to 150 feet deep. The side slopes of these channels are on the order of 2 horizontal to 1 vertical or somewhat steeper. Most of the major buried channels in Waikiki have been identified in recent years.

b. Anticipated subsurface conditions:

Existing information available for sites seaward of the proposed site indicate coral at elevations ranging from -26 to -33 feet, with coral thicknesses of at least 10 feet. However, these sites fall in the vicinity of the transition between the -15 feet coral level and the -30 coral level. We anticipate that the coral elevation underneath the proposed site will be higher, and thus, we expect that coralline materials will be encountered in the vicinity of -18 to -20 feet beneath the proposed site. Above the coral, soft gray silt and clay with some coral gravel is anticipated. The upper 5 feet is expected to be sand and gravel. Existing information suggests that the site does not overlie one of the alluvial channels and therefore relatively good foundation conditions may be anticipated.

The subsurface conditions, in the near future, will be explored by drilling soils borings.

The ground water level is expected to be at sea level and fluctuate somewhat with the tide.

2. Project Impact:

Structures in this section of Waikiki are generally supported on relatively low capacity (40- to-80 ton) piles founded on the upper coral whose surface occurs around Elevation -20 feet. At this site we anticipate pile lengths will be in the 30 to 40 foot range. Occasionally, some piles may penetrate through the thinner sections of the upper coral layer. In such cases pile penetration lengths may be extended up to 80 to 100 feet.

High capacity (100- to 200-ton) piles, if required, could be founded on the basalt at -90 feet with average pile lengths on the order of 95 to 100 feet. Predrilling may be required to install high capacity piles at this site.

The use of pile foundations for the proposed structures obviates the impact of the soft, compressible near-surface lagoonal deposits. Building loads will be carried to underlying coral strata so that large areal settlements (and possible bearing capacity failures) are avoided. In addition, major dewatering is not required, since this project will only have a partial basement. The basement floor elevation will be above the ground water level.

During construction, driving of piles will impose stress on the surrounding areas due to noise, vibration, and dust. However, these effects will be of short duration. Following completion of construction no negative impact is anticipated.

3. Mitigation Measures:

Pile driving operations will be restricted to the hours between 9:00 a.m. and 5:30 p.m.

F. ARCHAEOLOGY AND HISTORIC RESOURCES:

1. Existing Environmental Setting:

At the present time, there are no known archaeological sites on the project site. There are also no sites registered

on either the State Register of Historic Places or the National Register of Historic Places within the project bounds, although a residence of Queen Liliuokalani was located adjacent to the area of the proposed project.

2. Project Impact:

According to the State of Hawaii Department of Land and Natural Resources, "More than ten (10) Hawaiian burials have been discovered during construction projects in Waikiki and it is possible that human bones will be encountered during the early phases of the proposed development. Recent archaeological research in Waikiki has shown that significant archaeological deposits exist in the area, especially historic trash dumps from the late 1800s." (see Section X).

While no archaeological sites are known to exist on the site, it is possible that site grading activities in the early phases of construction may uncover previously undiscovered archaeological remains. In this manner it is possible that these remains might be permanently disturbed or destroyed.

3. Mitigation Measures:

In order to insure to the greatest measure possible any archaeological remains which may be discovered during construction are identified, examined and where possible preserved, an archaeological consultant will be retained to monitor construction activities and to write a report on features such as burials, trash dumps and buried irrigation ditches that might be discovered. A final report will be prepared and presented to the Department of Land and Natural Resources describing and analyzing the archaeological remains discovered during construction should any be found.

G. GRADING AND DRAINAGE:

1. Existing Environmental Setting:

The site is generally flat with elevations ranging between 5 and 7 feet throughout the property and a small mound to 9 foot elevation by the Waikiki Health Center Building.

According to the Soil Survey Report prepared by the U.S. Department of Agriculture Soil Conservation Service, August 1972, the site is made up of fill material, mainly coral dredged from the Ala Wai Canal or hauled from nearby areas, garbage and general material from other sources.

The site is pockmarked with low spots which create small ponding areas after a storm. However, because the area slopes to Kuhio Avenue and the Waikiki Beach area, the storm water dissipates within a short time.

The Flood Insurance Rate Map (FIRM) of the U.S. Department of Housing and Urban Development adopted by the City and County of Honolulu on September 3, 1980 designates the project area as "Zone B", an area between the limits of a 100-year and 500-year flood and subject to the 100-year flooding with average depths less than one foot.

Except along Ala Wai Boulevard, there are no existing roadway and drainage improvements around the perimeter of the property. There is a 7' x 4' box culvert in Paoakalani Avenue, installed a few years ago, which has provisions for connecting catch basins from the project side of the roadway. There is also an 18" pipe drain system in Wai Nani Way.

2. Project Impact:

New curbs, gutters and sidewalks will be constructed in accordance with the requirements of the Department of Public Works, City and County of Honolulu within Paoakalani Avenue, Pualani Way and Wai Nani Way. The existing improvements at the intersections with Ala Wai Boulevard will be reconstructed as necessary to blend in the new improvements. The curb and gutter improvements should improve the collection of surface runoff along Paoakalani Avenue and Wai Nani Way and provide for safer vehicular movement along these roadways.

Catch basins will be constructed in Paoakalani Avenue and connected to the 7' x 4' box culvert. Additional catch basins will be constructed in Wai Nani Way and connected to the existing 18" pipe system as preliminary calculations based on information obtained from construction drawings have indicated

that the existing 18" pipe system can handle the anticipated increase in flow. See Figure 12 for the grading and drainage improvements.

Some erosion and dust will occur during the grading and construction stages. These will be short termed and should not create any significant adverse environmental effects.

3. Mitigation Measures:

Erosion control measures will include hydromulching of exposed graded areas, temporary earth swales, and adequate water spraying of exposed areas for dust control.

Roadway and drainage improvements will alleviate localized ponding around the perimeter of the property which, in turn, should facilitate improved vehicular movement.

H. UTILITIES:

1. Existing Environmental Setting:

a. Water:

There is a 12" water main in Ala Wai Boulevard and 8" mains in Paoakalani Avenue and Wai Nani Way. These side streets, including Pualani Way, also contain small 2" feeder lines. Fire protection is provided by fire hydrants in Paoakalani Avenue and Wai Nani Way. See Figure 13.

b. Sewer:

There is a sewer system in Paoakalani Avenue that traverses along Pualani Way and Wai Nani Way. A sewer system also extends into the site from Pualani Way, presently serving the various single-family dwellings on the site. See Figure 14.

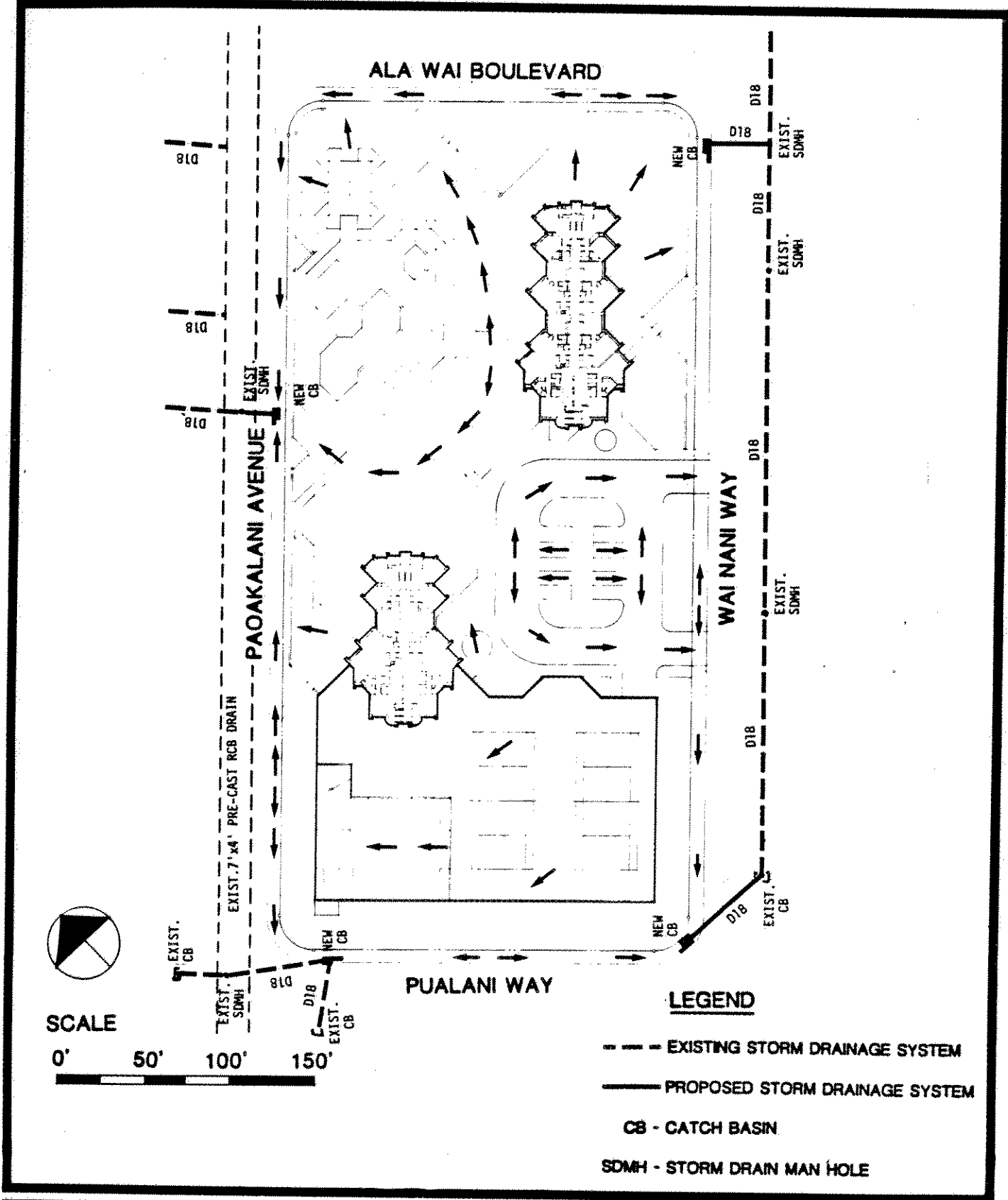
c. Gas:

Two inch gas lines are provided in Paoakalani Avenue and Wai Nani Way with numerous laterals serving the site.

d. Energy:

Electric service is presently being provided by Hawaiian Electric Company (HECO) to the project site. Overhead lines are located on the project side of Wai Nani Way and Pualani Way. Overhead lines are located across the

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street on Paoakalani. Lines are underground along Ala Wai Boulevard.

2. Project Impact:

a. Water:

The necessary water service to the project, approximately 525 gpm, shall be provided by tapping the existing 12" main in Ala Wai Boulevard with a 6" main connection and 4" meter. Because of the low available pressure (about 40 psi), pumps shall be utilized to boost the water pressure to the upper units. A fire hydrant shall be installed in Ala Wai Boulevard for additional fire protection. It is important to note here that the Board of Water Supply has not denied water service to this project at this time but, the Board has not made any commitments for service, also. This can only be done after submission of plans for building permit. See Figure 13.

The existing water mains are adequate to serve the proposed project, however, due to heavy usage in the general area and a limited source; the Board of Water Supply cannot commit water service at this time (see Letter, Section X).

b. Sewer:

Sewer service can be provided to this project by extending the 10" stub at the intersection of Paoakalani Avenue and Pualani Way up Paoakalani Avenue and into the site. The project is expected to generate a fixture unit count of 4,240 which is equivalent to a 10" main size.

The existing sewer system, when extended to this project from a nearby manhole can easily serve the project. See Figure 14.

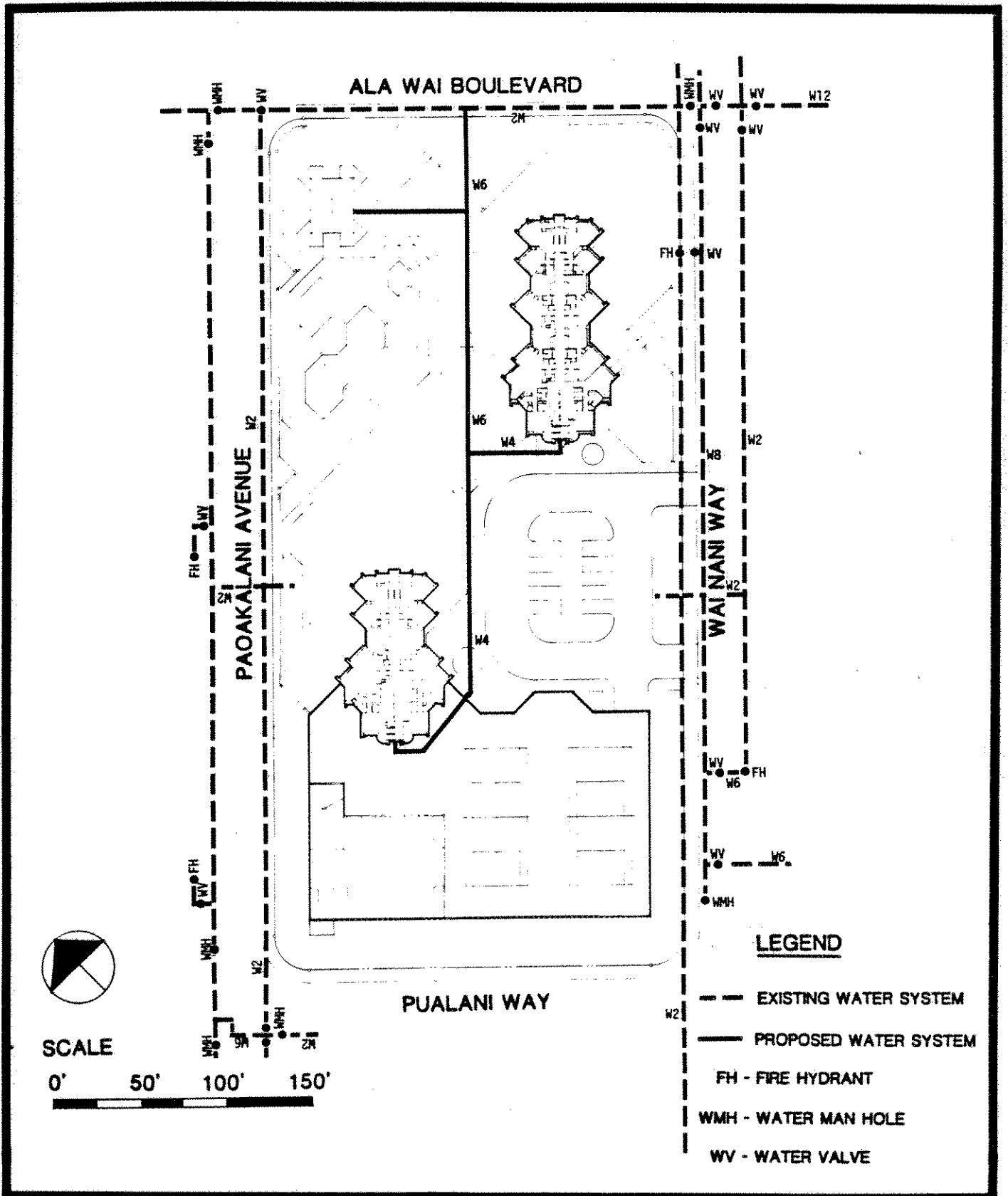
c. Gas:

No requirements are known for the gas service improvements at this time.

d. Energy:

According to HECO, adequate electrical service is available to service the proposed project (see Section X).





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EXISTING AND PROPOSED WATER SYSTEM

HK Liliuokalani - Waikiki

FIGURE

**13**



ALA WAI BOULEVARD

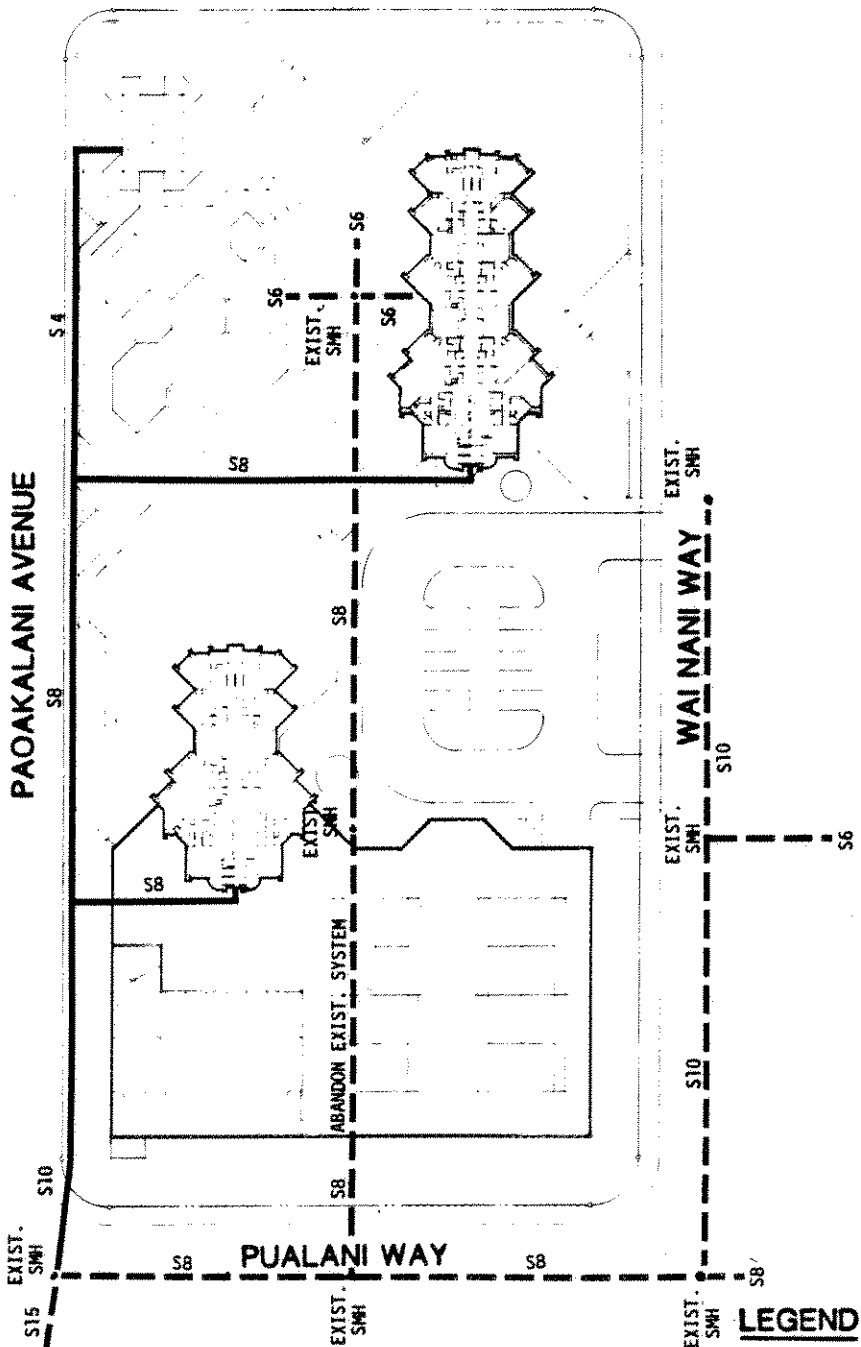
PAOKALANI AVENUE

WAI NANI WAY

PUALANI WAY



SCALE



- LEGEND**
- EXISTING SEWER SYSTEM
  - PROPOSED SEWER SYSTEM
  - SMH - SEWER MAN HOLE

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EXISTING AND PROPOSED SEWER SYSTEM

HK Liliuokalani - Waikiki

FIGURE

14



3. Mitigation Measures:

Following is a list of items that will be incorporated into the project to conserve electrical energy:

a. Lighting:

- (1) Use of energy saver fluorescent lighting ballasts.
- (2) Use of reduced wattage fluorescent lamps.
- (3) Use of high pressure sodium lighting for exterior parking and area lighting.

b. Demand Control:

- (1) Use of demand controller to minimize electrical demand charges.
- (2) Use of "Chilitrol" to optimize central air conditioning power consumption.

c. Air Conditioning and Water Heating:

- (1) Recovery of waste heat from air conditioning system for central water heating system, i.e. use of "Templifier".
- (2) Installation of Micro switches at windows and doors to shut off air handlers in apartment units tied into central air conditioning system.

In addition, a heat recovery system will be utilized in conjunction with the air conditioning system for purposes of water heating. Although it does not appear economically feasible to include a solar water heating system in addition to this, the subject will be analyzed further before a final decision is made during the design development.

All utility lines serving the project will be placed underground to eliminate any visual impact which they might cause.

## I. COMMUNITY FACILITIES AND SERVICES

### 1. Existing Environmental Setting:

Most public service facilities are located within close proximity to the site. Police protection is provided from the Beretania Street Headquarters. According to the Honolulu Fire Department, fire protection is provided from the Waikiki and McCully Stations with supportive services from the Pawaa and Kaimuki Stations. The Waikiki Station is located at 381 Kapahulu Avenue. Hospitals serving the project includes the Kaiser Foundation Hospital and Queen's Medical Center.

The Waikiki-Kapahulu Library is located within a quarter mile of the site. Public schools which serve the project area are Jefferson Elementary School, Washington Intermediate School and McKinley High School.

The project site is also located close to shopping and recreation opportunities. Waikiki offers a variety of grocery and other shopping opportunities within easy walking distance (less than one quarter mile). Waikiki also offers a variety of recreation opportunities and facilities within easy walking distance of the project. They include Waikiki and Prince Kuhio beaches (within one quarter mile), Kapiolani Park (within one-half mile), Honolulu Zoo (within a quarter mile), the Waikiki Shell and the Ala Wai Golf Course (located within a quarter mile, directly across the Ala Wai).

Presently located on the project site are both the Waikiki Community Center and the Waikiki Health Center. The Waikiki Community Center provides a work site for various agencies in Honolulu. These include Alu Like, Senior Community Service Employment Program, the Mayor's Summer Program, and alternative communities service program. The Community Center also provides Senior Citizens programs, and Child and Family Services, including day care services. The Waikiki Community Center is supported by individual and business contributions, the Aloha United Way and membership dues.



2. Project Impacts:

a. Police protection and security:

The Honolulu Police Department estimates that the addition of three hundred and forty-three (343) dwelling units will add approximately nine hundred (900) new residents to the project site. It also estimates that this would increase the demand for police services in the Waikiki area. According to the current ratio of 2.5 police employees for one thousand (1000) people, they expect an increased workload in the area equivalent to more than 2 police employees.

Also, the introduction of an increased number of dwelling units and new residents into a high-crime area such as Waikiki, may cause impacts in terms of increased need for security as well as an increased crime rate (letter in Section X).

b. Fire protection:

According to the City and County of Honolulu Fire Department, "Fire Protection Services will be adequately provided by the Engine and Ladder companies from Waikiki and McCully stations with supportive services from Pawa and Kaimuki stations." (letter in Section X).

c. Hospitals:

There should be no significant impact on the hospitals mentioned as a result of the project.

d. Library:

There should be no significant impact on the Waikiki-Kapahulu library as a result of the project.

e. Schools:

According to the State of Hawaii Department of Education, "The subject condominium project will have a negligible effect on the schools serving the Waikiki area." (letter in Section X).

f. Shopping and recreation facilities:

There should be no significant impact on surrounding shopping and recreational facilities as a result of the project. However, a high population is already utilizing the local recreation facilities.

g. Waikiki Community Center and Waikiki Health Center:

As a result of the demolition of the existing structures prior to construction of the proposed project, both the Waikiki Community Center and Waikiki Health Center will relocate.

3. Mitigation Measures:

In order to provide a secure environment for residents and reduce the demand for police services a complete security system has been incorporated into the project design.

This system includes the complete enclosure of the lower floors of the parking garage. Entrance and exit will be by means of a gate and security pass system allowing only residents to enter the garage.

Entrance to the apartment towers will be regulated through the use of a security/lockout system. A security service will provide for surveillance and security of the project site.

Individual units will be designed with security devices including deadbolt lock systems and door peep holes.

As recommended by the Director of the Department of Parks and Recreation (see letter, Section X), because of the high population already using public recreation in the area, extensive private recreation facilities will be provided on-site.

J. TRAFFIC AND CIRCULATION:

Existing conditions and traffic volumes were identified and described after a visit to the vicinity of the project and a study of available data. The available data included traffic signal timings and traffic counts on file at the City and County of Honolulu, Department of Transportation Services<sup>1/</sup>. Intersection analyses using Highway Capacity Manual<sup>2/</sup> methods were performed to describe existing service levels.

1. Existing Environmental Setting:

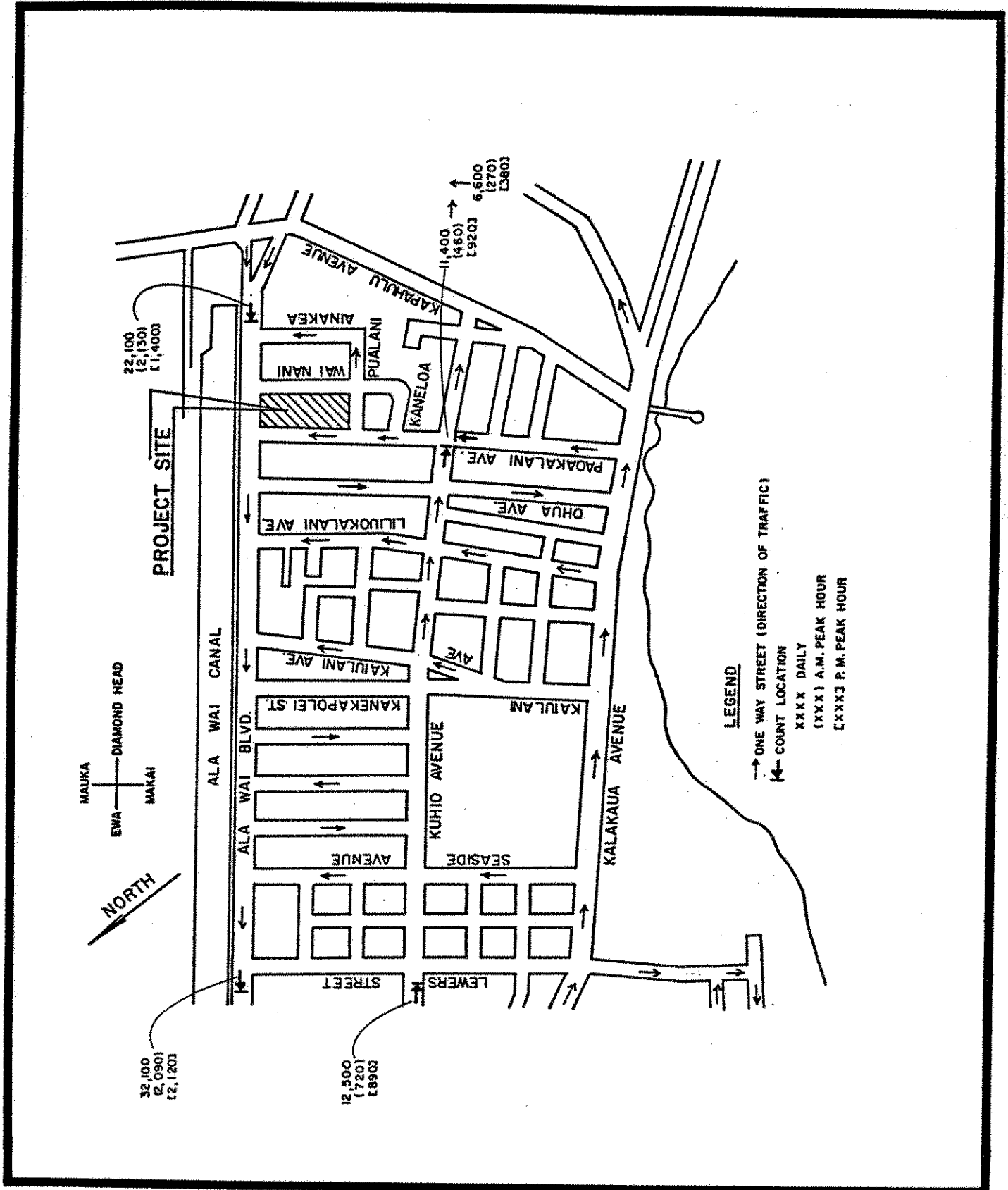
The project site is bounded by existing streets on all four sides (see Figure 15). The mauka frontage on Ala Wai Boulevard is improved, including curb and a four-foot wide concrete sidewalk; parking is prohibited at all times. All other frontages are generally unimproved, with no clearly defined edge of roadway; parking is not restricted and its pattern is irregular.

Ala Wai Boulevard is a principal arterial operated one-way from Diamond Head to Ewa. It is the only continuous route for Ewa-bound traffic in Waikiki and consists of three travel lanes. A fourth lane is made available on weekdays during two hour periods, morning and afternoon, by prohibiting parking along the mauka side. This arterial serves through traffic between the lower Kapahulu-Diamond Head residential communities and the commercial districts of Ala Moana and downtown Honolulu, local traffic into and out of Waikiki, and circulating traffic within Waikiki due to the one-way street patterns. Traffic signals are located at several intersections, including Paoakalani Avenue at the north corner of the project site; good progression is provided for traffic flowing at the posted speed limit, 35 miles per hour. Ala Wai Boulevard carries 22,000 vehicles per day in front of the project site, with a distinct morning peak period of approximately one hour and no apparent afternoon peak.

Paoakalani Avenue along the Ewa side of the project site is a one-way collector street with parking on both sides. Two lanes are provided at the signalized intersection with Ala Wai Boulevard to expedite the left turn movement. Paoakalani Avenue serves the Diamond Head end of Waikiki, which includes several high rise condominiums and hotels.

Pualani and Wai Nani Ways along the makai and Diamond Head sides of the project, respectively, are two-way local streets serving the immediate residential properties. Wai Nani Way also provides the only access from Ala Wai Boulevard to the four-block area Diamond Head of Paoakalani Avenue; this area





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EXISTING TRAFFIC VOLUMNS  
HK Liliuokalani - Waikiki

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includes the Jefferson School Orthopedic Unit parking lot and school loading zones along Ainakea Way.

Access to the project site is off of any of the abutting streets. Traffic attracted toward the site from east of Kapahulu Avenue will use Kapahulu Avenue, Ala Wai Boulevard, and Wai Nani and Pualani Ways; traffic from other parts of Oahu may either go through Waikiki on Kuhio or Kalakaua Avenues, then use Paoakalani Avenue and Pualani and Wai Nani Ways, or go around Waikiki to Kapahulu Avenue and use the Ala Wai. Traffic produced from the site and destined to areas east of Kapahulu Avenue will use Ala Wai Boulevard, Ohua Avenue, and either Kuhio or Kalakaua Avenues to leave Waikiki. All other produced traffic will continue in the Ewa direction along Ala Wai Boulevard.

Transit service to the project site is limited. The nearest bus stops are at Kapahulu and Paki Avenues, more than the City's quarter-mile or less walking distance standard for adequate bus service.

The peak hour characteristics of Ala Wai Boulevard near the project site are not representative of Waikiki; the afternoon and evening traffic peaks do not occur at this location. Ala Wai Boulevard near Lewers Street with a daily volume of 32,000 vehicles, illustrates the typical traffic pattern. A distinct morning peak period of approximately one hour is followed by moderately high traffic throughout the day; traffic volume then increases to an afternoon peak period with volumes similar to the morning peak hour. After this, the traffic decreases until 9 PM and increases to near-midday levels for approximately two hours. The pattern is generally similar for Kalakaua and Kuhio Avenues, but with lower morning peaks.

Traffic volumes on mauka-makai streets within Waikiki exhibit a different pattern. No significant morning or afternoon peaks occur; rather, traffic volumes remain at a moderately high level from 8 AM to 11 PM.

Street capacities are constrained at signalized intersections. The Highway Capacity Manual method was used to determine capacity and service levels at selected locations. The Manual defines six levels of service, A through F, in progressively lower order. Level A represents free flow with no delays. Level B represents stable operation with no waits exceeding one signal cycle; it also represents the capacity level for a stop-sign controlled intersection. Level C is stable operation with occasional waits exceeding one signal cycle. Level D approaches instability, with delays occurring during short peaks. Level E represents capacity condition at signalized intersections, with long queues and considerable delays. In Level F, forced flow under jammed conditions, volumes carried are unpredictable.

Table 1  
Existing Service Levels - Waikiki Streets

Location	morning peak hour	afternoon peak hour	mid-day	evening
Ala Wai Boulevard at Paoakalani Ave.	D	A	A	A
Ala Wai Boulevard at Lewers St.	C	D	D	A
Kuhio Avenue at Lewers Street (eastbound)	B	D	A	A
Paoakalani Avenue at Kuhio Avenue	B	B	B	B

2. Project Impact:

Traffic generated by the proposed project and other developments in Waikiki were based on average rates. The proposed project will contain a maximum of 396 residential condominium units. Data on other developments which will affect traffic at locations to be studied were obtained from



the City and County of Honolulu, Departments of Land Utilization and Public Works. Impacts of the project on traffic conditions in Waikiki were identified after analyzing intersection service levels with future traffic volumes.

Ingress and egress will be provided by driveways along Wai Nani Way. There will be approximately 400 parking spaces in a garage structure on the site. Traffic to and from the garage was estimated for a separate air quality study.

The traffic generated by the proposed project is based on the number of dwelling units. The informational report, Trip Generation<sup>3/</sup>, of the Institute of Transportation Engineers, is the source of trip generation rates used for this study. Factors for the general category of apartments from the report were adopted after comparing them to factors based on survey data from a 1979 City and County of Honolulu study<sup>4/</sup>. These rates are shown in Table 2. The factors selected are expected to give the high range estimate of the trip generation of the project.



Table 2

Trip Generation Rates

Rates per Dwelling Unit: 1979 C&C DTS Study*	Daily (Total trip ends/day)	Productions (Out)		Attractions (In)	
		AM Peak (autos/hr)	PM Peak (autos/hr)	AM Peak (autos/hr)	PM Peak (autos/hr)
Bldg A ( 90 DU)	6.14	0.39	-	0.11	-
Bldg B (180 DU)	3.01	0.22	-	0.02	-
Bldg C ( 96 DU)	3.46	0.27	-	0.01	-
<u>ITE, Trip Generation*</u>					
High Rise Apartment (1 study)	3.7	0.1	0.1	0.1	0.1
Condominium (4+ studies)	5.1	0.5	0.2	0.1	0.4
Apartment (17+ studies)	<u>6.1</u>	<u>0.4</u>	<u>0.2</u>	<u>0.1</u>	<u>0.4</u>

\*See text.

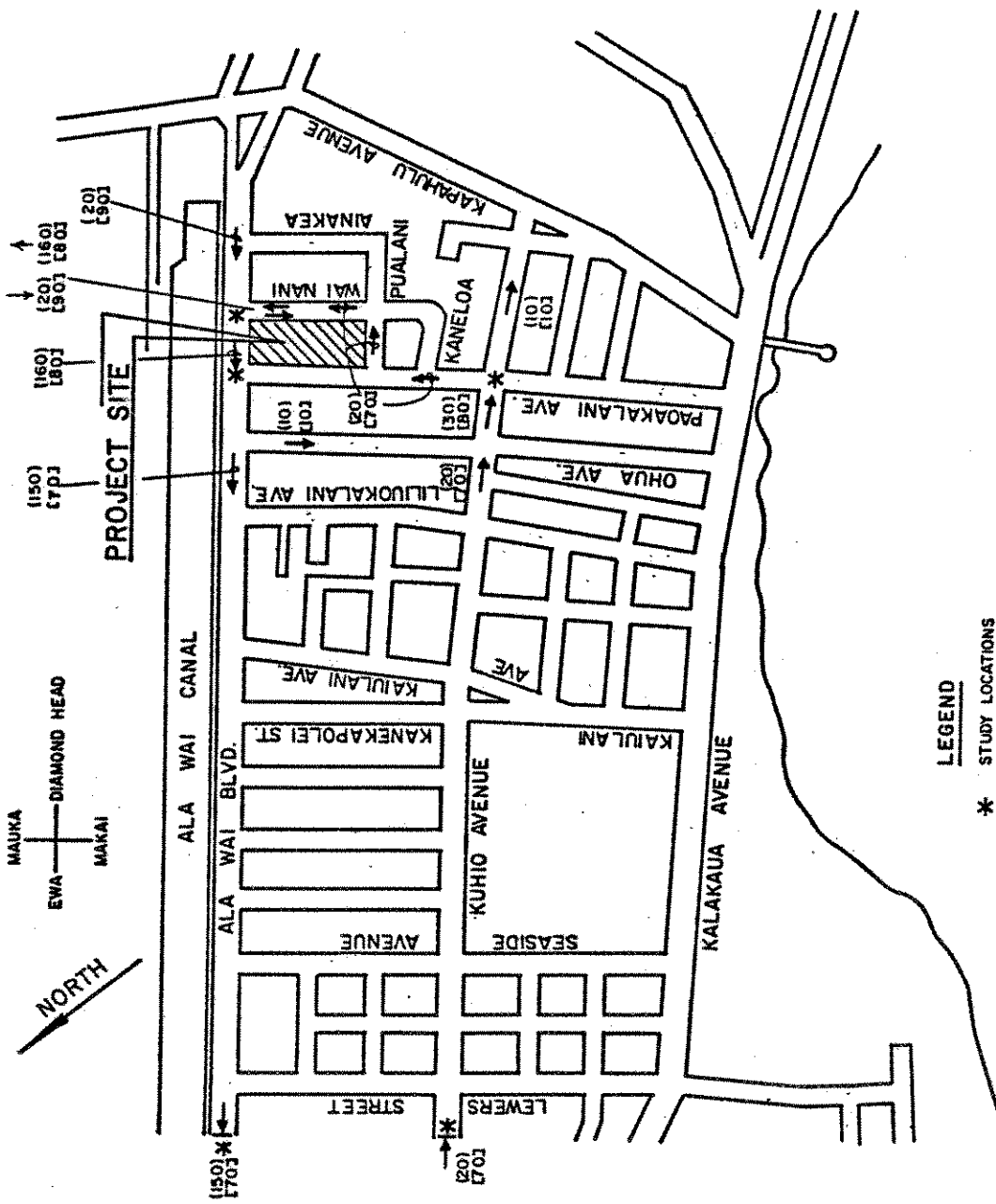
Underlined Factors used.

The automobile trips generated were distributed employment distribution on Oahu as an indicator of economic activity and assigned to the street network assuming existing patterns are maintained. Figure 16 illustrates the assignment of the automobile traffic generated by the project.

a. Parking garage traffic:

Vehicular movements to and from the proposed parking garage were estimated for four time periods: the morning (AM) peak hour, the afternoon (PM) peak hour, the maximum eight-hour period, and an average weekday. The maximum one-hour volume occurs during the PM peak hour, and all traffic generated during this time was assumed to originate from, or terminate in, the parking garage. The maximum eight-hour volume was calculated using the daily trip

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PROJECT TRAFFIC GENERATION

HK Liliuokalani - Waikiki



generation and existing hourly traffic patterns in a Honolulu apartment district<sup>5/</sup>. The maximum eight-hour traffic volume occurs between 12 noon and 8 pm. Ninety percent of the total vehicular trips generated during the maximum eight-hour period and during an average weekday were estimated to move to or from the garage. Table 3 summarizes these volumes.

Table 3

Vehicular Movements To/From Garage

	<u>1-HOUR</u> <u>AM</u> <u>PEAK</u>	<u>1-HOUR</u> <u>PM</u> <u>PEAK</u>	<u>PEAK</u> <u>8-HOUR</u>	<u>AVERAGE</u> <u>WEEKDAY</u>
To Garage	40	160	630	1100
From Garage	160	80	580	1100
Total	200	240	1210	2200

b. Future Traffic:

The street system at the estimated time of completion of the proposed project will not be significantly altered. The only road construction that the City and County has during the interim will widen Kuhio Avenue between Kaiulani and Kapahulu Avenues. The work will be accomplished with two construction contracts and will be completed at approximately the same time as the proposed project. This section of Kuhio Avenue is presently one-way toward Diamond Head and will be operated two-way upon completion of the entire widening<sup>6/</sup>. This change will have no effect on the traffic assignment and only favorable effects, if any, on traffic volumes near the project site (i.e., reduction).

Future traffic volumes are based on existing volumes and other current developments in the Waikiki area. Six other development projects in Waikiki have been identified<sup>7</sup>. Of these, two will generate traffic which will affect the locations selected for this study. Table 4 lists these developments and their probable contribution to traffic at selected study locations.

Table 4

DLU Project No.	<u>Other Waikiki Developments</u>		TOTAL
	80/ZBA-167	80/WSDD-27	
Location	Royal Hawaiian near Kuhio Ave.	Kalakaua near Seaside Ave.	
Description	Commercial (9,000 SF)	Office (61,600 SF) Comm. (96,100 SF)	
<u>Added traffic to:</u>			
Ala Wai Blvd. at Paoakalani (AM)	0	20	20
Wai Nani Way at Ala Wai (AM)	0	0	0
Ala Wai Blvd. Ewa of Lewers (PM)	60	320	380
Kuhio Ave. (EB) at Lewers (PM)	60	0	60
Kuhio Ave. at Paoakalani (PM)	0	10	10
Paoakalani Ave. at Kuhio (PM)	0	0	0

(AM) = Morning or AM peak hour  
 (PM) = Afternoon or PM peak hour  
 (EB) = Eastbound or toward Diamond Head

Other methods of estimating future traffic volumes were investigated. A trend-line projection or growth-factor method using historical data would not give good results due to several factors. The rapid development of Waikiki



in the last twenty years and the initiation of the Special Design District controls limit the validity of extrapolating trends. As traffic volume approach capacity and congestion increases, further increases will not occur within the same peak hour. Automobile use patterns will change due to energy cost and availability.

Preliminary daily traffic projections for year 1985 in the Waikiki vicinity were obtained from the City and County<sup>8/</sup>. A comparison of these projections with existing ground counts and street capacities indicate that use of these figures in this study would not be appropriate.

c. Intersection analyses:

Five locations in Waikiki were identified as possible areas of increased traffic congestion due to this project. The Ala Wai Boulevard approach to the signalized intersection of Paoakalani Avenue and the stop sign controlled approach of Wai Nani Way at Ala Wai Boulevard were analyzed for the morning (AM) peak hour. The Diamond Head bound approach on Kuhio Avenue to Lewers Street and Ala Wai Boulevard Ewa of Lewers Street were analyzed for the afternoon (PM) peak hour. The stop controlled intersection of Kuhio Avenue and Paoakalani Avenue was also analyzed for the PM peak hour, when it experiences the highest traffic volumes.

The five chosen locations were analyzed using the Highway Capacity Manual method. The future traffic loading is the sum of the existing peak hour volume and the peak hour traffic generations of the proposed project and other current developments. Street capacities are based on the existing street network with the improvements which are expected to be completed at time of project completion. Green times, or the portion of the hour which an approach is assigned the right-of-way in using the intersection, were based on existing signal settings<sup>9/</sup>.

Table 5 summarizes the findings of the intersection analyses. Although the traffic volumes increase, the levels of service at three locations are unchanged from the existing. At two locations, Ala Wai Boulevard Ewa of Lewers Street and Kuhio Avenue (eastbound) at Lewers Street, the future traffic levels predicted in the analyses exceed the capacities. Note that in the Ala Wai case, the future traffic without the proposed project would exceed capacity.

Table 5

Intersection Analyses

<u>Location</u>	<u>Peak Hour</u>	<u>Exist. L.S.</u>	<u>Exist. Volume</u>	<u>Additional Traffic</u>		<u>Future Volume</u>	<u>Future L.S.</u>	<u>Capacity</u>	<u>Future V/C</u>
				<u>Proj.</u>	<u>Other</u>				
Ala Wai Blvd. at Paoakalani	AM	D	2130	160	20	2310	D	2550	0.91
Wai Nani Way at Ala Wai	AM	B	30	160	0	190	B	420	0.45
Ala Wai Blvd. Ewa of Lewers	PM	D	2120	70	380	2570	F	2420	1.06
Kuhio Ave. (EB) at Lewers	PM	D	890	70	60	1020	F	1000	1.02
Paoakalani at Kuhio Ave.	PM	B	1310	80	10	1400	B	--	--

L.S. = Level of Service  
 AM = Morning or AM peak hour  
 PM = Afternoon or PM peak hour  
 EB = Eastbound  
 -- = Not Applicable

d. Impact of the proposed project:

The proposed project will have two types of impacts on the roadway system. The streets which border the project site will be improved by the developer under City Ordinance 2412<sup>10</sup>; improvements include sidewalks, curbs, and

gutters. This work will provide better traffic conditions. The control of traffic and on-street parking will be simplified and more effective due to the obvious delineation of the roadway which is provided by the curbs. Safety will be enhanced by increased sight distances and the separation of pedestrian and automobile traffic.

The other type of impact is due to additional traffic. In the immediate vicinity of the project site, impacts are minimal. Additional traffic will be added onto the streets, but the existing levels of service will be maintained. Both the Wai Nani Way approach to Ala Wai Boulevard and the Ala Wai Boulevard approach to Paoakalani Avenue have sufficient capacities to accommodate the additional traffic generated by the proposed project.

The Paoakalani and Kuhio Avenues' stop-controlled intersection was analyzed using an approximate method assuming that traffic signals exist<sup>11/</sup>. Additional assumptions were necessary because of the increased width and changed circulation pattern resulting from the widening project. The analysis shows that the intersection will continue to operate at Level of Service B, which indicates adequacy of the stop-sign control. Safety considerations may require that traffic signals be installed after widening; should this happen, intersection capacity will increase. Existing volumes, which are not expected to decrease because of the street widening, satisfy the minimum requirements of a signal installation<sup>12/</sup>.

Significant impacts do occur further from the project. Both Ala Wai Boulevard and Kuhio Avenue Ewa of Lewers Street have demands in excess of capacity. Level of Service F describes this situation: forced flow under jammed conditions carrying unpredictable volumes. Long queues, with substantial delays, will result. Because the additional traffic will be added in small increments rather than all at once, volumes will be constrained and the level of service at these locations will be D or E.

Travel pattern adjustments will alleviate the over-capacity. Alternative routes or times of travel, higher vehicular occupancies, or different modal choices are examples of adjustments which "balance" the system and result in abatement of long term forced-flow conditions.

In summary, the significant impact of the proposed project is its contribution of the increasing traffic volumes in Waikiki; the traffic will continue to cause changes in travel patterns with related delays and other inconveniences to users.

3. Mitigation measures:

Improvements will be made by the developer to the streets which border the project including sidewalks, curbs and gutters. This will provide better traffic conditions.

REFERENCES - TRAFFIC STUDY

- 1/ City and County of Honolulu, Department of Transportation Services, Traffic Engineering Division, Planning Section.
- 2/ National Academy of Sciences - National Research Council, Highway Research Board, Special Report 87, Highway Capacity Manual 1965, Washington, D.C., 1965.
- 3/ Institute of Transportation Engineers, Trip Generation, Arlington, Virginia, 1979.
- 4/ City and County of Honolulu, Department of Transportation Services, Traffic Engineering Division, Planning Section. Moiliili Triangle Study, May 8 and 9, 1979.
- 5/ Ibid.
- 6/ City and County of Honolulu, Departments of Public Works (Division of Engineering) and Transportation Services (Traffic Engineering Division).
- 7/ October 10, 1980, letter from City and County of Honolulu, Department of Land Utilization, LU 10/80-4564(SD).
- 8/ City and County of Honolulu, Department of Transportation Services, Mass Transit Division, Transportation Planning Branch.
- 9/ City and County of Honolulu, Department of Transportation Services, Traffic Engineering Division, Signal Section.
- 10/ City and County of Honolulu, Bill No. 147, 1963.
- 11/ Highway Capacity Manual, pp. 155-159.
- 12/ U. S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways, Washington, D.C., 1978 (ANSI D6.1-1978), p. 4c-3(Warrant 1).

K. NOISE:

1. Existing Environmental Setting:

- a. Noise descriptors and the relationship of noise levels to land use compatibility:

Increasingly, the Day-Night Sound Level, or  $L_{dn}$ , is being used to describe general environmental noise (note: a brief description of the acoustic terminology and symbols used is enclosed with this report). The Day-Night Sound Level is a 24-hour average sound level in which nighttime noise levels occurring between 10:00 PM and 7:00 AM are increased (or penalized) by 10 dB before calculation of the 24-hour average. The Air Force, Army and Navy adopted the  $L_{dn}$  metric in June, 1978 (Reference 1). The current "HUD Environmental Criteria and Standards" (Reference 2), adopted as a replacement of HUD Circular 1390.2 (a pioneer document), also utilizes the  $L_{dn}$  metric. The U.S. Environmental Protection Agency (EPA), by Reference 3, the U.S. Federal Aviation Administration (FAA) by Reference 4, and the National Academy of Sciences by Reference 5, recommend use of the  $L_{dn}$  noise descriptor. Following the original introduction of the  $L_{dn}$  descriptor by EPA, a consensus among Federal agencies has developed that 65  $L_{dn}$  is the upper limit of acceptable exterior noise for residential housing areas. EPA's prior recommendation of 55  $L_{dn}$  or less for residential housing has not been adopted by other Federal agencies, but is recognized as a desirable long-term goal.

Table 6 describes the typical variation of  $L_{dn}$  for various kinds of neighborhoods. Levels of 60  $L_{dn}$  or greater are typical along city streets with daily traffic volumes exceeding 2,500 vehicles. 65 to 70  $L_{dn}$  are typical values for city business districts where traffic is a dominant noise source. Figure 17 presents typical  $L_{dn}$  values obtained on Oahu.

State Department of Health (DOH) and City and County of Honolulu Comprehensive Zoning Code (CZC) noise regulations (References 6 and 7) are expressed in maximum allowable noise limits rather than  $L_{dn}$ . They are summarized in Table 7 for the cases of interest. Values shown in Table 7 represent short-term noise levels rather than 24-hour averages. Although they are not directly comparable to noise criteria expressed in  $L_{dn}$ , the following general statements can be made:

- ° State DOH noise limits for apartment districts are approximately equal to  $60 L_{dn}$  or  $5 L_{dn}$  units below existing Federal recommendations and standards.
- ° CZC noise limits for residential/apartment uses are approximately equal to  $59 L_{dn}$  or  $6 L_{dn}$  units below existing Federal recommendations and standards.

State and local noise regulations have been enforced for noise sources and have been used to effect court injunctions and remedial measures. It should be noted that street or highway traffic noise is not regulated as such, but noise emissions from individual vehicles are regulated by Chapter 44A, Public Health Regulations, State of Hawaii.

TABLE 6

TYPICAL VALUES OF YEARLY DAY-NIGHT AVERAGE SOUND LEVEL FOR VARIOUS RESIDENTIAL NEIGHBORHOODS WHERE THERE IS NO WELL DEFINED SOURCES OF NOISE OTHER THAN USUAL TRANSPORTATION NOISE

<u>Description</u>	<u><math>L_{dn}</math> dB</u>
Rural (undeveloped)	35
Rural (partially developed)	40
Quiet Suburban	45
Normal Suburban	50
Urban	55
Noisy Urban	60
Very Noisy Urban	65

Source: Reference 5

TABLE 7

<u>Noise Regulation</u>	<u>Zoning District Adjoining Site</u>	<u>Daytime/Nighttime Allowable Noise Level</u>	<u>Measurement Location</u>
State Dept. of Health	Apartment	60/50 dB (A-weighted) <sup>1</sup>	Project site property line
Honolulu CZC	Apartment or Residential	See line (a) below for octave band limits <sup>2</sup>	At or beyond project site boundary line

<sup>1</sup> Levels not to be exceeded for more than 10 percent of the time within any 20-minute period.

<sup>2</sup> Octave Band Noise Limits:

OCTAVE BAND CENTER FREQUENCY (Hz)

	<u>63 or Below</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1,000</u>	<u>2,000</u>	<u>4,000</u>	<u>8,000</u>
a)	72/69dB	67/64dB	59/56dB	52/49dB	46/43dB	40/37dB	34/31dB	32/29dB

b. Existing noise environment

Estimates of existing and future traffic noise along the streets which would service the proposed project were based upon the traffic study prepared for the project (Reference 9), traffic counts contained in Reference 10, and the traffic noise prediction methodology of Reference 11.  $L_{dn}$  calculations were based upon hourly traffic variations contained in Reference 10. Additionally, spot traffic counts and noise measurements were also made on October 28-29, 1980 along Ala Wai Boulevard, Paoakalani Avenue, and Wai Nani Way to generate estimates of traffic mix and to calibrate the noise model of Reference 11. Table 8 presents the results of these spot measurements. Agreement was generally good between measured and predicted hourly equivalent sound levels ( $L_{eq}(h)$ ) except along Wai Nani Way, where other noise sources contributed to the total measured sound levels.

The existing noise environment along Ala Wai Boulevard east of Paoakalani Avenue is controlled by automobile traffic along the boulevard. At 50 feet distance from the



**QUALITATIVE DESCRIPTIONS**

**L<sub>dn</sub>  
DAY-NIGHT  
SOUND LEVEL  
DECIBELS**

**OUTDOOR LOCATIONS**

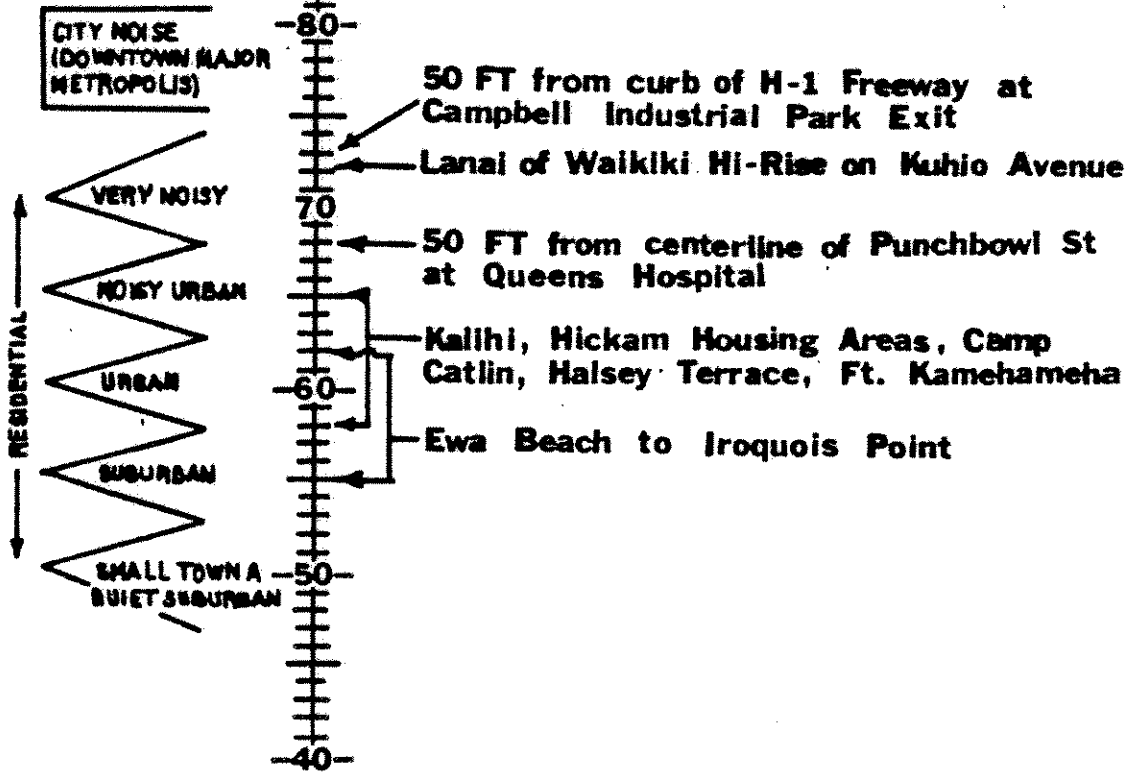




TABLE 8  
COMPARISON OF PREDICTED VS. MEASURED TRAFFIC NOISE LEVELS

Street	Ave. Speed	Time-of-Day (HRS)	Autos	Med. Trucks	Heavy Trucks	Measured Leg (h)*	Predicted Leg (h)*
Ala Wai Boulevard 80 FT east of Wai Nani Way	27	1030 to 1230	1073(99.05%)	10(0.9%)	5(0.05%)	64.4 (at 27 FT)	65.1 (at 27 FT)
Poakalani Avenue 150 FT North of Pualani	23	1245 to 1445	315(93%)	7(2%)	15(5%)	65.7 (at 17 FT)	65.8 (at 17 FT)
Wai Nani Way 240 FT North of Pualani	23	1530 to 1730	142(99%)	1(1%)	0(0%)	58.0 (at 20 FT)	54.5 (at 20 FT)
Wai Nani Way 240 FT North of Pualani	23	0612 to 0700	37(100%)	0(0%)	0(0%)	53.6 (at 20 FT)	48.0 (at 20 FT)
Wai Nani Way 240 FT North of Pualani	23	0700 to 0800	117(99%)	1(1%)	0(0%)	58.3 (at 20 FT)	53.7 (at 20 FT)

\*Distances in parentheses indicate distance from centerline of traffic lanes.

centerline, traffic noise levels are approximately 65  $L_{dn}$ . West of Paoakalani Avenue, traffic noise levels along the boulevard are higher by approximately 1  $L_{dn}$  unit due to the flow of tour buses and heavy trucks from Paoakalani Avenue onto Ala Wai.

Traffic noise levels along Paoakalani Avenue are controlled by buses and heavy trucks traveling toward Ala Wai Boulevard. At 50 feet distance from the centerline, traffic noise levels are approximately 62  $L_{dn}$ , or 3 to 4  $L_{dn}$  units less than Ala Wai Boulevard traffic noise levels.

Along Wai Nani Way, a combination of noise sources contribute to the overall noise level. Within 100 feet of the centerline of Ala Wai Boulevard, traffic noise from the boulevard dominates, with the values decreasing from 65 to 60  $L_{dn}$  from 50 to 100 feet (respectively) distances from the boulevard centerline. Lower noise levels of 56 to 60  $L_{dn}$  occur along the remaining section of Wai Nani Way toward Pualani Avenue. Noise sources such as birds, distant traffic, local traffic, children's voices, and tire squeal, all contribute to existing noise levels along the southern section of Wai Nani Way.

Along Pualani Avenue, existing noise levels are approximately 56 to 65  $L_{dn}$ , with noise levels generally decreasing with increasing distance from Paoakalani Avenue.

It should be noted that the prior values of existing noise levels apply to conditions at street level. Actual noise levels in the high rise units are difficult to predict since each unit has a unique geometric relationship with the noise sources and surrounding structures. For the proposed building units closest to the Ala Wai, existing exterior noise levels probably range from 59 to 62  $L_{dn}$  from ground level to 200 feet elevation. At other proposed unit locations in the mauka and makai towers, existing

ambient noise levels are lower, and probably range from 55 to 60  $L_{dn}$ .

2. Project Impact:

a. Traffic noise:

Future traffic noise increases attributable to the project will be insignificant along Ala Wai Boulevard and Paoakalani Avenue. Table 9 summarizes the future traffic noise levels at 50 foot distances from the centerlines of the streets of interest. Along Ala Wai Boulevard, the added project traffic will only increase noise levels by 0.3 dB due to the high volume of non-project traffic on that roadway. Along Paoakalani Avenue north of Pualani, project traffic is predicted to be minimal. Along Paoakalani Avenue between Pualani and Kuhio, project traffic will increase noise levels by only 0.7 dB due to the dominating influence of non-project related heavy trucks and buses which utilize Paoakalani to access Ala Wai Boulevard. Along Wai Nani Way, peak hour traffic volumes will double as a result of the project, and local traffic noise will increase by 3 dB. However due to the relatively low volume of project traffic predicted, total noise levels attributable to Wai Nani Way traffic at 50 foot distance is not anticipated to exceed 55  $L_{dn}$ . Total noise levels (including distant traffic, Ala Wai traffic, birds, people, and tire squeal sources) along Wai Nani Way following project completion are predicted to remain at existing levels of 56 to 65  $L_{dn}$  due to the contributing influence of these other sources. Although quantitative traffic data along Pualani Way were not available, visual observations indicated that existing traffic may be less than existing traffic along Wai Nani Way. Future traffic noise level increases along Pualani Way will be similar in magnitude (approximately 3 dB) to those along Wai Nani Way. Total noise levels along Pualani Way following project completion is also anticipated to range from 56 to 65  $L_{dn}$ , with

TABLE 9

PROJECT AND NON-PROJECT TRAFFIC NOISE LEVELS

Street	-----Non-Project Traffic-----		-----Project Plus Non-Project Traffic-----		Increase in Traffic Noise Attributable to Project
	Peak Hour Volume	Peak Hour Leq(h)* L <sub>dn</sub> *	Peak Hour Volume	Peak Hour Leq(h)* L <sub>dn</sub> *	
Ala Mai Boulevard, Between Mai Nani & Paoakalani	2130+20=2150	64.3	2150+160=2310	64.6	+0.3 dB
Paoakalani Avenue, North of Pualani	380+10=390	62.1	390+0=390	62.1	0 dB
Paoakalani Avenue, Between Pualani and Kuhio	360+3=363	61.8	363+70=433	62.5	+0.7 dB
Mai Nani Way, North of Pualani	120+0=120	50.0**	120+160=280	53.2**	+3 dB

\*At 50 FT Distance from centerline of traffic lanes.

\*\*Local traffic noise level will be less than other community noise sources. Total Leq(h) and L<sub>dn</sub> values along Mai Nani Way will remain at approximately 56 to 65 before and after project completion.

Paoakalani traffic being a dominant noise source at the west end of Pualani.

In summarizing the traffic noise impacts, it is anticipated that project related traffic will not significantly increase noise levels along Ala Wai Boulevard or Paoakalani Avenue. Project related traffic will increase local traffic noise levels along Wai Nani Way and Pualani Way, but local traffic noise levels will not exceed 55  $L_{dn}$  at 50 foot distance, which is well below current Federal standards and recommendations for residential areas. Other non-project related noise sources will be equal to or greater than local traffic noise levels along Wai Nani or Pualani.

b. Noise impact resulting from tennis activities:

The sounds resulting from play on the proposed tennis courts will consist of voices of the players and the impact sound of the ball on the racquet. The total sound level is of course highly variable and impulsive (short duration burst of sound), and depends upon the number of players on the courts, how proficient they are at the game, and how vocal they are.

Based upon prior noise measurements of tennis activity at the Kailua Recreational Center and at the Kaneohe Yacht Club, estimates of tennis noise levels at the proposed roof top facility were made to determine risks of exceeding State and County property line noise limits. Along the project boundary plane fronting Wai Nani Way, tennis activity noise will range from 56 to 58 dB\* at 35 foot elevation and will be less than 40 dB at street level. Directly across Wai Nani Way from the courts and along the neighboring property's boundary plane, tennis activity noise will range from 48 to 53 dB at 35 foot elevation and will be less than 50 dB at street level. DOH noise limits

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\*A-weighted sound level, using Fast Response characteristics are used for tennis noise as required by Reference 6 for impulsive sounds.

for impulsive sounds are 60 dB during the nighttime period (10 PM to 7 AM) and 70 dB during the daytime period (7 AM to 10 PM) for apartment zoned districts. Therefore, risks of DOH noise violations resulting from tennis activities at the proposed site are minimal for both daytime and nighttime periods. This evaluation also applies to the south and west lot boundaries since larger setbacks of the tennis courts would exist in these directions.



Noise regulations of the Comprehensive Zoning Code (Reference 7) may be exceeded by tennis activity noise, depending upon legal interpretation of the language in the code. This is due to differences in sound level measurement methods between the State and County noise regulations (CZC utilizes impact rather than Fast sound level meter response). However, a determination of a CZC violation would be considered difficult for the following reasons:

- (1) The technical language in the CZC noise regulations for impulsive sounds is not clear due to its reference to an "impact noise analyzer". Standard measurements of impulsive sounds utilize sound level meters with Fast, Peak, Impulse, or Integrating response characteristics.
- (2) Audible sound levels from tennis activities (assuming players do not shout constantly) will not exceed those resulting from other existing noise sources at noise sensitive receptor locations across Wai Nani Way, Pualani Way, and Paoakalani Avenue.

In summary, noise from tennis activities at the proposed project should have minimal impact on surrounding residences, and with minimal risks of causing valid complaints from residents if tennis players maintain reasonable voice levels for communicating on the courts.

c. Noise impact from parking garage:

Tire squeal noise in indoor parking structures has been the cause of complaints from persons residing in adjacent properties in Hawaii where year around open windows are the norm. Resident dissatisfaction has been voiced as a result of audible tire squeal as well as door slamming noises emanating from existing parking garage operations across Wai Nani Way from the proposed structure. Tire squeal is produced by high-frequency vibration of tire-tread elements when cornering a vehicle. The factors which influence the inception and intensity of

tire squeal noise include: road surface texture, vehicle forward speed, vehicle weight, tire-tread design, and slip angle (difference between tire steering angle and direction of vehicle movement).

If the floor surfaces of the circulation aisles and ramps of the garage are not treated, tire squeal noise produced within the parking areas will probably exceed DOH daytime and nighttime threshold levels of 60 and 50 dB respectively, at the project's property planes along Wai Nani Way, Pualani Way, and Paoakalani Avenue. This is due to the high maximum source levels of the tire squeals (70 to 90 dB), the reverberant nature of the parking garage, and the openings in the building's exterior walls fronting these property lines. The duration of the tire squeal noise above the DOH threshold levels during hard cornering could range from 0.5 to 2 seconds.

Maximum noise levels from garage operations at the proposed project should not exceed 56 dB at neighboring dwelling units which surround the project. However, project dwelling units in the makai tower which are within 60 feet of the garage openings may be subjected to adverse noise impacts if mitigation measures are not used.

d. Construction noise:

Noise from construction activities at the project site will generate unavoidable short-term noise impacts on surrounding residents and hotel/condominium guests. Construction is anticipated to commence in February of 1982 and continue for 20 to 22 months thereafter. Noise levels from construction equipment (excluding pile drivers) will range from 75 to 90 dB at 50 foot distance. The closest residential units are approximately 100 to 130 feet from proposed structures to be constructed, and construction noise levels will intermittently exceed 80 dB at these residential units. More severe noise impacts could result if construction equipment with high utilization factors (or operating times) and high noise levels are located along

Wai Nani Way due to the relatively lower background noise levels and the proximity of naturally-ventilated residential units to the street.

Pile driving operations are anticipated to occur and to last from 3 to 6 weeks. Noise levels from pile driving operations will exceed 95 dB at the project boundary lines. Under current DOH permit procedures (Reference 6), noisy construction activities which exceed 95 dB at the project boundary line will be restricted to the hours between 9:00 AM and 5:30 PM, from Monday through Friday, and excluding certain holidays. These restrictions would minimize noise impact on surrounding residents and hotel/condominium guests during noisy construction operations such as pile driving, pile cutting, and jack hammering. Under the present permit procedures, high noise levels in excess of 95 dB at the project boundary line will occur during hours when fewer residents and guests are anticipated to be exposed.

### 3. Mitigation Measures:

In order to minimize the risks of complaints resulting from tire squeal noise, high speed cornering (in excess of 10 MPH) should be discouraged by controlling the width and turning radius of the cornering rights-of-way in the circulation paths and/or by the introduction of speed bumps along the straight aisles. The use of two-way circulation paths will also contribute towards reducing speeds. Rough textured concrete surfaces (coarse brush finish) or asphaltic concrete should be used throughout the vehicular circulation paths to prevent tire squeal generation at low vehicle speeds (below 10 MPH). Use of smooth (glossy) concrete surfaces should be avoided, since inception of tire squeal on this type of surface can occur at speeds as low as 2 to 5 MPH.

The following mitigation measures are recommended during the construction period:

- a. Reciprocating engines with defunctive or inadequate (less than 20 dB insertion loss) mufflers should be discouraged from use on the job site.
- b. Hawaii Public Health Regulations, Chapter 44B (Community Noise Control for Oahu), and its permit procedures for construction activities will be adhered to during the construction phase.
- c. Stationary construction equipment with noise levels in excess of 80 dB (at 50 foot distance) should be located in the central portion of the project site if possible.
- d. Concrete mixer trucks should avoid conducting unloading operations from the surrounding streets, and should use the interior lot space between the mauka and makai towers if possible.
- e. Muffler devices will be used to minimize exhaust noise.
- f. Pile driving operations will be restricted to the hours between 9:00 AM and 5:30 PM.

REFERENCES FOR NOISE STUDY:

1. Environmental Protection--Planning in the Noise Environment, Departments of the Air Force, the Army, and the Navy; AFM T9-10, TM 5-803-2, NAVFAC P-970; 15 June 1978.
2. "HUD Environmental Criteria and Standards, 24 CFR Part 51," Federal Register, Volume 44, No. 135, July 12, 1979.
3. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, U.S. EPA, 550/9-74-004, March 1974.
4. Airport Environmental Handbook, FAA Order 5050.4, U.S. DOT, FAA, March 21, 1980.
5. Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 (CHABA), National Research Council, National Academy of Sciences, 1977.
6. Public Health Regulations, Chapter 44B, Community Noise Control for Oahu, State of Hawaii, Dept. of Health, April 26, 1976.
7. Comprehensive Zoning Code, Section 21-2.21, Noise Regulation, City and County of Honolulu, January 2, 1969.
8. Public Health Regulations, Chapter 44A, Vehicular Noise Control for Oahu, State of Hawaii, Dept. of Health, March 24, 1972.
9. Draft Traffic Impact Report, prepared by Parsons Brinckerhoff-Hirota Associates, received October 28, 1980.
10. 24-hour traffic counts on Ala Wai Boulevard at Kapahulu end (10. 16-17, 1979) and on Wai Nani Way (one-way south, June 3, 1976), by City & County of Honolulu.
11. FHWA Technical Advisory T 50405.5, Hand-Held Calculator Listings for the FHWA Highway Noise Prediction Model; U.S. DOT, FHWA, September 5, 1978 and October 17, 1978 (Change 1).





## TEXT

## EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E,....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the  $L_{Cdn}$  with the  $L_{Adn}$ .

Although not included in the tables, it is also recommended that " $L_{PN}$ " and " $L_{EPN}$ " be used as symbols for perceived noise levels and effective perceived noise level, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the

term "equivalent". Hence,  $L_{eq}$  is designated the "equivalent sound level". For  $L_d$ ,  $L_n$ , and  $L_{dn}$ , "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristic of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, dBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (LPN was found to be 75 dB.  $L_{PN} = 75$  dB.) This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighted Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

TABLE I: A-Weighted Recommended Descriptor List

Term	Symbol
1. A-Weighted Sound Level	$L_A$
2. A-Weighted Sound Power Level	$L_{WA}$
3. Maximum A-Weighted Sound Level	$L_{max}$
4. Peak A-Weighted Sound Level	$L_{Apk}$
5. Level Exceeded x% of the time	$L_x$
6. Equivalent Sound Level	$L_{eq}$
7. Equivalent Sound Level over Time (T) (1)	$L_{eq}(T)$
8. Day Sound Level	$L_d$
9. Night Sound Level	$L_n$
10. Day-Night Sound Level	$L_{dn}$
11. Yearly Day-Night Sound Level	$L_{dn}(y)$
12. Sound Exposure Level	$L_{SE}$

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is  $L_{eq}(1)$ ). Time may be specified in non-quantitative terms (e.g., could be specified a  $L_{eq}(WASH)$  to mean the washing cycle noise for a washing machine.)

TABLE II: Recommended Descriptor List

TERM	A-WEIGHTING	ALTERNATIVE(1)		UNWEIGHTED
		A-WEIGHTING	OTHER WEIGHTING (2)	
1. Sound (Pressure) (3) Level	$L_A$	$L_{pA}$	$L_B, L_{pB}$	$L_p$
2. Sound Power Level	$L_{WA}$		$L_{WB}$	$L_W$
3. Max. Sound Level	$L_{max}$	$L_{Amax}$	$L_{Bmax}$	$L_{pmax}$
4. Peak Sound (Pressure) Level	$L_{Apk}$		$L_{Bpk}$	$L_{pk}$
5. Level Exceeded x% of the time	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$
6. Equivalent Sound Level	$L_{eq}^i$	$L_{Aeq}$	$L_{Beq}$	$L_{peq}$
7. Equivalent Sound Level Over Time(T) (4)	$L_{eq}(T)$	$L_{Aeq}(T)$	$L_{Beq}(T)$	$L_{peq}(T)$
8. Day Sound Level	$L_d$	$L_{Ad}$	$L_{Bd}$	$L_{pd}$
9. Night Sound Level	$L_n$	$L_{An}$	$L_{Bn}$	$L_{pn}$
10. Day-Night Sound Level	$L_{dn}$	$L_{Adn}$	$L_{Bdn}$	$L_{pdn}$
11. Yearly Day-Night Sound Level	$L_{dn}(y)$	$L_{Adn}(Y)$	$L_{Bdn}(Y)$	$L_{pdn}(Y)$
12. Sound Exposure Level	$L_S$	$L_{SA}$	$L_{SB}$	$L_{Sp}$
13. Energy Average value over (non-time domain) set of observations	$L_{eq}(e)$	$L_{Aeq}(e)$	$L_{Beq}(e)$	$L_{peq}(e)$
14. Level exceeded x% of the total set of (non-time domain) observations	$L_x(e)$	$L_{Ax}(e)$	$L_{Bx}(e)$	$L_{px}(e)$
15. Average $L_x$ value	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,..... weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is  $L_{eq}(1)$ ). Time may be specified in non-quantitative terms (e.g., could be specified as  $L_{eq}(WASH)$  to mean the washing cycle noise for a washing machine).



L. AIR QUALITY\*:

1. Existing Environmental Setting:

Until late 1979 there were no air pollutant monitoring stations in Waikiki. In that year particulate and sulfur dioxide samplers were moved from Ala Moana Park to Fort DeRussy. The Ala Moana sampling station was located about 2.4 miles west northwest of the project site while the current Waikiki sampling station is about one mile in the same direction. A summary of measurements collected at these locations over the last several years is presented in Table 10. The State of Hawaii 24-hour AQS for particulates is presently being violated at the rate of once per year, but a level as high as the allowable Federal Secondary AQS has not been recorded in this area since 1975. The one particulate value of  $116 \text{ ug/m}^3$  recorded in 1980 was at the time of a severe January storm and was probably a combination of wind blown dust and sea spray. A once-per-year particulate violation of this nature is of no major concern and from the data in Table 10 it seems reasonable to conclude that there are no real problems regarding concentrations of particulates, sulfur dioxide or nitrogen dioxide in the project area.

Unfortunately there are no long term measurements of hydrocarbons anywhere in Hawaii but carbon monoxide and oxidants are routinely monitored at a location just outside the Department of Health building in urban Honolulu about 3.3 miles northwest of the project site. A summary of these measurements is shown in Table 11. It is clearly evident from the data recorded at this monitoring station that short-term carbon monoxide concentrations have frequently been in excess of allowable State of Hawaii standards during the last several years. Since 1975, however, there has been a steady decrease in peak hour averages of this pollutant and no values above the Federal AQS have been recorded.

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\* See complete text in appendix.

TABLE 10

SUMMARY OF AIR POLLUTANT MEASUREMENTS AT ALA MOANA AND  
WAIKIKI MONITORING STATIONS

POLLUTANT	1975	1976	1977	1978	1979	1980
<b>PARTICULATE MATTER</b>						
No. of Samples	88	73	53	61	57	29
Range of Values	41-152	24-130	18-109	21-79	20-102	20-116
Average Value	64	65	40	38	39	39
No. of Times State AQS Exceeded	4	1	1	0	1	1
<b>SULFUR DIOXIDE</b>						
No. of Samples	88	70	54	61	48	25
Range of Values	5-9	5-7	5- 5	5- 5	5-13	5- 5
Average Value	5	5	5	5	5	5
No. of Times State AQS Exceeded	0	0	0	0	0	0
<b>NITROGEN DIOXIDE</b>						
No. of Samples	88	21				
Range of Values	5-64	24-61				
Average Value	38	44				
No. of Times State AQS Exceeded	0	0				

NOTES: Sampling Station moved from Ala Moana Park sewer pumping station to McCoy Pavilion on 2/28/77 and then to Fort DeRussy on 12/5/79. All values in micrograms per cubic meter for a 24 hour sampling period. Data for 1980 through 6/80. Nitrogen dioxide sampling discontinued 4/76.

SOURCE: State of Hawaii Department of Health

TABLE 11

SUMMARY OF AIR POLLUTANT MEASUREMENTS AT  
DEPARTMENT OF HEALTH LAB, HONOLULU

POLLUTANT	1975	1976	1977	1978	1979	1980
<b>CARBON MONOXIDE</b>						
No. of Sampling Days	169	355	359	365	207	
Range of Values	.9-27.4	.5-24.2	0-19.6	0-20.7	0-17.3	
Average Value	6.6	5.4	3.5	3.1	2.9	
No. of Times State AQS Exceeded	35	41	22	19	10	
<b>OXIDANT (OZONE)</b>						
No. of Sampling Days	234	322	300	284	338	174
Range of Values	6-65	2-127	4-61	10-84	10-80	10-80
Average Value	25	40	25	33	39	51
No. of Times State AQS Exceeded	0	1	0	0	0	0

NOTES: Carbon monoxide in milligrams per cubic meter; ozone in micrograms per cubic meter. Values shown are peak one hour values. Carbon monoxide sampling discontinued 9/79. Data for 1980 through 6/80.

SOURCE: State of Hawaii Department of Health.

In late 1979 the carbon monoxide sampler was moved to Leahi Hospital in the Fort Ruger/Kaimuki Area about 1.2 miles east of the project. Values for the first half of 1980 at that location have ranged from 0 to 3.5 milligrams per cubic meter with an average level at 0.5. This site is not very representative of the Waikiki area, however, and from the available data in Tables 10 and 11 it would appear that carbon monoxide is likely to present the greatest problem regarding the potential air quality impact of the proposed project.

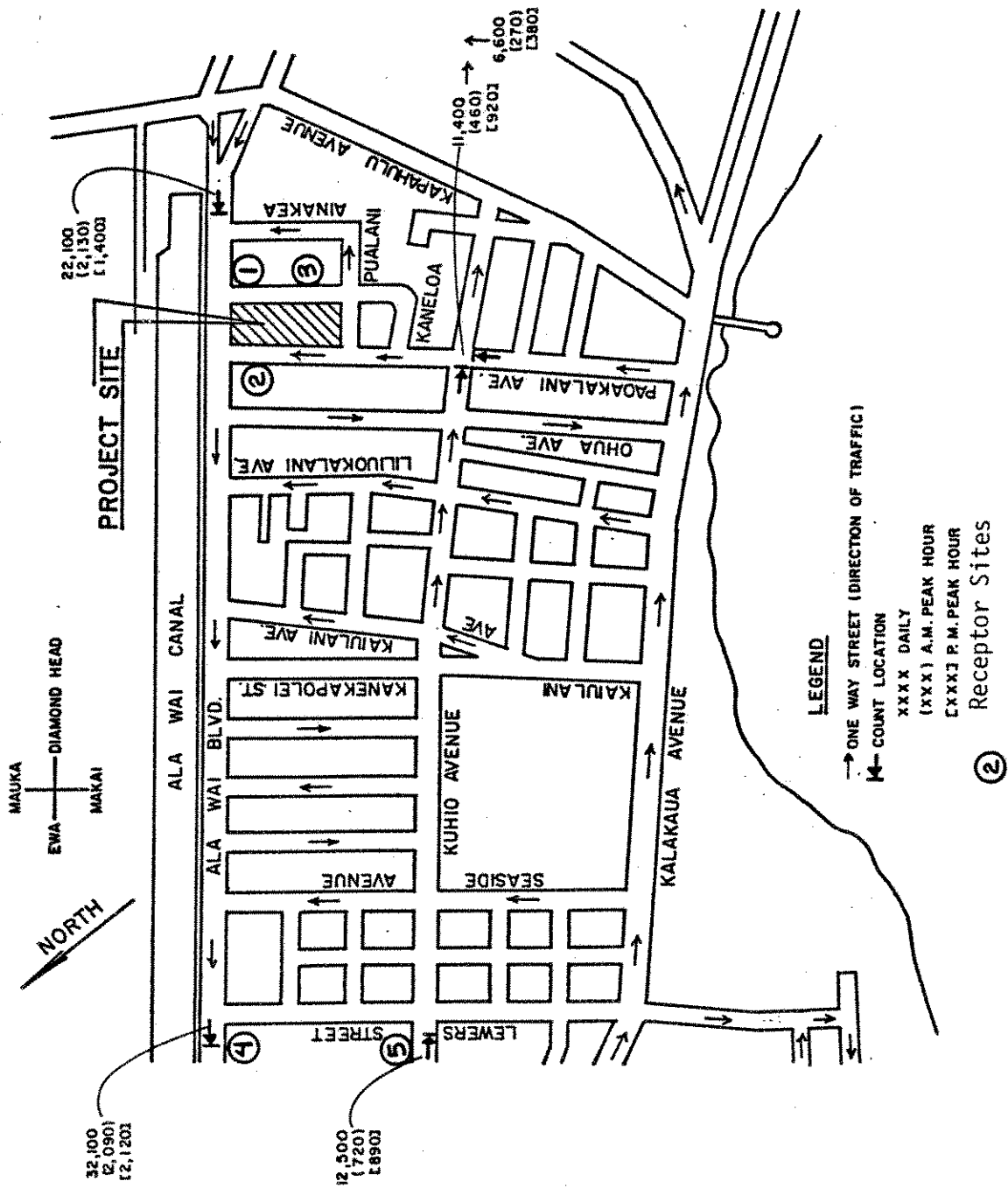
2. Project Impact:

The proposed Hasegawa Komuten (USA) - Liliuokalani Trust project can be expected to produce direct air pollutant emissions in the form of fugitive dust from project construction and indirect emissions from vehicles used by future residents of the project.

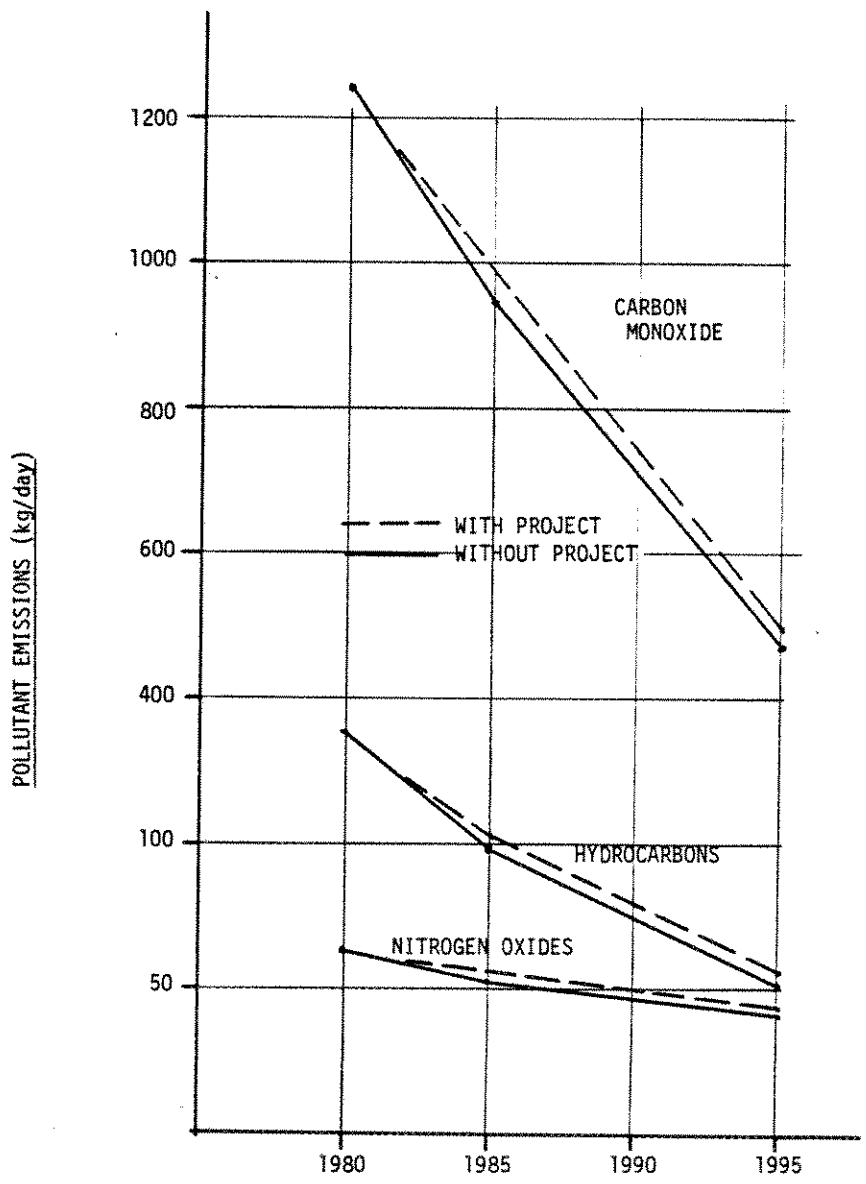
The fugitive dust emissions will be of a short term nature and adequate control measures exist to insure that such emissions do not become a problem to nearby residents. Particulate air pollution measurements at nearby sampling stations indicate that present levels exceed allowable State of Hawaii ambient air quality standards about once per year, but that particular air pollution is generally not a problem in the Waikiki area.

Vehicular traffic generated by the project will produce carbon monoxide, hydrocarbons, nitrogen oxides, and air borne lead. Federal regulations should insure future reductions in these emissions, but carbon monoxide emissions and resulting concentrations under worst case traffic and meteorological conditions could still pose some compliance problems with State of Hawaii ambient air quality standards.

A detailed carbon monoxide analysis of five critical receptor sites (Figure 18) in the Waikiki area indicates that maximum incremental contributions of carbon monoxide from project-related traffic will occur along the sidewalk bordering Wai Nani Way. Traffic levels along this street are now very low and emissions from the project parking garage could increase morning rush hour carbon monoxide levels at this











location by about 4.5 milligrams per cubic meter. Near the intersection of Wai Nani and Ala Wai it is possible that project-related traffic could cause the peak hour State of Hawaii air quality limit for carbon monoxide to be exceeded for a few years after project completion. By 1995, however, all State and Federal air quality standards can be expected to be met at all the critical receptor sites considered whether the project is constructed or not (see Figures 20, 21).

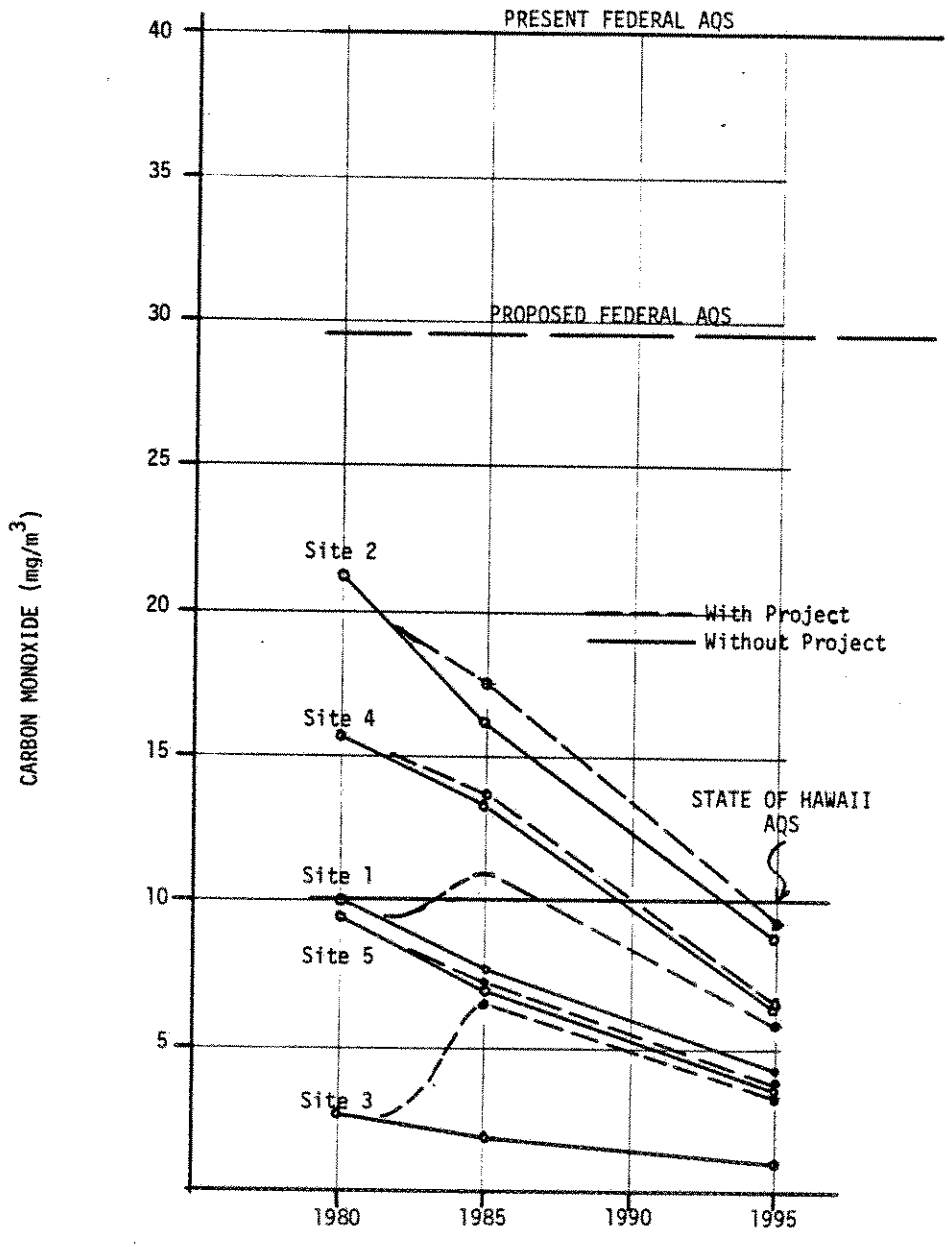
3. Mitigation Measures:

No specific mitigative measures regarding project-related traffic appear to be necessary. The landscaping scheme planned for the complex should help to screen future residents of the project from outside air pollutant emissions and banning smoking in the garage, elevators, and other small enclosed places within the project could also help to improve the quality of the air they breathe.

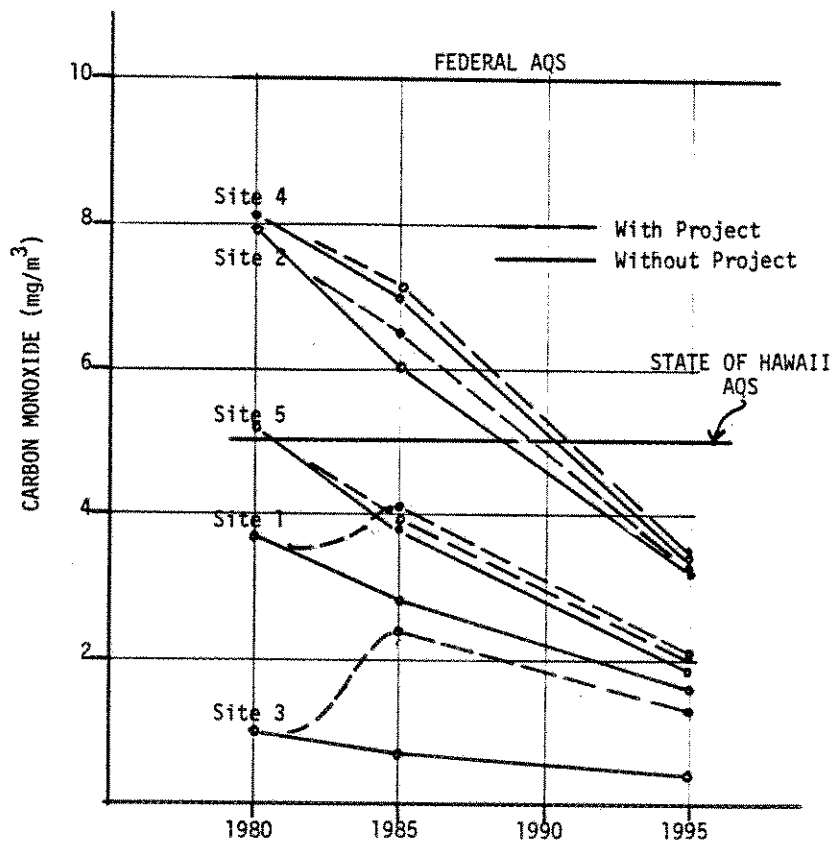
As stated earlier the only significant direct emission of air pollutants that this project is likely to create is fugitive dust generated by construction activities. State of Hawaii Department of Health Rules and Regulations (Chapter 43, Section 10) stipulate control measures that are to be employed to reduce this type of emission. Primary control consists of frequent wetting down of loose soil areas with water, oil or suitable chemicals. An effective watering program can reduce particulate emissions from construction sites by as much as 50 percent. Other control measures include good housekeeping on the jobsite and possibly, erection of dust-catching barriers if nearby local residents are being subjected to suspended particulate levels more than 150 micrograms per cubic meter above existing background levels (as measured on a 12-hour basis).

The project impact of emissions from vehicles operating within the parking garage or on roadways near the project can be decreased if (1) the emission rate of each vehicle is decreased, (2) the total number of vehicle operating is decreased, or (3) the project is designed to permit vehicle

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movement at more rapid rates of speed with less chance that vehicles can become tied up in queues with engines idling.

Project planners can do little to decrease emission rates from individual vehicles. For the most part these reductions will depend on Federally-mandated controls on new vehicle emissions.

The number of vehicles attracted to the project is determined by the number of spaces in the parking garage, which is in turn related to the floor space in the residential portion of the project. In this case there are limits to these values set by the Waikiki Special Design District legislation and this project has been planned to be within those limits.

It is possible that constructing an additional garage entrance on Pualani Way could lessen queuing time within the garage during morning rush hour but the carbon monoxide analysis carried out in this study indicates that emissions from the parking garage are not expected to cause any serious problems even under worst case meteorological conditions and there would thus be little to gain from this effort.

Current project plans keep about 70 percent of the site in open space with multi-tiered landscaping covering much of the open space area. Such landscaping in itself constitutes a mitigative measure regarding the air pollutant levels to which future residents of the project are likely to be exposed because trees and dense shrubs can serve to remove some particulates and carbon monoxide from the atmosphere.

One other measure that project managers can employ to improve air quality within the project area is to strictly prohibit smoking in the garage area and within confined spaces such as elevators. Tenant exposure to dangerous levels of carbon monoxide and other air pollutants is likely to be much greater in these areas than it is on the sidewalks surrounding the project.

Finally, it is important to note that vehicular emission levels used in this study do not take into account current socio-economic factors which could tend to curtail vehicle

usage in future years and to encourage development of non-gasoline-powered vehicles which create few or none of the air pollutants that are presently of concern.

M. VIEWS:

1. Existing Environmental Conditions:

The existing buildings on the project site are 1- and 2-story structures. Views from these dwelling units are blocked by the surrounding mid and high rise structures. Only the existing house at the Ala Wai/Wai Nani corner has a mountain view across the Ala Wai canal.

All of the mid and high rise buildings which surround the site have views across the site to the Ala Wai and beyond to the Koolaus.

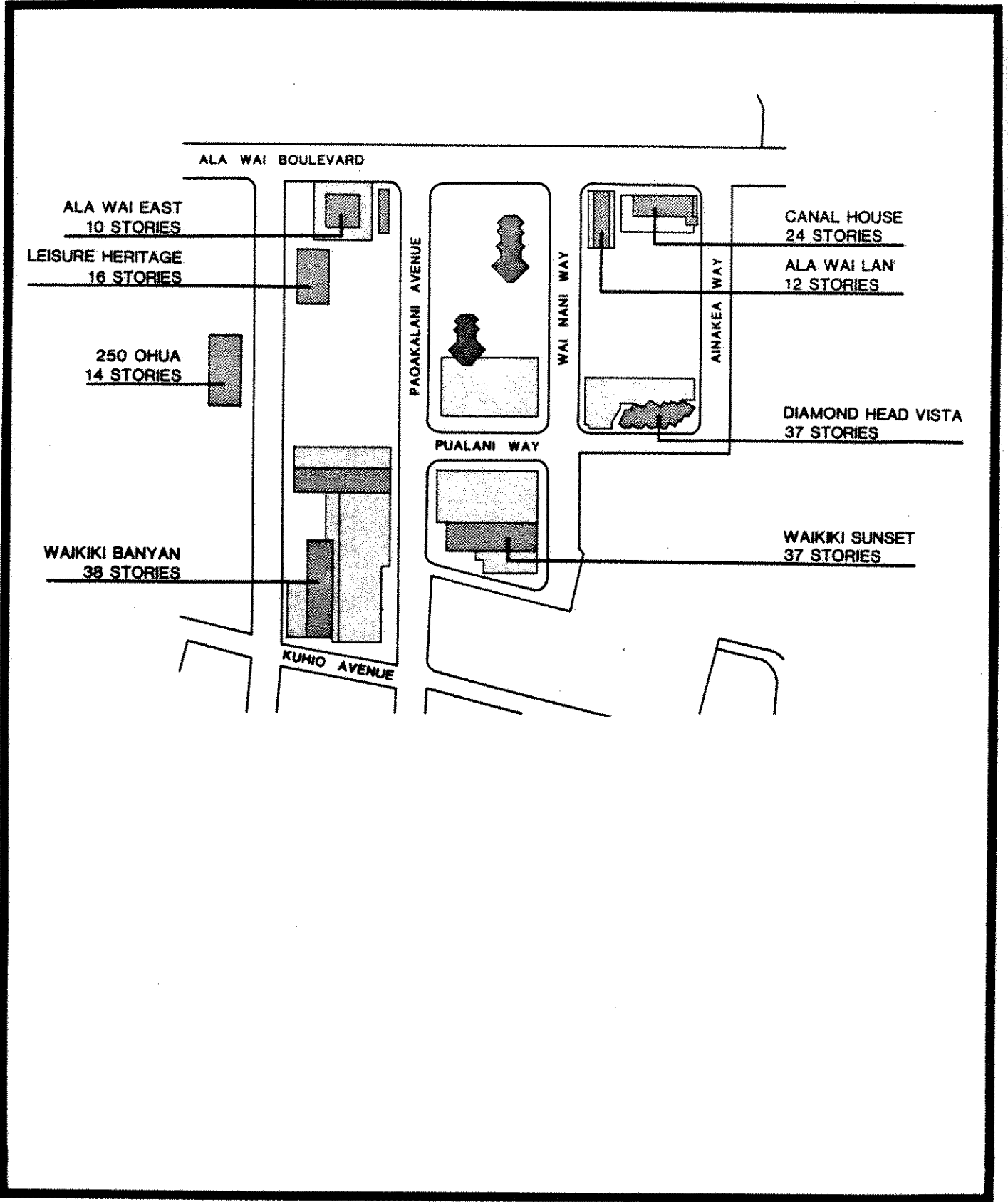
The Ala Wailani, located at the corner of Wai Nani and Ala Wai Boulevard has a view corridor which extends from the Ala Wai East, on the Ewa corner of Pauoakalani and Ala Wai Boulevard to the edge of its structure. Views are of the Ala Wai, the Ala Wai Golf Course and the Koolaus.

The Diamond Head Vista, at the corner of Wai Nani and Pualani Way is oriented toward Diamond Head, with only secondary views from walkway corridors across and parallel to the site.

The Waikiki Sunset, has a view corridor which is oriented directly across the project site to the Ala Wai and beyond to the Koolaus. The view angle of the Waikiki Sunset extends from the Ala Wai East on the Ewa side, to the Ala Wailani on the Diamond Head side. A portion of the view is blocked by the 12-story Ala Wailani and the 24-story Canal House. Diamond Head of the Canal House, there is a second view corridor which extends from the Canal House to the edge of the Diamond Head Vista.

The mauka tower of the Waikiki Banyan has a view corridor which is oriented across and parallel to the project site. From the lower floors, there is a view corridor which extends from the Ala Wai East across to the Ala Wailani and from the Canal House to Diamond Head Vista. There are also views Ewa of





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SURROUNDING PROJECTS

HK Liliuokalani - Waikiki

FIGURE

22



the Ala Wai East. The upper floors of the Waikiki Banyan apparently have an unobstructed view across the entire view corridor.

The 250 Ohua condominium building located a block Ewa of the project site on Ohua Avenue, has a partial view corridor across the project site to Diamond Head. This view extends from the Ala Wailani/Canal House on the mauka side to the Diamond Head Vista on the makai side.

The Ala Wai East, located at the corner of Paoakalani and Ala Wai Boulevard, has an unobstructed view corridor across the Ala Wai Canal to the Koolaus. The Ala Wai East also has some secondary views across the project site in the direction of Diamond Head, between the Ala Wailani and Diamond Head Vista.

Views from the golf course side of the Ala Wai Canal across the canal to the project site are of high rise structures surrounding the project site.

As the motorist moves Ewa on Ala Wai Boulevard from Kapahulu Avenue, the project site comes into view and is characterized by ground level views of the existing structures and the heavy vegetation including the existing banyan tree located on the mauka end of the project site.

## 2. Project Impacts:

The proposed project will consist of two 24-story condominium towers and a 4-story parking structure. Views from the project site will be primarily toward the Ala Wai Canal and beyond to the Koolau mountains. The view corridor will span from the Ala Wai East to the Ala Wailani. There may also be some makai views toward Kapiolani Park makai of the Diamond Head Vista project.

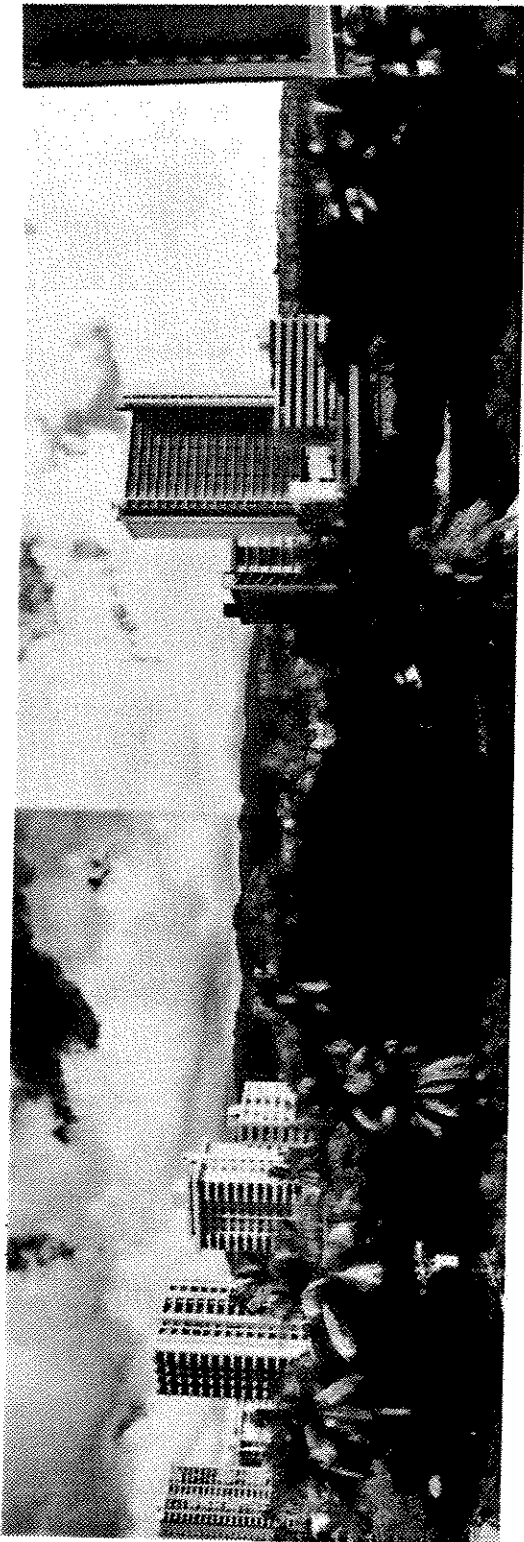
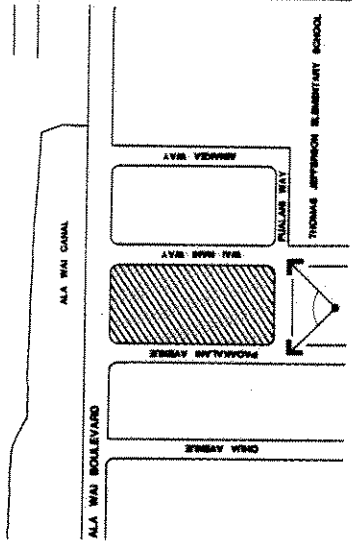
The Ala Wailani will not incur any significant impacts on their view plane. Since the Ala Wailani's views are oriented toward the canal and the mountains, the project should not effect their views to any significant degree.

The Diamond Head Vista project will have some view reduction relating to the secondary views from the corridor side of the building. However, since their primary views are toward Diamond Head and the views across the site which are impacted are only considered to be minor secondary views, the impact upon the Diamond Head Vista project is considered minimal.

Figures 23a and 23b show the impact on views from the Waikiki Sunset. The photograph was taken from the 6th floor recreation deck and is representative of views from all but the highest floors of the Waikiki Sunset. As shown in Figure 23b the remaining view corridor across the site from the Waikiki Sunset includes a small corridor between the two proposed towers and a small corridor along Wai Nani Way between the mauka tower and the Ala Wailani. There is no impairment of views across the corridor between the Canal House and Diamond Head Vista. Views from the upper floors of the Waikiki Sunset may be diminished slightly in the foreground, however, long range views should not be impaired.

Figures 24a and 24b illustrate the view from the 6th floor recreation deck of the Waikiki Banyan. It should be noted that this photograph represents only the view across the project site and does not fully represent the available views toward the mountains from the Waikiki Banyan because of the location of the photograph. Because entry could not be obtained to any of the units at the Waikiki Banyan, photographs were taken from behind the mauka tower. As shown in the photograph, there will be a partial reduction of views across the site from the Waikiki Banyan, however, the reduction is not considered major. There may also be some reduction in views in a Diamond Head direction between the Canal House and Diamond Head Vista. These views are considered secondary and therefore the impacts are minor.

Views across the project site toward Diamond Head from the 250 Ohua building may be diminished.



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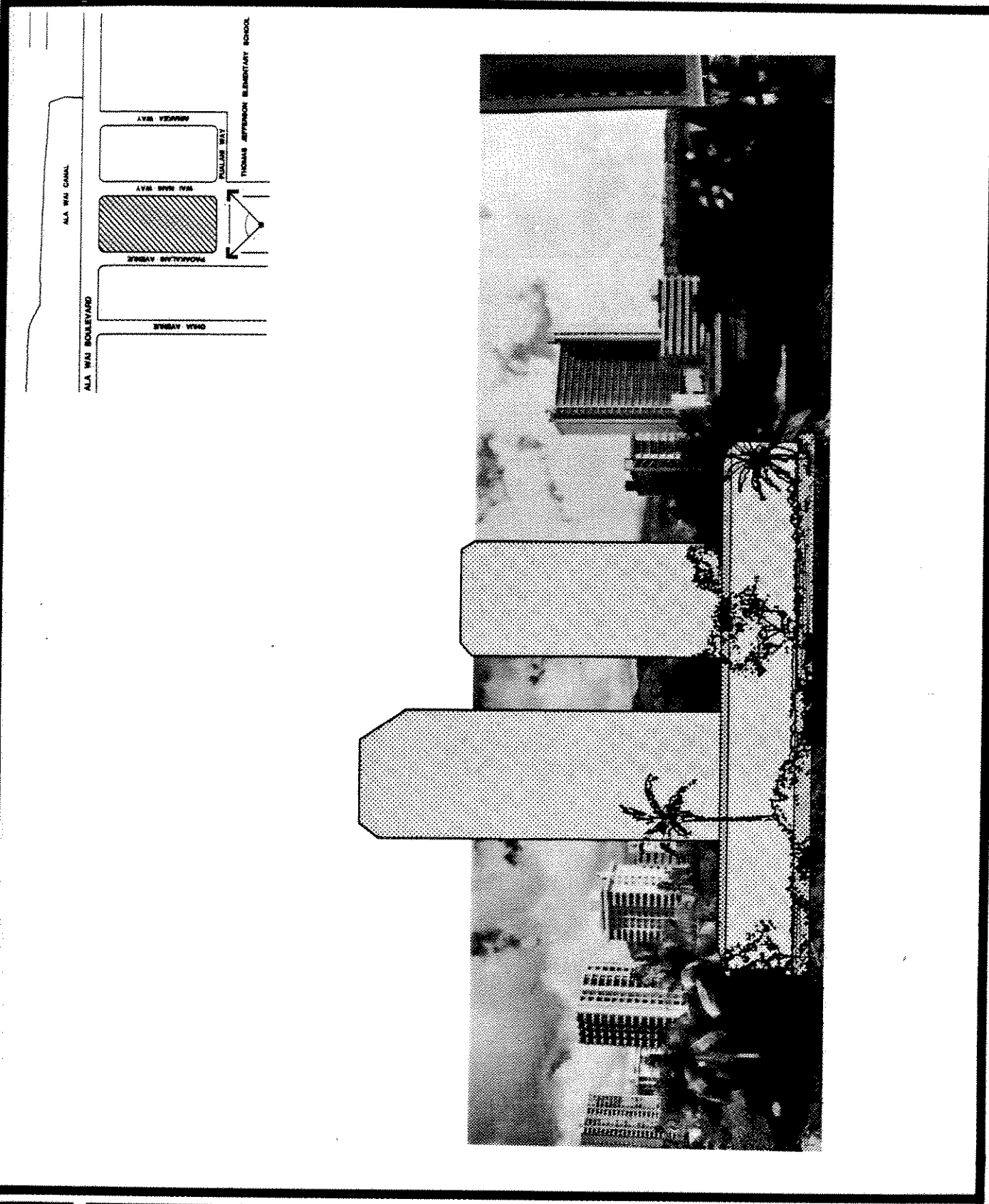
EXISTING MAUKA VIEW FROM WAIKIKI SUNSET

HK Liliuokalani - Waikiki

FIGURE

23a

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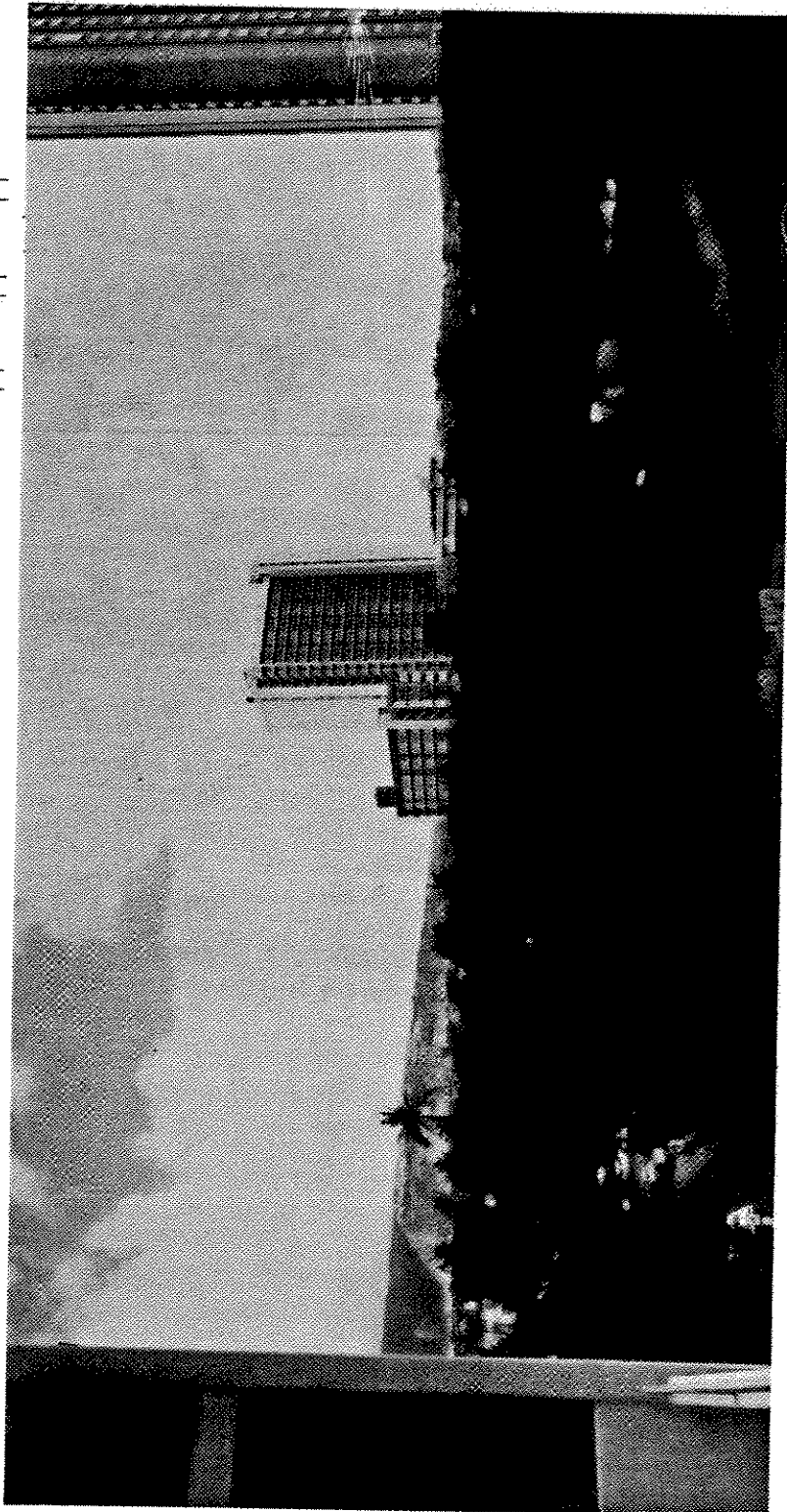
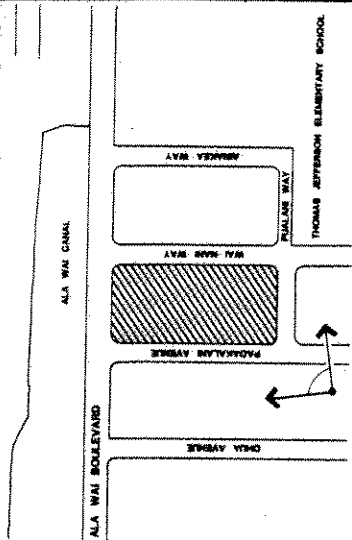
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FUTURE MAUKA VIEW FROM WAIKIKI SUNSET  
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FIGURE  
**23b**







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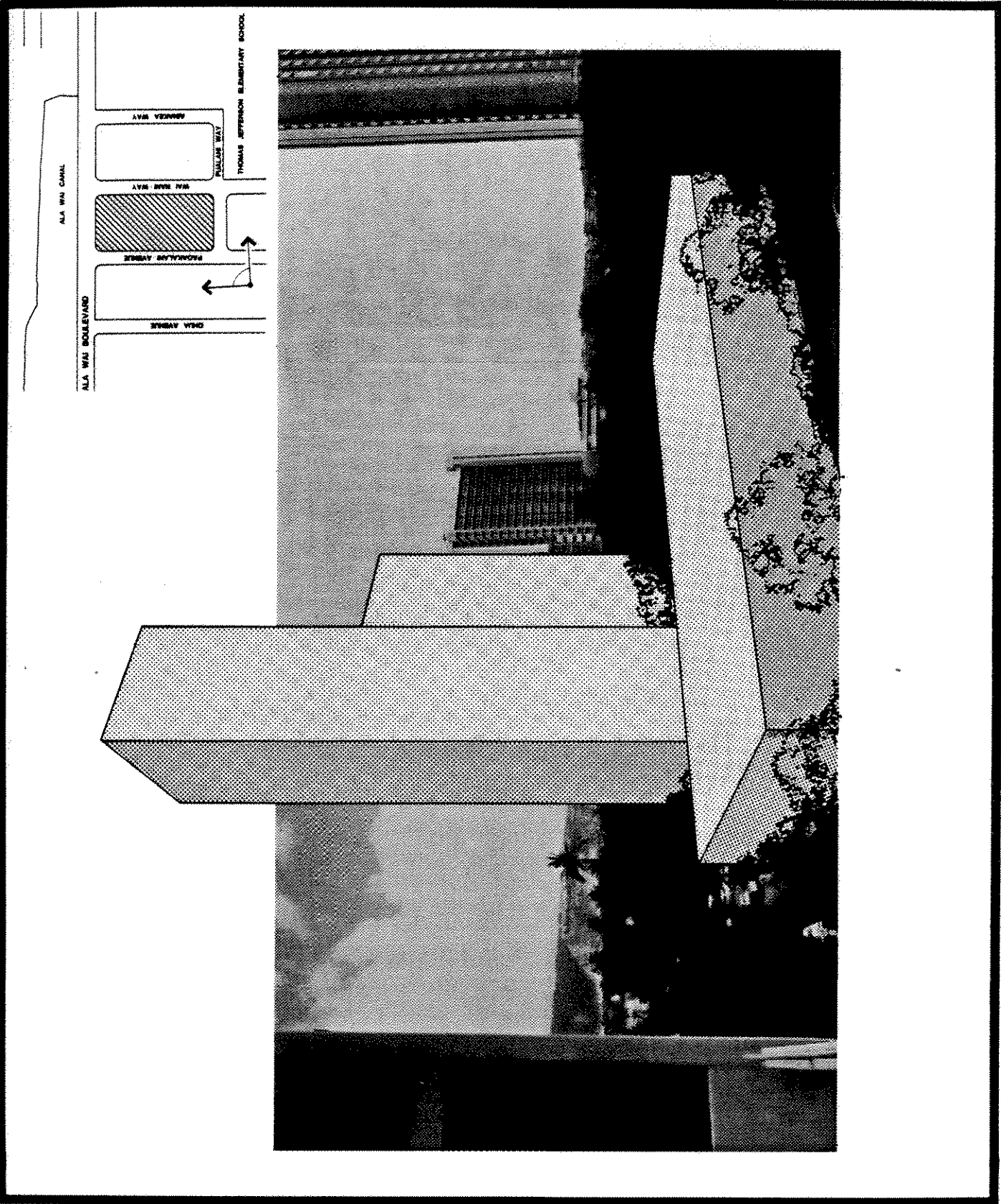
EXISTING MAUKA VIEW  
FROM WAIKIKI BANYAN

HK Liliuokalani - Waikiki,

FIGURE

24a





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FUTURE MAUKA VIEW FROM WAIKIKI BANYAN  
HK Liliuokalani - Waikiki

FIGURE  
**24b**



Views from the Ala Wai East apartment building should not be impacted significantly by the proposed project. Secondary views between the Ala Wailani and Diamond Head Vista across the project site may be significantly impacted.

Views from across the Ala Wai Canal in the golf course area, toward the project site will be shortened, however, since the existing views are primarily of structures, the visual impacts are not considered significant (see Figures 25a and 25b).

Views for the motorist or pedestrian moving Ewa along Ala Wai Boulevard, as shown in Figures 26a and 26b, will be altered by the construction of the mauka tower. However, since there will be significant landscaping around the project site, much of which will be oriented toward the pedestrian, this impact is not considered significant. The existing banyan on the mauka end of the property will be retained as a visual focal point.

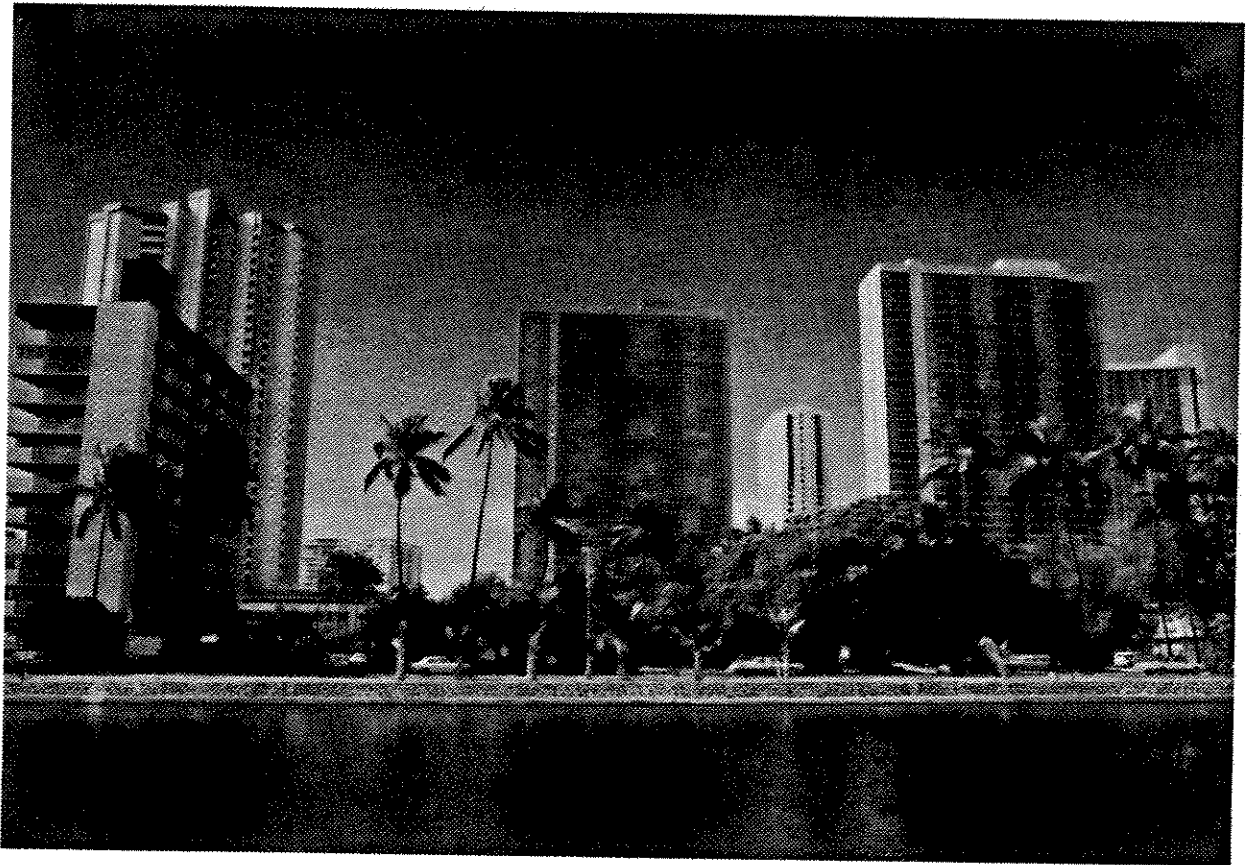
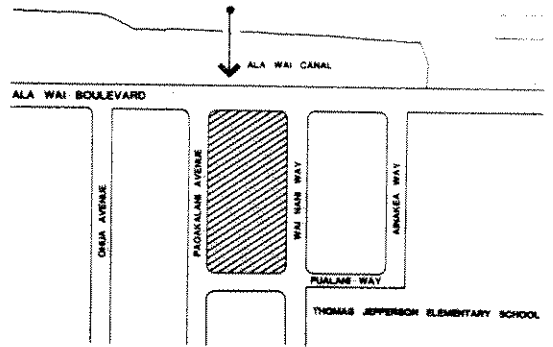
Views into the site from the surrounding street level areas will be altered significantly. However, except for the areas occupied by the entryway and parking structure, the alterations to these areas are not considered detrimental. There will be considerable ground level landscaping oriented toward the street level areas, which should provide aesthetically pleasing visual environment at the ground level.

### 3. Mitigation Measures:

In order to minimize the obstruction of views across the site, and considering that the major view corridors around the site were in the mauka direction, the two towers proposed for the project have been oriented in a mauka/makai direction. They have also been separated into two towers, rather than one long, massive wall-like tower. This allows for penetration through the site between the two towers. The two towers have also been offset to allow for visual penetration in all four directions through the site.

As stated before, the project will include extensive landscaping which will be used to buffer the visually less attractive portions of the project such as the parking structure.





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EXISTING VIEW ACROSS ALA WAI  
CANAL TOWARD SITE

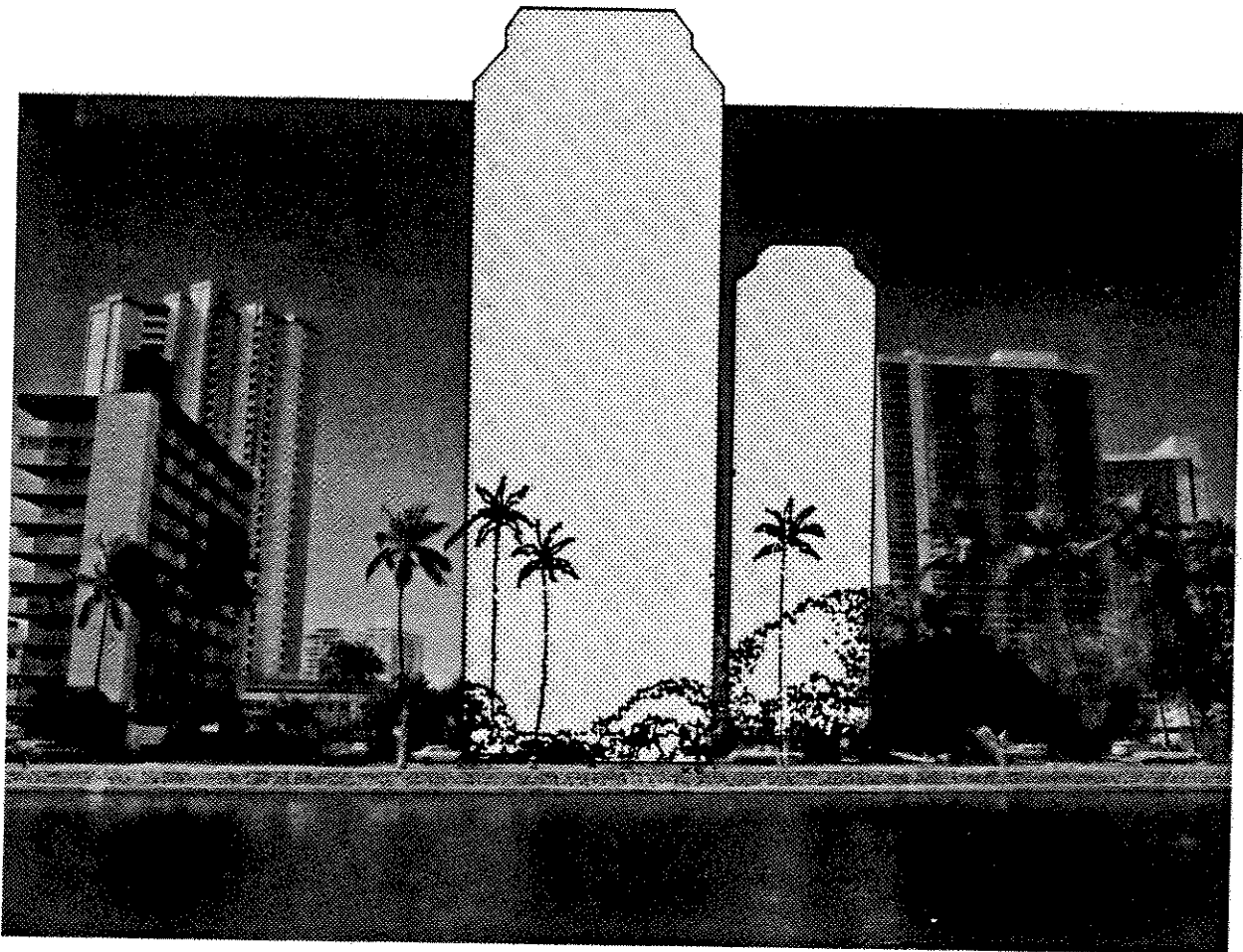
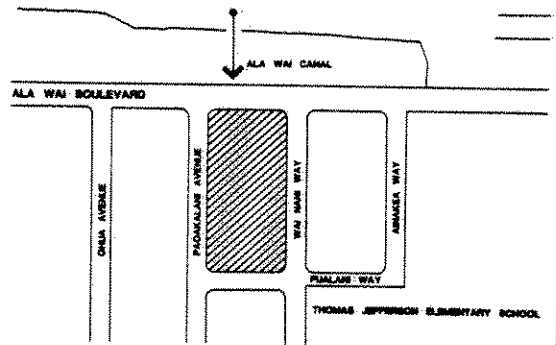
HK Liliuokalani - Waikiki

FIGURE

25a







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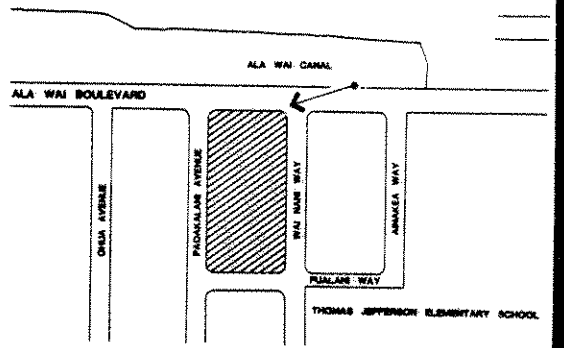
FUTURE VIEW ACROSS ALA WAI  
CANAL TOWARD SITE

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FIGURE

**25b**





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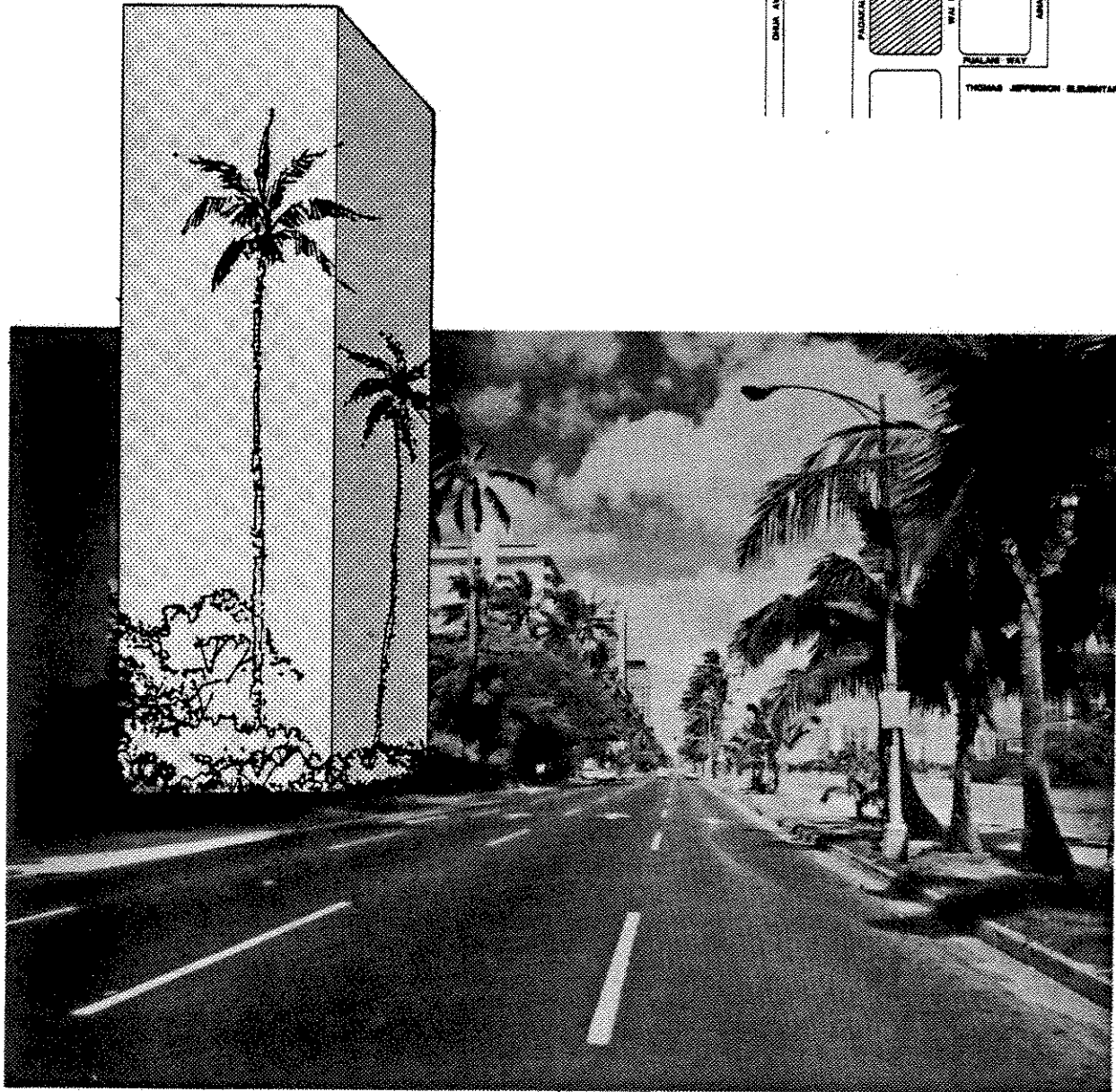
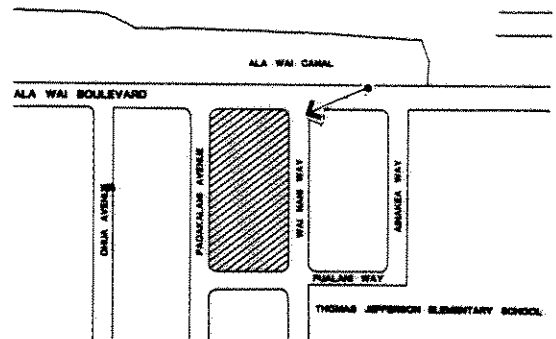
EXISTING VIEW FROM ALA WAI BLVD.

HK Liliuokalani - Waikiki

FIGURE

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FUTURE VIEW FROM ALA WAI BLVD.

HK Liliuokalani - Waikiki

FIGURE

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The substantial landscaping will also provide an attractive streetscape and visual environment for those existing residents surrounding the site whose view is toward or across the project site.

N. SOCIO-ECONOMICS:

1. Existing Environmental Setting:

Population information regarding the project site is difficult to obtain. Census information is available from the 1970 census, however since it is 10 years old, it was felt to be outdated and generally not of use. Based upon a list of the present tenants now living on the site, provided by the Liliuokalani Trust, it is known that there are presently 26 rental units, generally described as single-family attached/detached, located on the property. These units, which are generally small cottage and apartment-sized units with a few larger single-family type units, range in size from about 385 square feet up to 2200 square feet. The majority of the units are below 850 square feet.

All of the units are presently owned by the Liliuokalani Trust and are rented on a month-to-month basis. Rents range from a low of \$65.00 to a high of \$185.00 per month. All tenants will be given at least 90 days' notice to vacate prior to commencement of construction activities.

Based upon a 1975 household survey conducted by the Department of General Planning of the City and County of Honolulu, a range of household populations can be applied to the existing number of dwelling units to provide a range for the existing population on the site. Two sets of figures were used from this 1975 survey. The first set is for census tract 18 which covers the project area, as well as the area bounded by Kalakaua Avenue, Kapahulu Avenue, the Ala Wai and Liliuokalani Avenue. According to this survey, the average number of persons per household in multiple family units is 1.8 persons. The island-wide figure for multiple family units is 2.1 persons. Since this area of Waikiki is primarily one which is developed in high rise condominium apartment units, a second

area was examined which was felt to be of a character closer to that of the project site. This area was census track 24, located in the McCully/Moiliili area and bounded by King Street, Husten Street, Kapiolani Boulevard and McCully Street. Figures for this area show that the average number of persons per household in multiple family units is 2.0. The average number of persons per household in single-family dwelling units is 3.2.

Based upon these figures, it can be estimated that the number of persons per household in the project site is between 2.0 and 3.2 persons. The Department of General Planning also advises that since 1975, the average number of persons per household has gone down slightly and that these figures should be lowered by approximately 10%. Based upon this, the average household range would be between 1.8 persons per household and 2.9 persons per household. Based upon 26 dwelling units, it can be estimated that there are between 47 and 75 persons now living in units on the project site.

Based upon a visual survey of the site as well as the rent figures provided, it is likely that the residents are of low and moderate income categories.

Data provided by the Department of Social Services and Housing, based upon April 1977 data, show that the total number of people living in census track 18 was 5300. At that time, there were 592 welfare cases covering 977 individuals. These were broken down as follows:

Aged, blind, disabled -	71
Unemployed -	4
General assistance single -	183
General assistance children -	4
General assistance family -	11
Foster children -	4
Medical benefits -	40
Supplemental security income -	14
Food stamps -	109
Aid to families with dependent children -	152



According to the Department of Social Services and Housing, the data are not broken down by block so the number on the subject property is not known. However, this would indicate that 18% of the people on the block are on welfare, or 8 to 14 persons.

Also presently located on the project site are the Waikiki Community Center and the Waikiki Health Center. The Waikiki Health Center rents a structure which is approximately 1400 square feet at a monthly rent of \$90.00. The Waikiki Community Center occupies a 2,000 square foot building, and also includes a play area of approximately 2,600 square feet. Their present rent is \$500.00 per month.

2. Project Impacts:

As a result of the proposed project, all of the existing structures will be demolished. Therefore, all of the existing residents will have to be relocated, as will the Waikiki Community Center and Waikiki Health Center.

Because of the relatively low rents which most tenants are presently paying, and the generally high cost of rental units throughout the Honolulu area, relocation may be difficult for many of the present residents. Comparable units at comparable rental prices represent a very small portion of the Honolulu rental market.

Also as a result of the proposed project, the Waikiki Community Center and the Waikiki Health Center will be forced to relocate. At the present time, both organizations are actively seeking new quarters. Ms. Gerri Lee, Executive Director of the Waikiki Community Center and Mr. Frank Chong, Executive Director of the Waikiki Health Center are working together to find alternative locations. Hasegawa Komuten (USA) is also seeking to cooperate with them in finding a new location for these organizations.

One alternative which has been discussed and proposed, is a multi-purpose Waikiki Community Center which would include low and moderate income housing and space for business and community services. The Center, would be located on Kuhio Avenue

between Keolu and Lewers Streets. It would house the Waikiki Community Center, the Waikiki Health Center as well as other service organizations.

The number of dwelling units on the project site will increase from 26 to 366 upon completion of the proposed project. This is an increase of 340 dwelling units. Based upon the Department of General Planning figures for multiple family households within the census tract in which the project is located, the population of the project should be approximately 1.8 persons per household times 366 units, minus 10%, or 593 persons. This would mean a net increase in population upon the site from between 52 and 75 persons to 593 persons. This is a total increase of approximately 530 residents.

Based upon a study of the existing projects, it is expected that ultimately approximately 25% of the units in the project will be owner-occupants, and 75% will be investor-owned. Initially, Act 189 of SLH 1980 requires that 50% of the units will be offered to owner-occupants.

As stated earlier, the units will sell for between \$100,000 and \$300,000. Therefore, it is logical to assume that the owners will be of moderate and high income.

Other short-term socio-economic impacts of the project are anticipated to be the positive effects of providing jobs to the local industry.

It is estimated that during the 20-24 month construction period, a peak of 200 construction workers will be employed on the project at any one time. Direct incomes to be derived from workers' salaries are expected to exceed \$12 million.

Projected construction costs for the project have been estimated at \$30,000,000, the majority of which can be expected to be spent on local labor, materials, equipment and supplies.

A long term positive benefit which will be realized from the project will be the creation of several permanent jobs. These will include 1-2 resident managers, 1-2 groundskeepers and several security oriented jobs.

3. Mitigation Measures:

In order to minimize the disruption of services provided by the Waikiki Health Center and the Waikiki Community Center, and to facilitate their relocation, Hasegawa Komuten (USA) is attempting to cooperate with these organizations in finding new quarters.

0. AIR SPACE:

1. Existing Environmental Setting:

The Federal Aviation Administration has the responsibility for protecting the air space from intrusion of structures which may be a hazard to air navigation.

2. Project Impact:

There are no conflicts with Federal Aviation Administration air space requirements.

The FAA was contacted by submittal of FAA Form 7460-1 which is a Notice of Proposed Construction or Alteration to determine any possible conflicts with use of the air space. The FAA indicated that there would be no conflicts (see response in Section X).

3. Mitigation Measures:

While there are no impacts, the FAA requires that the towers be obstruction lighted per FAA Advisory Circular 70/7460-4, Chapters 4, 5 and 9.

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V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED:

Potentially adverse effects which are anticipated to occur as a result of the proposed project include those described in the previous sections. In most cases, the potential adverse effects resulting from the project are either minimal or can be minimized through the use of proper mitigation measures. However, there are some potentially adverse effects which can either be not completely minimized through mitigation measures or are unavoidable. These include:

1. Short term noise impacts resulting from pile driving and other construction activities.
2. Short term dust and erosion impacts resulting from construction activities.
3. Possible increased demand for police and other community supplied services.
4. Contribution to the increasing traffic volumes in Waikiki resulting in changes by users to accomodate the total demand due to a lack of roadway capacity.
5. Increased traffic noise levels on Wai Nani Way and Pualani Way, although they will still be within acceptable State standards.
6. Direct air pollutant emissions in the forms of fugitive dust and indirect emissions, especially carbon monoxide, from vehicles used by future residents of the project.
7. Some blockage of views from surrounding high rise condominium/ apartment developments including the Waikiki Sunset, Waikiki Banyan, 250 Ohua, and Ala Wai East.
8. Required relocation of existing residents, as well as the Waikiki Community Center and Waikiki Health Center.

Of the above unavoidable effects, many of these items are effects which ordinarily accompany any large scale development, especially in an area such as Waikiki. Rationale for proceeding with the project includes the positive beneficial impacts which are expected from the project balanced with the moderate level to which these adverse effects are expected to occur, and the level that these unavoidable effects persist throughout Waikiki.

Some of the beneficial effects of the project include:

1. The addition of a high quality residential environment to the Waikiki and Honolulu area.
2. Increase in the available amount of housing units in an area where the demand for housing is high.
3. A sizeable number of short term jobs created as well as the creation of several permanent jobs.
4. The desire of the developer to maximize the development opportunities for the project site as provided by the Waikiki Special Design District ordinance.

VI. ALTERNATIVES TO THE PROPOSED PLAN:

A. THE PROPOSED PROJECT:

The project scope and design was chosen by the Liliuokalani Trust from 18 alternatives. These various design alternatives were submitted to the Trust as part of a competition to select a developer for the project site.

The 18 alternatives which were considered included a variety of one and two tower schemes with various site plans. However, while it may have been possible to develop other uses on the site, the proposed use was predetermined by the property owner upon initiation of the design competition.

Having been given a predetermined use, the developer and design team developed, based on the requirements and limitations of the WSDD Ordinance, the proposed design scheme.

As stated earlier in the project description, the proposed site plan and tower design were determined based upon many factors, including views, height restrictions, urban design considerations (avoiding a one-tower "wall" effect) and others.

B. SAME USE - ALTERNATIVE DESIGN:

As stated above, the proposed design was chosen from 18 alternatives. The desired density, coupled with the WSDD requirements and site considerations dictated that either a one or two tower scheme be used. Based upon a thorough evaluation of design alternatives, the two tower scheme was chosen.

By developing two towers instead of a single tower, a wall effect is avoided, by breaking up the mass into smaller towers which are separated to allow visual penetration through the site.

Also, the towers, parking garage and entrance were placed as proposed based upon such factors as views, traffic, access, and building massing relationships.

C. SAME USE - LESS INTENSITY:

Based upon site conditions and the WSDD requirements, an alternative consisting of the same residential use, developed at a lower density is possible. Alternatives include low rise, mid rise or a reduced high rise scheme.

However, based upon the exceptionally high value of the land upon which the project is proposed and the desire of the project developer to maximize the economic return on his investment, this alternative was decided to be unfeasible.

D. SAME USE - GREATER INTENSITY:

The proposed alternative maximizes the amount of development allowed under the restrictions of the WSDD Ordinance. Because of these restrictions, a development of greater intensity is legally impossible.

E. OTHER USES OF THE PROJECT SITE:

Several other uses are allowed in the Apartment Precinct of the WSDD. These include single family dwellings, schools, clubs, art galleries, and recreational facilities. In this case, however, the proposed use was predetermined for the developer by the Liliuokalani Trust at the time of the design competition.

F. NO PROJECT:

The decision to develop the project site was made by the property owner based upon economic considerations, escalating land values and the demand for housing in the Honolulu/Waikiki area.

Based upon these factors, a no project alternative would restrict the property owner from making use of his land in an economically feasible manner.



VII. LONG-TERM PRODUCTIVITY VS. SHORT-TERM USES:

The long term policy documents which express the City and County's goals and plans for the future of Waikiki include the Waikiki Special Design District ordinance and the proposed development plans. As the WSDD designates the project area for apartment use, and the proposed development plans indicate a designation of medium density apartment, the proposed use of the site would seem to be consistent with long range County goals.

Many other State and County policies seek to encourage the development of a wide range of housing opportunities for the residents of Oahu. The proposed project in part fulfills these policies. In order to provide needed housing, it is necessary to make a long term commitment of land resources. However, it would seem to be a reasonable trade-off to commit prime urban land to a use which is consistent with State and County goals even though it requires the long-range commitment of that land.



VIII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES:

The proposed project will involve the commitment of labor, capital and raw materials. The land upon which the project will be constructed will be committed for the existence of the development. While some portions of the site will not be covered by structures, the entire site including landscaped areas will be committed for the same period.

Construction of the proposed development will not entail destruction or adverse impacts on natural or cultural resources. It will not entail destruction or removal of significant archaeological or historical resources nor of rare or endangered vegetation or animal species.



IX. OTHER INTERESTS AND CONSIDERATIONS OF GOVERNMENTAL POLICIES:

The purpose of this section is to indicate what other interests and considerations of governmental policies are thought to offset the identified environmental effects of the proposed project.

It is the written and stated objective of both the State and County governments to provide additional housing for the population of Hawaii. Objective C under Housing of the City and County of Honolulu General Plan states, "To provide the people of Oahu with a choice of living environments which are reasonably close to employment, recreation and commercial centers which are adequately served by public utilities."

Policy C-1 under Population in the General Plan states, "Facilitate the full development of the primary urban center."

The most significant manner in which the proposed project fulfills government policies and thus tends to offset any of the negative effects of the project is through the satisfaction of the State and County goals which encourage the development of various types of housing in locations which are close to complementary land uses such as employment centers, recreation activities and commercial and business centers.



X. ORGANIZATIONS AND PERSONS INVOLVED:

A. ORGANIZATIONS AND PERSONS CONTACTED:

FEDERAL:

- U.S. Army Corps of Engineers
- Federal Aviation Administration

STATE:

- Rep. Kinau B. Kamalii
- Dept. of Social Services and Housing
- University of Hawaii  
Water Resources Research Center
- Department of Education
- Department of Transportation
- Department of Taxation
- Rep. Paul L. Lacy
- Senator Neil Abercrombie
- Senator John S. Carroll
- Senator Anson Chong
- Senator Wadsworth Y. H. Yee
- Office of Environmental Quality Control
- Department of Health
- Department of Land & Natural Resources
- Department of Planning & Economic Development
- State Historic Preservation Officer
- Environmental Center  
University of Hawaii Manoa

CITY:

- Honolulu Police Department
- Honolulu Fire Department
- Board of Water Supply
- Department of Housing and Community Development
- Councilman Hiram Fong
- Councilwoman Marilyn Bornhorst
- Department of Transportation Services
- Department of Public Works
- Building Department
- Department of Parks & Recreation
- Department of Land Utilization
- Department of General Planning

OTHER:

- American Planning Association
- Waikiki Residents Association
- American Institute of Architects
- Life of the Land
- Hawaii Visitors Bureau
- Hawaii Hotel Association
- American Lung Association of Hawaii
- Waikiki Improvement Association
- Outdoor Circle
- Historic Hawaii Foundation
- Waikiki Neighborhood Board





B. PERSONS AND FIRMS RESPONSIBLE FOR THE PREPARATION OF THIS EIS:

Architects Hawaii, Ltd. - Planning, Architecture and Project  
Management

Richard M. Libbey, Inc. - Structural

Austin Tsutsumi & Associates, Inc. - Civil Engineering

Ferris & Hamig, Inc. - Mechanical Engineering

Bennett & Drane - Electrical Engineering

Electrical Engineers, Ltd.

Woolsey, Miyabara & Associates, Inc. - Landscape Architecture

Dames & Moore - Soils and Subsurface Geology

Darby-Ebisu & Associates - Acoustical Consultants

Parsons Brinckerhoff Quade & Douglas, Inc. - Traffic Engineering

Barry D. Root - Air Pollution Consultant



COMMENTS AND RESPONSES

LETTERS

On the following pages are letters received in response to the Notice of EIS Preparation which was distributed.



DEPARTMENT OF THE ARMY  
 U. S. ARMY ENGINEER DISTRICT, HONOLULU  
 BUILDING 230  
 FT. SHAFTER, HAWAII 96888

17 October 1980

Mr. Mel Roop, Associate  
 Architects Hawaii Ltd.  
 Pacific Trade Center, Suite 300  
 190 South King Street  
 Honolulu, HI 96813

Dear Mr. Roop:

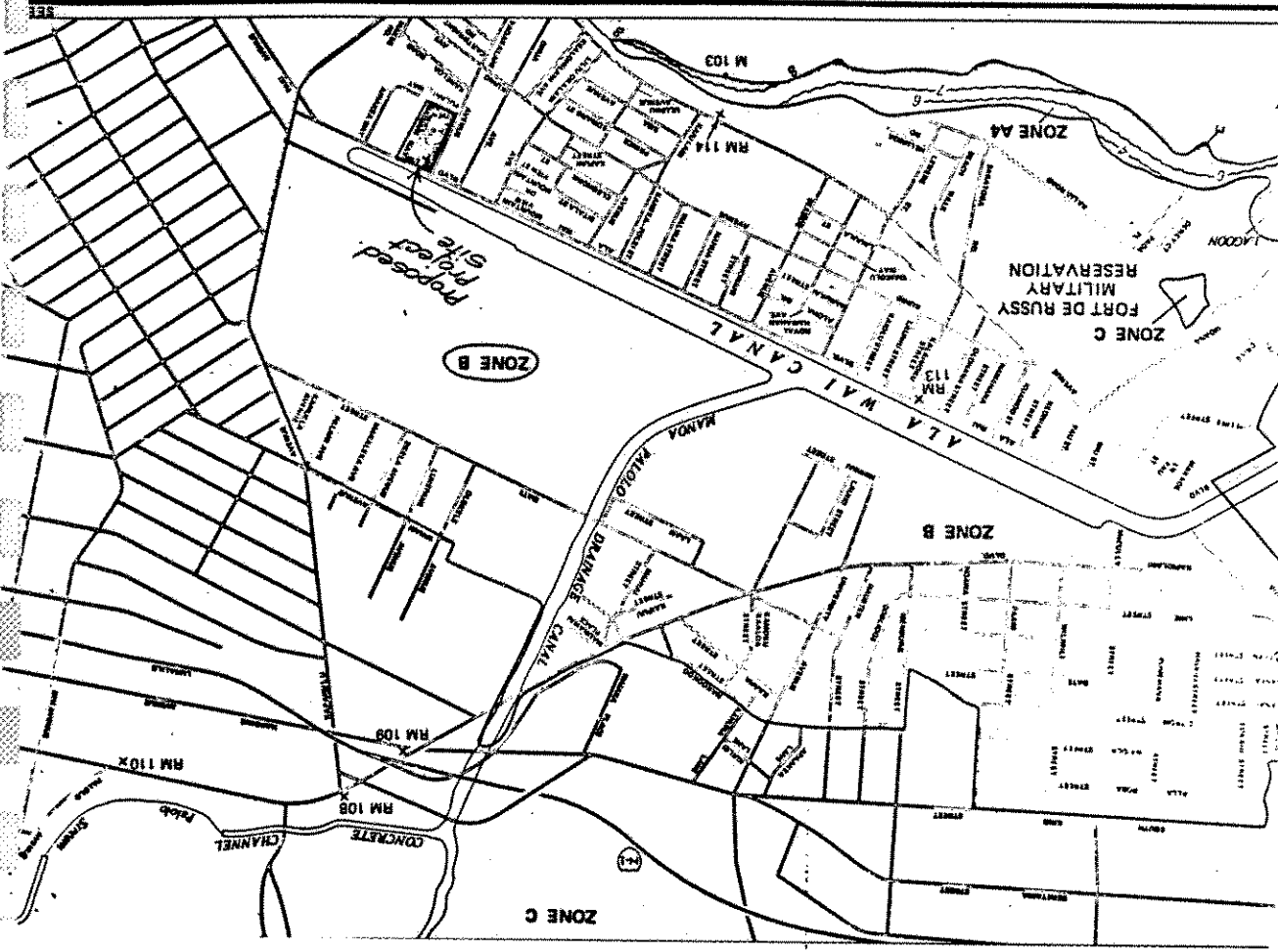
We have reviewed your Notice of Preparation for an Environmental Impact Statement for a Proposed Condominium Project in Waikiki, sent to us on 6 October 1980, and we have prepared the following comments. There are no U.S. Army Corps of Engineers projects that would be affected by your proposed project, and there are no Corps regulatory requirements that are applicable. The project site is situated in an area designated Zone B under the Flood Insurance Study for the Island of Oahu, prepared by the Federal Insurance Administration. Zone B is defined as the areas between limits of the 100-year and 500-year flood; or certain areas subject to 100-year flooding with average depths less than 1 foot. The 100-year and 500-year floods refer to events that have a 1 percent and 0.2 percent chance, respectively, of occurring in any given year. They are also referred to as the 1 percent and 0.2 percent floods. See the attached Flood Insurance Rate Map of the Waikiki area which identifies the flood hazard areas (Incl 1).

Thank you for the opportunity to comment on your Notice of Preparation.

Sincerely,

*Kisuk Cheung*  
 KISUK CHEUNG  
 Chief, Engineering Division

1 Incl  
 As stated



DO NOT REMOVE CARBONS

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

**NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION**

Form Approved O.M.B. No. 94-80801  
FOR FAA USE ONLY  
AERONAUTICAL STUDY NO. 80-APC-56-OE

1. TYPE  
 NEW CONSTRUCTION  
 ALTERATION

2. NAME AND ADDRESS OF INDIVIDUAL, COMPANY, CORPORATION, ETC. PROPOSING THE CONSTRUCTION OR ALTERATION (Number, Street, City, State and Zip Code)  
Architects Hawaii Ltd.  
190 S. King Street, Suite 300  
Honolulu HI 96813

3. COMPLETE DESCRIPTION OF STRUCTURE (Include effective radiated power, of proposed or modified antenna, and equipped frequency, site and configuration of power transmission line in vicinity of A-F facilities as appropriate).  
Two 24 story apartment buildings, each with a maximum height of 220 feet.

4. COORDINATES (In decimal degrees)  
LATITUDE 21 16 54 157 49 26  
LONGITUDE 157 49 26

5. NEAREST CITY OR TOWN, AND STATE  
Honolulu, Hawaii

6. LOCATION OF STRUCTURE  
NAME OF NEAREST AIRPORT, HELIPORT, OR SEAPLANE BASE  
Ala Wai Heliport  
DISTANCE FROM AS 0 MILES  
(1) DISTANCE FROM NEAREST POINT OF NEAREST RUNWAY 7,400'  
(2) DIRECTION FROM AS SOUTHWEST

7. ELEVATION OF SITE ABOVE MEAN SEA LEVEL  
HEIGHT OF STRUCTURE INCLUDING APPURTENANCES AND LIGHTING  
OVERALL HEIGHT ABOVE MEAN SEA LEVEL (A + B)

8. HEIGHT AND ELEVATION (Longitude A, B and C to the nearest foot)  
A. MARKED OBSTRUCTION WITH CURRENT FAA CIRCULAR 75/7468-1, OBSTRUCTION MARKING AND LIGHTING  
B. AVIATION RED OBSTRUCTION LIGHTS  
C. HIGH INTENSITY WHITE OBSTRUCTION LIGHTS  
D. DUAL LIGHTING SYSTEM

9. DATE 11/4/80  
TELEPHONE (Office area code)  
(808) 523-9636  
TYPED NAME/TITLE OF PERSON FILING NOTICE  
Kevin Young, Planner  
SIGNATURE  
Kevin Young

10. DATE OF EXPIRATION OF NOTICE  
NOT TO EXCEED FEBRUARY 1982  
NOT TO EXCEED December 1983

11. HAZARD CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge.

12. NOTICE as required by Part 77 of the Federal Aviation Regulations (14 C.F.R. Part 77) pursuant to Section 1101 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1101). Persons who knowingly and willfully violate the notice requirements of Part 77 are subject to a fine (criminal penalty) of not more than \$300 for the first offense and not more than \$2,000 for subsequent offenses, pursuant to Section 902(a) of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1472(a)).

FAA Form 7460-1 (8-77) SUPERSEDES PREVIOUS EDITION



DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamatu Building 250 South King St. Honolulu, Hawaii - Mailing Address, P.O. Box 2359 Honolulu, Hawaii 96804

October 24, 1980

Ref. No. 2268

Mr. Neil Roop  
Architects Hawaii, Ltd.  
Pacific Trade Center, Suite 300  
130 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

SUBJECT: Preparation Notice of the Environmental Impact Statement for a Proposed Condominium Project in Maikiki, Oahu

Thank you for giving us the opportunity to review the subject EIS Preparation Notice.

We have no specific remarks to offer at this time but would like the privilege of commenting further when the draft EIS statement is available for review.

Sincerely,

Hideto Kono

GEORGE R. ARIYOSHI  
Country Director  
HIDETO KONO  
Director  
FRANK SRIRIVANEK  
Region Director



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 561  
HONOLULU, HAWAII 96809

SUSUMU ONO, CHAIRMAN  
BOARD OF LAND & NATURAL RESOURCES  
EDUAR A. HAMAHEU  
DEPUTY TO THE CHAIRMAN  
DIVISIONS:  
CONSERVATION AND ENFORCEMENT  
CONSERVATION  
FORESTRY  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

OCT 22 1980

Mr. Mel Roop  
Architects Hawaii, Ltd.  
Pacific Trade Center, Suite 300  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

SUBJECT: EIS Proposed Condominium  
Waikiki, Oahu  
TMK: 2-6-28:49

Thank you for giving our office the opportunity to comment on the proposed undertaking. More than ten Hawaiian burials have been discovered during construction projects in Waikiki, and it is possible that human bones will be encountered during the early phases of the proposed development. We know very little about the burials uncovered in the past because of the manner they were excavated and reported.

Recent archaeological research in Waikiki has shown that significant archaeological deposits exist in the area, especially historic trash dumps from the late 1800's. It is worth pointing out that a residence of Queen Liliuokalani was located adjacent to the area of the proposed undertaking.


Our historic preservation concerns are not necessarily incompatible with the proposed development. One alternative would be to conduct archaeological testing in the area prior to construction. However, such testing could not guarantee that burials and other important archaeological deposits would not be discovered and destroyed during construction. Another alternative would be to hire an archaeological consultant to monitor construction activities and to write a report on the features such as burials, trash dumps, and buried irrigation ditches that might be discovered. Another alternative would be to hold up construction activities in those parts of the site where bones and other remains are found until an archaeologist is hired to excavate them.

Mr. Mel Roop  
Page 2

In any event, our office would like to recommend that some kind of plan be devised to mitigate whatever adverse impacts the project may have on archaeological sites.

We suggest an archaeological consultant be hired to monitor the early, excavation phases of construction, do salvage excavations on whatever features are discovered during construction, and submit a final report to our office describing and analyzing the archaeological remains discovered during construction. These historic preservation expenses should be included in the budget of the proposed undertaking. For additional information, contact Ralston Nagata, Director of Historic Preservation Program, or a member of his staff, at 548-7460.

Sincerely yours,

  
Susumu Ono  
Chairman of the Board and  
State Historic Preservation  
Officer



STATE OF HAWAII  
DEPARTMENT OF HEALTH

P.O. BOX 3378  
HONOLULU, HAWAII 96813

October 27, 1980

GEORGE A. L. YUEN  
DIRECTOR OF HEALTH

JOHN F. CHALMERS, M.D.  
DEPUTY DIRECTOR OF HEALTH

HENRY R. THOMPSON, M.A.  
DEPUTY DIRECTOR OF HEALTH

MELVIN K. KOIZUMI  
DEPUTY DIRECTOR OF HEALTH

ARELIKA MADRID SHAW, M.A., J.D.  
DEPUTY DIRECTOR OF HEALTH

Mr. Mel Roop, Associate  
Architects Hawaii Ltd.  
190 S. King St., Suite 300  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Subject: Request for Comments on Proposed Environmental Impact Statement (EIS)  
for a Condominium Project in Waikiki, TMK 2-6-28: 49

Thank you for allowing us to review and comment on the subject proposed EIS.

We submit the following comments for your information and consideration:

1. The proposed project must be designed to comply with the provisions of Public Health Regulations, Chapter 44B, Community Noise Control for Oahu. Noise from equipment such as air conditioning/ventilation units and exhaust units must be attenuated to meet the allowable noise levels of the regulations based on zoning districts.
2. Parking structures or multi-level garages must be designed to control noise, specifically towards tire squeals and vehicular emissions.
3. Noise from activities associated with operations can have an adverse effect on residents in the surrounding neighborhood. An increase in vehicular traffic, including heavy vehicles utilized for deliveries and trash pick-ups may create noise impacts on adjacent residents. The use of landscape buffering/screening plans may provide a reduction in disturbances. Condominium may be affected by heavy bus traffic along Paokalani and Ala Wai.
4. Noise from activities associated with the use of recreational facilities can have adverse effects, in terms of annoyances on adjacent residents. Areas utilized for such usage should be designed to minimize possible noise impacts.
5. Residents of the proposed condominium project may be adversely affected by noise from the surrounding area. These noise sources include vehicular noise from heavy car and bus traffic along Ala Wai and Paokalani, stationary equipment, and various activities from nearby hotels and condominiums.

Mr. Mel Roop

October 27, 1980

-2-

6. Construction activities must comply with the provisions of Public Health Regulations, Chapter 44B, Community Noise Control for Oahu:

- a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the regulations.
  - b. Construction equipment and on-site vehicles or devices requiring an exhaust of gas or air must have a muffler.
  - c. The contractor must comply with the conditional use of the permit as specified in the regulations and the conditions issued with the permit.
7. Traffic noise from heavy vehicles travelling to and from the construction site must be minimized in residential areas and must comply with the provisions of Public Health Regulations, Chapter 44A, Vehicular Noise Control for Oahu.

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

Sincerely,

MELVIN K. KOIZUMI  
Deputy Director for  
Environmental Health



HARRY Y. AKAGI  
ACTING DIRECTOR  
TELEPHONE NO.  
548-8918



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

550 WALEALUANA ST.  
ROOM 301  
HONOLULU, HAWAII 96813

November 5, 1980

Mr. Mel Roop  
Architects Hawaii, Ltd.  
190 South King Street, Suite 300  
Honolulu, Hawaii 96813

Subject: Preparation of an Environmental Impact Statement  
for a Proposed Condominium Project in Waikiki  
TMK: 2-6-28:49

Dear Mr. Roop:

Thank you for the opportunity to participate in the preparation of the EIS. We offer the following comments for your consideration:

The EIS should include a thorough analysis of the traffic impacts that will result from the project both during and after construction. How will the project affect peak hour volumes and daily traffic volumes on Kubio Avenue, Kalakaua Avenue, Ala Wai Boulevard, and Kapahulu Boulevard? Will any nearby roads have to be widened to accommodate increased traffic volumes?

The EIS should also consider domestic water supply. How much water will be necessary? Are water supplies and facilities adequate to meet these needs? Where will the water come from? How will this development affect the sustainable yield of this water system?

The EIS should also discuss noise impacts resulting from construction of the proposed condominium on residents and visitors in nearby condominiums and hotels as well as students at Jefferson Elementary School.

We hope these preliminary comments will be helpful in the preparation of the EIS.

Sincerely,  
  
Harry Y. Akagi  
Acting Director

GEORGE R. AMIYOSH  
GOVERNOR

Paul A. Tom  
EXECUTIVE DIRECTOR

WILLIAM A. HALL  
AMT. ASST. DIRECTOR

IN REPLY REFER

TO: 4-105/2628



STATE OF HAWAII  
DEPARTMENT OF SOCIAL SERVICES AND HOUSING  
HAWAII HOUSING AUTHORITY

P. O. BOX 17807  
HONOLULU, HAWAII 96817

October 28, 1980

Mr. Mel Roop, Associate  
Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

SUBJECT: Preparation of Environmental Impact  
Statement for a Proposed Condominium  
Project in Waikiki, TMK 2-6-28:49

We reviewed the proposed project for the subject property and at present we have no comments on the physical impacts it may impose. We do, however, would like to further comment when more definite dimensions and plans are available.

We also recommend and suggest the social and economic impacts of the project be fully covered in your preparation of the EIS. The types of families to be served, the price ranges, use of Federal and/or State Housing Assistance Program to be utilized, the amenities to be included, etc., should be included and discussed.

We thank you for the opportunity to review and comment on this matter.

Sincerely,  
  
PAUL A. TOM  
Executive Director

cc: Department of Social Services  
& Housing

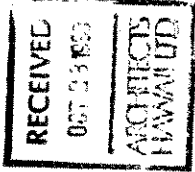
GEORGE R. AMIYOSH  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P. O. BOX 2880  
HONOLULU, HAWAII 96813

OFFICE OF BUSINESS SERVICES

October 23, 1980



Architects Hawaii, Ltd.  
Pacific Trade Center, Suite 300  
190 South King Street  
Honolulu, Hawaii 96813

Attn: Mr. Kevin M. Young, Planner  
Mr. Mel Roop, Associate

Dear Sir:

SUBJECT: EIS Preparation  
Condominium Project: TMK: 2-6-28:49

The subject condominium project will have a negligible effect on schools serving the Waikiki area.

For your information these schools are:

- Jefferson Elementary Grades K-6
- Washington Intermediate Grades 7-9
- McKinley High Grades 10-12

Should there be any further questions, please contact Mr. Howard Lau at 737-5231.

Sincerely,

*J. E. Edington*  
JAMES E. EDINGTON  
Assistant Superintendent

JEE:HL:j1

cc: Honolulu District

AN EQUAL OPPORTUNITY EMPLOYER



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
800 PUNAHONA STREET  
HONOLULU, HAWAII 96813

October 17, 1980

STP 8.6712

IN REPLY REFER TO

DEPUTY DIRECTORS  
JACK K. SUWA  
JAMES R. CARRAS  
JAMES M. HIGASHI  
JONATHAN K. SHIMADA, Ph.D.

Mr. Mel Roop, Associate  
Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Preparation Notice of EIS  
Proposed Condominium Project  
in Waikiki  
TMK: 2-6-28:49

Thank you for informing us of the subject matter.

Please be informed that the proposed project is remote from any of our existing or proposed programs. We suggest that you seek advice from the Department of Transportation Services, City and County of Honolulu.

Very truly yours,  
*Ryokichi Higashionoma*  
RYOKICHI HIGASHIONOMA  
Director of Transportation



**CITY COUNCIL**  
CITY AND COUNTY OF HONOLULU  
HONOLULU, HAWAII 96813 / TELEPHONE 523-4000

MARILYN BORNHORST  
COUNCILWOMAN

October 10, 1980

Mr. Mel Roop  
Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

I appreciate being asked to comment on the Environmental Impact Statement for the proposed condominium at Paokalani Avenue. My concerns are mainly on the social environment.

First, relocation is, I think, something that should be addressed. Not only will a large number of persons be in need of relocation from what is existing affordable housing, but this is the location of the Waikiki Community Center and the Waikiki Health Center. I realize there is no law requiring a private developer to take part in relocation, but I think there is some social concern involved.

My second concern is defensible design. I've been concerned about the street design of neighboring buildings. The buildings that have been built in the immediate neighborhood in the last year or so, it seems to me, create a street space which is very dangerous. The large amount of space fronting pedestrian ways which is blank wall seems dangerous to me. It may be an unfair burden on your property to make up for the design problems of your neighbors, but I hope you will look to the questions of surveillance. I hope that the design will look to ways to make it possible for the public and semi-public areas to be easily overlooked by the people in and around them.

My last thought is horticultural. I realize that a central business district should be composed of high rise buildings very close to each other. I don't think this is true of a resort district-- particularly a resort district with the climate and growing conditions of Waikiki. I realize the problems of providing parking are usually solved by building four or five stories of parking garage. I think you would make a real contribution to the area if you figure some way to create a ground level garden that is visible to the public.

Mr. Mel Roop  
October 10, 1980  
Page 2

Yours will be, to my knowledge, the first major apartment development to be done under the Waikiki Special Design District. I hope it will be a beautiful example of what can happen for the remaining development of Waikiki.

Thank you very much for allowing me to comment.

Sincerely,

MARILYN BORNHORST  
Councilwoman

ma

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

880 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK P. PARI  
MAYOR

WALLACE MIYAHIRA  
DIRECTOR AND CHIEF ENGINEER

ENV 80-307

October 16, 1980

Mr. Mel Roop  
Architects Hawaii Ltd.  
190 S. King Street  
Pacific Trade Center, Suite 300  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Re: EIS Preparation Notice For A Proposed  
Condominium Project in Waikiki  
Tax Map Key: 2-6-28: 49

The EIS that is being prepared for the subject project should cover solid waste, sewerage, drainage, grading, and street improvements. Specific comments are as follows:

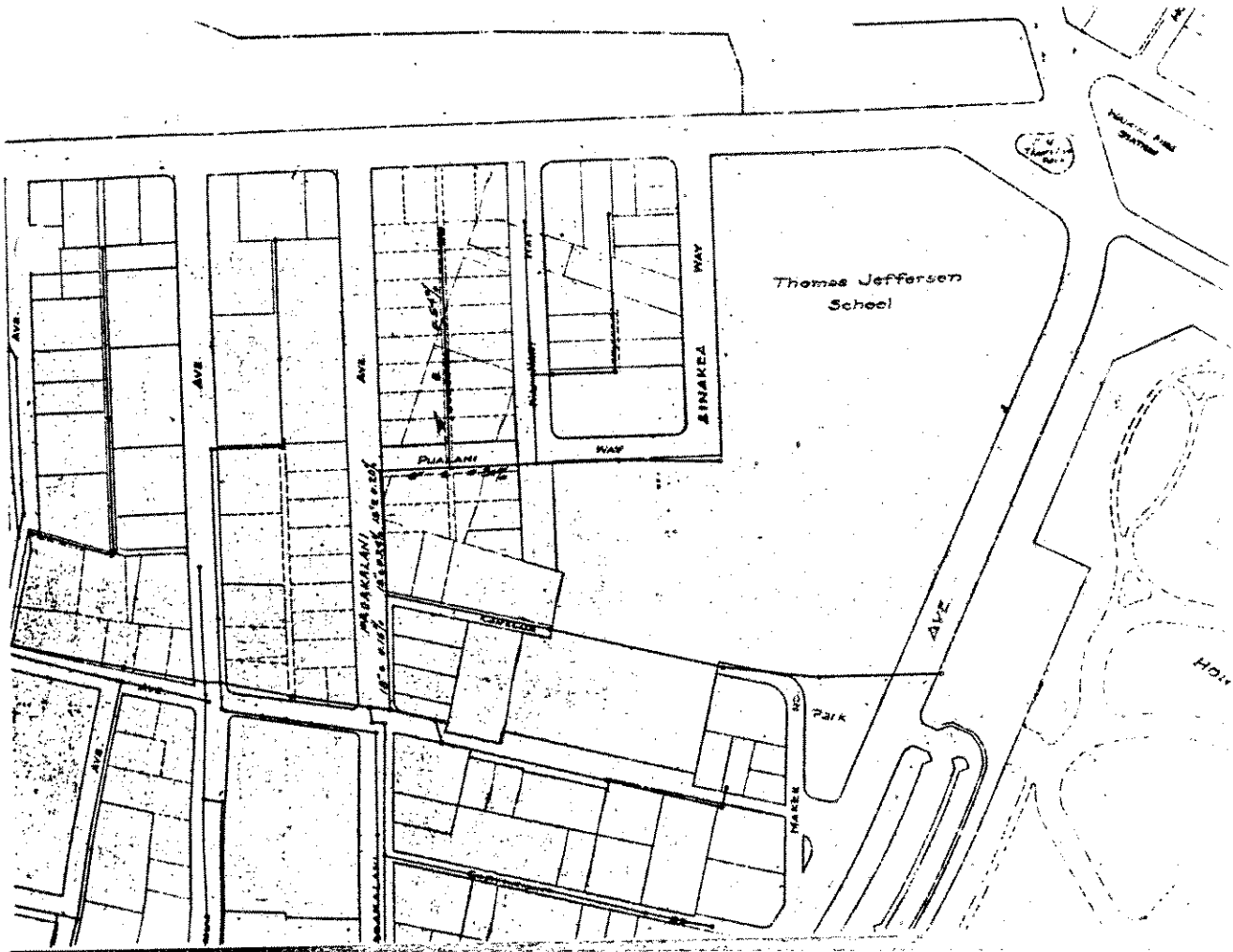
1. The existing 8-inch sewer line within the property and on Pualani Way will be inadequate to accommodate the flows from the proposed development. We suggest that the flows from the project be directed to the 15-inch line on Paokalani Avenue and the 8-inch line within the property be abandoned. (See attached map.)
2. An internal storm drainage system should be provided and connected to an existing street system. Direct storm runoff onto the street is not recommended.
3. The necessary frontage improvements will be required under Ordinance No. 2412.

Very truly yours,

*Wallace Miyahira*  
WALLACE MIYAHIRA  
Director and Chief Engineer

Attach.

cc: Div. of Engineering  
Div. of Wastewater Management



POLICE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

1495 SOUTH BERETANIA STREET  
HONOLULU, HAWAII 96813 AREA CODE (808) 968-4111

FRANK P. RAB  
MAYOR

OUR REFERENCE MS-MJP



FRANCIS KEALA  
S-117

*mk*  
*W.D.*  
*file 9-28-84*

October 15, 1980

*copy to someone  
traffic consultant*

Mel Roop, Associate  
Architects Hawaii, Limited  
Pacific Trade Center, Suite 300  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Subject: Environmental Impact Statement for Proposed Waikiki  
Condominium Project (TMK : 2-6-28 : 49)

At this stage of planning for the proposed condominium project,  
we have three main concerns.

First, the addition of 343 dwelling units will add approximately  
900 new residents to Block 108, which would increase the  
demand for police services in the Waikiki area. At the current  
ratio of 2.5 police employees per 1000 population, we could  
anticipate a workload increase in the area equivalent to more  
than two police employees.

Second, the addition of approximately 550 vehicles to the area  
will put a considerable strain on the existing road network.  
If the entrance and exit to the condominiums are to be located  
on the mauka side, ingress and egress will greatly promote  
congestion on the Ala Wai Boulevard. If the entrance and exit  
are to be located on a side street, the small Wai Nani Way,  
Puulani Way, and Paokalani Avenue may not be adequate for the  
increased traffic volume.

Finally, since the two condominiums are to be located in a high  
crime area, we believe that a particular effort should be  
made to design the units and adjacent areas so as to minimize  
opportunities for criminal activity. Environmental security

Mel Roop, Associate  
October 15, 1980  
Page 2

measures such as additional exterior lighting, door viewers,  
deadbolt locks, bars inside sliding doors, and window locks  
should not only reduce the demand for police services, but  
also increase the residents' sense of security and satisfaction  
with the project.

Sincerely,

FRANCIS KEALA  
Chief of Police

By *[Signature]*  
EARL THOMPSON  
Assistant Chief  
Administrative Bureau

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

680 SOUTH KING STREET  
HONOLULU, HAWAII 96813  
PHONE 322-4121



FRANK P. PABE  
MAYOR  
EDWARD V. HIRATA  
MANAGING DIRECTOR

BARRY CHUNG  
DIRECTOR  
MYRA M. TAKARAKI  
DEPUTY DIRECTOR



October 14, 1980

Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Attention Mr. Mei Roop  
Gentlemen:

Subject: Preparation of Environmental Impact Statement for a Proposed Condominium Project in Waikiki, TMK 2-6-28:49

The environmental impact statement for the subject condominium should contain a detailed discussion of the provisions of the Housing Section of the General Plan of the City and County of Honolulu, specifically low- and moderate-income housing (pages 35 through 37).

Thank you for forwarding the preparation notice for our review and comment.

Very truly yours,

*Barry Chung*  
Barry Chung

DEPARTMENT OF TRANSPORTATION SERVICES  
**CITY AND COUNTY OF HONOLULU**

HONOLULU MUNICIPAL BUILDING  
850 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK S. PABE  
MAYOR

AKIRA FUJITA  
DIRECTOR  
TELEPHONE 80-2861



October 22, 1980

Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Attention: Mei Roop  
Gentlemen:

Subject: Your Letter of October 6, 1980 Regarding Preparation of Environmental Impact Statement for a Proposed Condominium Project in Waikiki  
TMK: 2-6-28: 49

Your Environmental Impact Statement should address the following concerns:

1. The traffic impact of the project on the surrounding streets.
2. Provisions for on-site loading of passengers and delivery of goods.
3. The type of operation being contemplated, i.e., strictly apartment use or possibly hotel type use.
4. The design of access points to City streets.
5. The effects of your additional dwelling units on public transit.

Very truly yours,

*Akira Fujita*  
AKIRA FUJITA  
DIRECTOR

FIRE DEPARTMENT  
CITY AND COUNTY OF HONOLULU  
1488 S. BERETANIA STREET, ROOM 303  
HONOLULU, HAWAII 96814

FRANK F. FARI  
MAYOR



October 15, 1980

Mr. Mel Roop, Associate  
Architects Hawaii Ltd.  
Pacific Trade Center, Suite 300  
190 S. King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Subject: Preparation of Environmental Impact Statement  
for a Proposed Condominium Project in Waikiki  
TMK: 2-6-28; 49

Fire protection services will be adequated provided by the engine and  
ladder companies from Waikiki and McCully Stations with supportive  
services from Pawa and Kaimuki Stations.

Should you need additional information on fire code requirements,  
please call our Fire Prevention Bureau at 955-8165.

Very truly yours,

*Boniface K. Aiu*  
BONIFACE K. AIU  
Fire Chief

BKA:LS:eya

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

FRANK F. FARI  
MAYOR



October 14, 1980

Mr. Mel Roop, Associate  
Architects Hawaii Ltd.  
Pacific Trade Center, Suite 300  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Environmental Impact Statement Preparation Notice for  
Proposed Condominium Project in Waikiki--TMK 2-6-28;49

In addition to the usual impacts, such as traffic, noise and  
sewage loads, the impact statement should include information on  
the following topics.

Displacement - the numbers of families and unrelated  
individuals expected to be displaced; estimated age  
groupings; income categories; number on welfare, if  
any; present rentals, by household size; number of  
units to be demolished; and timing.

Marketing Strategy - projected sales prices by size of  
units; and time-sharing, if it is to be allowed.

The above information would provide housing and other agencies  
some indication of the possible additional workloads they might  
have and when. If the lot is presently vacant, that should be  
indicated.

Thank you for affording us the opportunity of responding to your  
preparation notice.

Sincerely,

*George S. Moriguchi*  
GEORGE S. MORIGUCHI  
Chief Planning Officer

GSM:fmt

GEORGE S. MORIGUCHI  
CHIEF PLANNING OFFICER

DGP10/80-2953 (CT)

BUILDING DEPARTMENT  
CITY AND COUNTY OF HONOLULU  
HONOLULU MUNICIPAL BUILDING  
150 SOUTH KING STREET  
HONOLULU, HAWAII 96813



HOWARD M. SHIMA  
DIRECTOR AND BUILDING SUPERINTENDENT  
B80-788

October 17, 1980

Mr. Mel Roop, Associate  
Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Subject: Preparation of EIS for a Proposed  
Condominium Project in Waikiki  
Tax Map Key: 2-6-28: 49

This is in answer to your letter dated  
October 6, 1980, requesting our comments toward the  
preparation of the Environmental Impact Statement of  
the subject project.

Since our permit approval process is strictly  
ministerial, this department does not have any comments  
concerning the environmental impact of this project.

Very truly yours,  
  
HOWARD M. SHIMA  
Director and Building  
Superintendent

HH:FK

FRANK F. FAR  
WAIVER

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



RAMON DURAN  
DIRECTOR

October 20, 1980

Mr. Mel Roop, Associate  
Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Subject: PREPARATION OF ENVIRONMENTAL IMPACT STATEMENT  
FOR A PROPOSED CONDOMINIUM PROJECT IN WAIKIKI  
TMK: 2-6-28:49

We have reviewed the proposed condominium project and have the  
following comments and recommendations:

1. The proposed project will be subject to compliance with  
Park Dedication Ordinance 4621.
2. Due to the high density of population within the area,  
we recommend that recreational facilities be provided  
for the residents within the project site to better  
serve their needs.

Warm regards.  
Sincerely,  
  
RAMON DURAN, Director

RD:lm

FRANK F. FAR  
WAIVER



BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA  
HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor  
YOSHIE H. FUJIMAKA, Chairman  
DAT OON PANG, Vice Chairman  
DYOKICHI HIGASHIONNA  
DORRIS M. HOWARD  
M. K. KAWAHARA  
ROBERT A. SOUZA  
CLAUDE T. YAMANOTO

October 21, 1980

KAZU HAYASHIDA  
Manager and Chief Engineer

Mr. Mel Roop  
Architects Hawaii, Ltd.  
Pacific Trade Center  
Suite 300  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Subject: Your Letter of October 6, 1980, on a  
Proposed Condominium Project in Waikiki,  
TMK: 2-6-28: 49

We request the following be addressed in the environmental  
impact statement for the proposed project:

1. Board of Water Supply water commitment policy. No  
advance water commitment is being made because of the  
"tight" water situation. A decision on committing  
water to your development will take place following  
receipt of your building permit and construction  
drawings.

CS  
CS

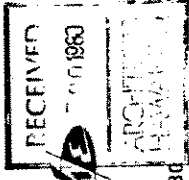
2. Water use requirements for the project.

Thank you for giving us the opportunity to comment on your  
environmental impact statement.

Should you have questions or require additional information,  
please call Lawrence Whang at 548-5221.

Very truly yours,

KAZU HAYASHIDA  
Manager and Chief Engineer



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

October 17, 1980

W.L.L. M.L.L.  
W.D.  
T.M.A.  
J.B.

Architects Hawaii, Ltd., Suite 300  
190 South King Street,  
Honolulu, Hawaii 96813

Gentlemen:

Re: Proposed Residential Condominium Project  
Ala Mai Boulevard between Paookalani St.  
and Mai Nani Way

Reference is made to your letter of October 10, 1980,  
wherein you requested the adequacy of electrical ser-  
vice for the subject project.

Please be advised that adequate electrical service is  
available for the above-described project.

Sincerely yours,

Wilfred Iwasa  
Senior Customer Designer  
Customer Engineering Department

WI:jlp



LIFE OF THE LAND  
A GROUP FOR ENVIRONMENTAL RESEARCH AND ACTION

November 7, 1980

Mel Roof, Associate  
Architects Hawaii Ltd.  
Suite 300  
Pacific Trade Center  
190 South King Street  
Honolulu, HI 96813

Gentlemen:

Your notice of preparation of an EIS for a proposed condominium project in Waikiki is rather skimpy in describing the project. This is unfortunate.

Life of the Land would like to see an analysis of projected impacts on traffic and parking, recreational areas, demand on public services, conformance to pending Development Plan for the area and on design and height of the project.

We would like to have commented in more detail, however your two sentence description does not supply enough information to base specific comments on. We would like to remain a consulted party on this EIS.

Thank you for notifying us.

Sincerely yours,  
*Jim O'Rourke*  
Jim O'Rourke  
LOL Staff

cc: Waikiki Neighborhood Board

404 PIKOOI STREET HONOLULU HAWAII 96814 TELEPHONE 521-1300

HAWAIIAN TELEPHONE

October 23, 1980

Mr. Kevin M. Young  
Architects Hawaii, Ltd.  
Pacific Trade Center  
190 South King Street  
Suite 300  
Honolulu, Hawaii 96813

Dear Mr. Young,

Availability of Telephone Services  
Proposed 343 Unit Condominium  
Packalani St.- Wai Nani Way-  
Ala Wai Blvd.

We do not foresee any adverse environment effect from the proposed project.

We will utilize existing cable facilities that are adjacent to the project boundaries. Any additional services required at this project will not degrade the existing services that are working within the area.

If there are any questions, please call Douglas Loo, our project engineer, at phone 836-6119.

Sincerely,

*George Kaneko*  
George Kaneko  
Oahu Engineering &  
Construction Manager

PO BOX 2206 • HONOLULU HAWAII 96811 • TELEPHONE 527-7111 • CABLE TELHAWAII

# HISTORIC HAWAII FOUNDATION

## A STATEWIDE TRUST SAFEGUARDING HAWAII'S HERITAGE

The Historic Hawaii Foundation is a non-profit, statewide citizens organization concerned with the preservation of the historical, architectural, cultural, visual, and environmental heritage of Hawaii. Its members and its Board of Trustees represent interested and concerned preservation-minded people from all of the islands of Hawaii.

October 28, 1980


Mel Roop, Associate  
Architects Hawaii, Ltd.  
Pacific Trade Center, Suite 300  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Thank you very much for sending us information about the Environmental Impact Statement which you are in the process of preparing for the condominium project in Waikiki. We have checked with our trustees and find that there is no negative comment to be made on your plans.

Thank you for your consideration.

Sincerely yours,

  
Phyllis G. Fox  
Executive Director

PGF:cc

137



October 21, 1980

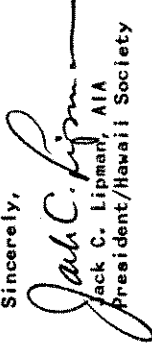
Mel Roop, Associate  
Architects Hawaii Ltd.  
190 South King St. #300  
Honolulu 96813

Dear Mr. Roop:

Subject: Preparation of Environmental Impact  
Statement for a Proposed Condominium  
Project in Waikiki  
TMK: 2-6-28: 49

The above-named subject has been reviewed without comment.

Sincerely,

  
Jack C. Lipman, AIA  
President/Hawaii Society

JCL/b



LIST OF NECESSARY APPROVALS

The following reviews and approvals are required before construction of the project may proceed.

1. Development Conformance Certificate (Waikiki Special Design District) - Department of Land Utilization.
2. Building Permit - Building Department, with appropriate reviews from other City Departments including Public Works (Wastewater Management) Board of Water Supply, and Transportation Services.
3. Grading Permit - Department of Public Works.
4. Pacific Resources Inc. (Gas Company).
5. Hawaiian Electric Co.
6. Noise Permit - Department of Health.
7. Honolulu Fire Department (Fire Prevention Bureau).
8. Sewer Adequacy Permit - Department of Public Works (Wastewater Management).
9. Park Dedication - Department of Parks and Recreation.
10. Water Availability - Board of Water Supply.
11. Street Improvements Review - Ordinance 2412 - Department of Public Works (Engineering Division, Control Section).



APPENDICES



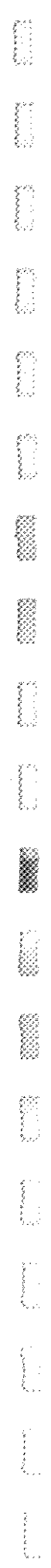


AIR QUALITY STUDY  
FOR  
HASEGAWA KOMUTEN (USA) INC.  
LILIUOKALANI TRUST PROJECT  
WAIKIKI, OAHU, HAWAII

PREPARED BY  
BARRY D. ROOT  
Air Pollution Consultant  
Kaneohe, Hawaii

November, 1980

APPENDIX 1



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I. PROJECT DESCRIPTION

The proposed project involves demolition of several one and two story buildings and construction of an apartment complex consisting of two buildings of 24 stories containing a total of 396 living units and a four-level parking structure containing approximately 400 parking stalls. The project is located in Waikiki as shown in Figure 1. Site development plans are attached as Appendix A.

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## II. AIR QUALITY STANDARDS

State of Hawaii and Federal Ambient Air Quality Standards (AQS) have been established for seven classes of pollutants as shown in Table 1. An AQS is a concentration not to be exceeded over given sampling time periods which vary from pollutant to pollutant depending on the type of exposure necessary to cause adverse effects. Each of the regulated pollutants has the potential to cause some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration. The Federal AQS have been divided into Primary and Secondary levels. Primary AQS are designed to prevent adverse health impacts while Secondary AQS refer to welfare impacts such as decreased visibility, diminished comfort levels, damage to vegetation, animals, or property, or a reduction in the overall aesthetic quality of the atmosphere. The State of Hawaii AQS have been set at a single level which is in most cases significantly more stringent than the lowest comparable Federal limit. Each Federal AQS is defined as a level not to be exceeded more than once per year, but State of Hawaii AQS are specified as levels not to be exceeded at any time.

Federal research regarding the adequacy of current AQS is ongoing. At present there is a U.S. Environmental Protection Agency (EPA) proposal to lower the one-hour Federal AQS for carbon monoxide from the current level of 40 milligrams per cubic meter to 25 parts per million (about 29 milligrams per cubic meter).

There is presently a desire on the part of the State of Hawaii Air Pollution Control Agency (Department of Health) to eliminate State AQS for those pollutants covered by Federal Prevention of Significant Deterioration (PSD) regulations. These regulations apply in areas where the Federal AQS are currently being met. Most of the State of Hawaii falls within this category. For PSD regulation purposes air pollutants have been divided into two sets. PSD Set I pollutants are particulate matter and sulfur dioxide. These pollutants are largely the result of fixed industrial or power generating sources. PSD Set II pollutants are carbon monoxide, hydrocarbons, nitrogen oxides, lead, and ozone which result mostly from fuel combustion in mobile sources.

PSD Set I regulations were issued in June 1978 and require use of best available control technology (BACT) for all major new sources of particulates and sulfur dioxide. Specific increments are set for how much additional degradation will be permitted in specific areas. Since no major new fixed or long term sources of these emissions are associated with the proposed project the PSD Set I regulations are important only in that they should help to prevent any serious increases in current levels of particulates and sulfur dioxide in the project area. Present zoning and land use in the Waikiki area would preclude establishment of any new major fixed sources of these particular pollutants in any case.

PSD Set II regulations are in the process of being developed. Because the Set II pollutants are emitted primarily by mobile sources they will require a more complex regulatory approach. The Federal Motor Vehicles Emissions Control Program (FMVCP), which requires, for example, catalytic converters and the use of unleaded fuel in most new automobiles, addresses only part of the problem. Other possible PSD Set II control measures could involve mandatory motor vehicle emissions inspection programs or limits on traffic volumes or new roadways in recognized problem areas.

It is not anticipated that the PSD Set II regulations will be promulgated in time to affect planning for this particular project, but such regulations could have some beneficial impacts on future travel patterns and vehicle pollutant emissions in the project area.

### III. PRESENT AIR QUALITY

Until late 1979 there were no air pollutant monitoring stations in Waikiki. In that year particulate and sulfur dioxide samplers were moved from Ala Moana Park to Fort DeRussy. The Ala Moana sampling station was located about 2.4 miles west northwest of the project site while the current Waikiki sampling station is about one mile in the same direction (see Figure 2). A summary of measurements collected at these locations over the last several years is presented in Table 2. The State of Hawaii 24-hour AQS for particulates is presently being violated at the rate of once per year, but a level as high as the allowable Federal Secondary AQS has not been recorded in this area since 1975. The one particulate value of  $116 \text{ ug/m}^3$  recorded in 1980 was at the time of a severe January storm and was probably a combination of wind blown dust and sea spray. A once-per-year particulate violation of this nature is of no major concern and from the data in Table 2 it seems reasonable to conclude that there are no real problems regarding concentrations of particulates, sulfur dioxide or nitrogen dioxide in the project area.

Unfortunately there are no long term measurements of hydrocarbons anywhere in Hawaii but carbon monoxide and oxidants are routinely monitored at a location just outside the Department of Health building in urban Honolulu about 3.3 miles northwest of the project site. A summary of these measurements is shown in Table 3. It is clearly evident from the data recorded at this monitoring station that short-term carbon monoxide concentrations have frequently been in excess of allowable State of Hawaii Standards during the last several years. Since 1975, however, there has been a steady decrease in peak hour averages of this pollutant and no values above the Federal AQS have been recorded.

In late 1979 the carbon monoxide sampler was moved to Leahi Hospital in the Fort Ruger/Kaimuki Area about 1.2 miles east of the project. Values for the first half of 1980 at that location have ranged from 0 to 3.5 milligrams per cubic meter with an average level of 0.5. This site is not very representative of the Waikiki area, however, and from the available data in Tables 2 and 3 it would appear

that carbon monoxide is likely to present the greatest problem regarding the potential air quality impact of the proposed project.

#### IV. DIRECT AIR QUALITY IMPACT OF PROJECT CONSTRUCTION

Demolition and construction activities associated with this project are likely to last for more than a year. Demolition, site preparation, and roadway improvement are likely to generate noticeable amounts of fugitive dust.

An EPA study involving field measurements of particulate emission rates from apartment and shopping center construction projects has yielded an estimated figure of 1.2 tons of dust per acre of construction per month of activity assuming medium level activity with moderately dry atmospheric conditions and soil silt content around 30 percent. Based on this figure the planned project could yield about 3.6 tons of airborne dust per month of construction activity.

The proposed project site is nearly level, however, and not much dirt moving should be required. It thus seems likely that except during demolition and early site preparation emissions of particulates from project construction should be significantly below this average.

Heavy construction equipment can also be expected to contribute some exhausts to the air, but most of this equipment is diesel-powered and expected emissions of carbon monoxide should therefore be inconsequential compared to that generated by nearby traffic.



## V. INDIRECT AIR QUALITY IMPACT OF INCREASED TRAFFIC

Once construction is completed the proposed project will not in itself constitute a direct source of any atmospheric contaminants other than insignificant air conditioner losses and cooking aromas. But by serving as origin and destination for numerous tenant work, shopping and recreational trips the project will be a generator of motor vehicle traffic and as such constitutes an indirect source of increased air pollutant emissions in the Waikiki area.

Motor vehicles, especially those with gasoline-powered internal combustion engines, are prodigious emitters of carbon monoxide. They produce significant quantities of hydrocarbons and nitrogen oxides. Vehicles burning fuel which contains lead as an additive also contribute some airborne lead to the atmosphere.

The major control measure designed to reduce vehicular lead emissions is a Federal law requiring the use of unleaded gasoline in most new automobiles. As older cars are gradually removed from the vehicle fleet, lead emissions should be steadily falling. Federal control regulations also call for increased efficiency in removing carbon monoxide from vehicle exhausts. By 1995 carbon monoxide emissions from the vehicle fleet then operating should be less than half the amount now emitted. Substantial decreases in hydrocarbon and nitrogen dioxide emissions have been mandated as well.

To gain an overview of the general effect that these control measures are expected to have, a mesoscale vehicular emissions analysis has been carried out for a one mile section of Ala Wai Boulevard in front of the proposed project.

### A. VEHICULAR EMISSIONS ANALYSIS

Most traffic entering or leaving the proposed project will travel over Ala Wai Boulevard. A one-mile section of Ala Wai Boulevard adjacent to the project site was thus selected for an analysis of expected vehicular emissions with or without the proposed project. Three time periods were considered: 1980, the current situation; 1985, after the project is completed and fully occupied; and 1995, at least 10 years after project completion.

In 1979 average daily traffic (ADT) on this segment of the Ala Wai was 22,100 vehicles. Between 1972 and 1979 the average annual growth in ADT on Ala Wai Boulevard at the Lewers Street screenline has been about one percent. The growth rate has been erratic, however, and any forecast for future traffic levels on this roadway is likely to contain a considerable number of caveats. The establishment of the Waikiki Special Design District is expected to slow traffic growth substantially, but the decrease in growth rate will be difficult to forecast. In lieu of any other estimates the 'present' growth rate of one percent per year is extrapolated through 1995.

The traffic study for the proposed project indicates that the project will generate about 1100 daily trips to and from the garage. Since Ala Wai Boulevard is a one way street this would amount to 1100 trips added to existing levels on the one mile segment of roadway considered.

To compute vehicular pollutant emissions a standard set of emission factors (from Table F-15 of EPA's Mobile Source Emission Factors) was used. Inherent assumptions are: (1) average ambient temperature of 75<sup>o</sup> F, (2) a vehicle mix containing 88.2 percent automobiles with the remainder light duty trucks and vans, (3) average vehicle speed of 19.6 mph, (4) 20.6 percent cold starts and (5) 27.3 percent hot starts. Tabulated emission factors for future years as listed in Table F-15 are predicated upon implementation of stringent emission controls on a timetable set by existing Federal laws. These laws are susceptible to change by the Federal Congress and a considerable slippage of expected achievement for these control levels now seems likely. The protracted economic problems of the U.S. automobile manufacturers have already caused what amounts to a two year delay. In an attempt to account for these political factors, emission levels for 1980 were computed using 1979 emission factors, those for 1985 using 1982 factors, and those for 1995 using 1990 factors.



Results of these computations are depicted in Figure 3. Because average daily traffic from the proposed project will be such a small percentage of total ADT on Ala Wai Boulevard the resultant increases in carbon monoxide, hydrocarbon, and nitrogen oxide emissions caused by the project will be slight and overall emissions of these pollutants are expected to decrease substantially whether this project is constructed or not.

Some conclusions can be drawn from Figure 3 regarding nitrogen dioxide. Measurements of nitrogen dioxide concentration at Ala Moana Park indicate that at least until 1976 the nitrogen dioxide AQS was being easily met. Since this analysis indicates that nitrogen dioxide emissions are expected to decrease in the project area between now and 1995 it seems reasonable to conclude that the nitrogen dioxide standard should continue to be met through that time period.

Because there are no existing hydrocarbon measurements for any location near the project area it is difficult to relate the hydrocarbon emissions shown in Figure 3 to allowable limits. In any case hydrocarbon emissions are important primarily for the precursor role that they play in the formation of photochemical oxidants such as ozone. Since ozone measurements at the Department of Health building in urban Honolulu have been within allowable limits for the past few years it seems likely that present hydrocarbon emissions are not contributing significantly to air pollution problems in the project area (which is well within the same airshed).

Although Figure 3 shows that significant decreases in carbon monoxide emissions are expected by 1995, it is not possible to compare these emissions directly to State or Federal AQS without carrying out a detailed microscale dispersion analysis of expected concentrations of this pollutant at selected critical receptor sites in the Waikiki area.

#### B. CARBON MONOXIDE DIFFUSION MODELING

Five critical receptor sites were selected for analysis as shown on Figure 1. Expected worst case carbon monoxide levels for

these locations were computed following the analysis procedures described below.

Existing and future traffic volumes on roadways nearest to the selected critical sites were determined using figures contained in the Traffic Study for the proposed project. This traffic study looked at five critical intersections or roadway segments to judge where traffic volume impacts from the project were likely to be greatest. Of these five sites, four were likely to be critical areas for maximum air pollutant impact as well. The traffic study site at Kuhio and Paoakalani was not analyzed here because traffic impact at that site appears to be minor and future roadway usage there is difficult to forecast because of a pending widening project which will significantly change existing traffic flow patterns in that part of Waikiki. The fifth critical carbon monoxide receptor site was selected across Wai Nani Way from the proposed parking garage structure to evaluate the impact of that aspect of the project.

The traffic study for the project does not contain forecast traffic levels for the selected study years of 1980, 1985 and 1995. It does contain traffic increases from current levels that can be expected when the proposed and other planned projects in Waikiki are completed. Where applicable these values were used as 1985 forecast peak hour traffic levels. Where such values were not available a mean annual growth rate of one percent per year was utilized as described in the previous section regarding mesoscale analysis.

Vehicular carbon monoxide emission rates for the study years were determined using a Federal Highway Administration tabulated version of the EPA's computerized Mobile Source Emissions Model (Mobile 1). Slippage in achievement of tabulated rates was accounted for as previously described. The vehicle mix at each site was determined by on-scene observation and is described in conjunction with results at each receptor site.

The EPA computer model HIWAY was used to calculate estimated carbon monoxide concentrations at each site with or without the proposed project. Stability category D(4) was selected for

determining diffusion coefficients. This stability category represents the most stable (least favorable) atmospheric condition that is likely to exist in an urban area during night or day. A uniform windspeed of one meter per second was used to simulate worst case wind flow. Worst case wind direction was determined by the roadway geometry at each receptor site. All receptor sites were located about one meter from the edge of the nearest traffic lane at a breathing level of 1.5 meters. It is important to note that in order to experience the carbon monoxide levels shown in this analysis an individual would have to spend one (or eight) hours at that location during worst case atmospheric conditions. Since the receptor sites are all on present or future sidewalk areas it is difficult to imagine why anyone would stand in one such location for as long as one hour. There is a bus stop at receptor site 5 and exposure there would most likely be longer than at other sites, but even then a 10 or 20 minute exposure would probably represent maximum susceptibility to the carbon monoxide levels computed.

Background contributions of carbon monoxide from roadways not directly considered in the analysis were included as follows: 1 mg/m<sup>3</sup> in 1980, 0.7 in 1985, and 0.4 in 1995. These decreasing background levels represent expected increases in emission control effectiveness in future years.

Results of the analysis for peak and eight hour levels at each receptor site are presented in Figures 4 and 5. Greatest impacts from project-related traffic are likely to occur at Sites 1 and 3, but highest overall carbon monoxide concentrations will be in the vicinity of Sites 2 and 4. Sites 1, 2, and 3 were selected to assess the impact of morning peak hour traffic, while peak hour values for Sites 4 and 5 are for the evening rush hour.

At receptor Site 1 the observed vehicle mix on Ala Wai Boulevard is 86 percent automobiles, 10 percent light pickups and vans less than 6000 pounds gross vehicle weight (GVW), 1 percent light duty trucks between 6000 and 8000 pounds GVW, 1 percent heavy duty gas trucks, and 2 percent diesel trucks and buses. For the morning rush hour conditions an ambient temperature of 60° F is

assumed with 50 percent of the vehicles operating in the cold start mode. On Wai Nani Way the vehicle mix is 97 percent automobiles with 3 percent light duty trucks and vans. Future contributions of traffic from the proposed project are assumed to maintain this vehicle mix. For this site the worst case wind direction is from due north.

Since all traffic leaving the proposed project in the morning is expected to travel via Wai Nani to the Ala Wai the expected carbon monoxide impact at this site is likely to be significant. In fact the analysis shows that under the worst case conditions considered about a  $3 \text{ mg/m}^3$  increase could be expected at this location after the project is completed and fully occupied. It is even possible that the State of Hawaii one hour AQS could be exceeded for a year or two around 1985. With reference to likely present worst case levels at this site the predicted 1985 levels with the project are nearly the same as those that now exist and the potential exceedance of the State of Hawaii peak hour AQS is well within the error range of the diffusion model and assumptions used. For the analysis it is assumed that the present stop sign on Wai Nani is the only traffic control at the intersection through 1995. In that case Wai Nani traffic would travel at about 5 mph during morning rush hour but traffic on the Ala Wai could move along at 25 mph when the light at Paoakalani is green and at 15 mph upstream from the light while slowing down to stop for the red condition. If an additional traffic light was to be included on the Ala Wai at Wai Nani the carbon monoxide levels predicted would be much greater and such a measure is not recommended.

Average eight hour traffic volumes at Ala Wai and Wai Nani are presently only 62 percent of peak morning rush hour levels. To obtain the estimated eight hour levels shown in Table 5 this traffic correction factor was applied, along with an EPA recommended meteorological persistence factor of 0.6 to account for greater atmospheric variability over an eight hour time period, to values shown in Table 4. For the eight hour case the increase in worst case carbon monoxide levels as a result of project related

traffic is only a little over  $1 \text{ mg/m}^3$  and all values computed are well within allowable AQS.

Highest morning peak hour (0715 to 0815 Hawaii Standard Time, HST) carbon monoxide concentrations are expected at Site 2 with a worst case wind direction from due east, a relatively likely occurrence at this location. The present high levels predicted for this site are the result of the Ala Wai traffic signal slowing traffic down to an average speed of 5 mph when the light is red. Traffic at this site both upstream and downstream from traffic signals was further assumed to move no faster than 15 mph because of queuing further upstream on the Ala Wai.

Project-related traffic is expected to contribute a little over  $1 \text{ mg/m}^3$  to expected worst case one hour levels and about  $0.5 \text{ mg/m}^3$  to eight hour levels at this site, but because of existing peak hour congestion in the area worst case carbon monoxide levels are expected to remain above the allowable State of Hawaii AQS at this site with or without the project until some time just before 1995 (or 1990 for the eight hour case). It is important to note, however, that even at the site of highest predicted current and future levels of carbon monoxide in the project area all AQS for this pollutant are expected to be met by 1995.

At Site 3 the effect of morning peak hour traffic operating in the proposed four level open-decked parking structure is investigated. For this case each deck of the garage is treated as an elevated line source in the model and traffic operating within the garage is assumed to be running under 100 percent cold start conditions. Even though this garage traffic is projected to raise peak hour carbon monoxide levels by slightly more than  $4.5 \text{ mg/m}^3$  under the unlikely worst case condition of a westerly wind flow all predicted levels are well within allowable AQS at this site.

Site 4 is located along the Ala Wai just Ewa of the Lewers Street intersection. For the evening rush hour at this site, with a worst case northwest wind blowing at a  $10^\circ$  angle to the roadway (a very rare condition) relatively high peak hour carbon monoxide levels are predicted through at least 1990, after which the predicted values fall below the State of Hawaii AQS. For the Ala

Wai, evening rush traffic is expected to move at about 25 mph in locations not restricted by traffic signals, with ambient air temperature close to 80° F (1615 to 1715 HST), and cold starts at only 10 percent. At this site the average eight hour traffic volume is 86 percent of the evening peak hour level. Eight hour concentrations are thus also relatively high. In either case project-related traffic can be expected to contribute only about 0.3mg/m<sup>3</sup> to total levels at this site and such an impact should be considered to be insignificant.

At Site 5 during the evening rush hour with a worst case wind from the south (also a rare event) predicted peak hour carbon monoxide levels are all within allowable State of Hawaii AQS. The vehicle mix along Kuhio at this hour is 86 percent automobiles, 9 percent light duty trucks and vans, and 5 percent buses. On Lewers Street at the same time the vehicle mix is 97 percent automobiles and only 3 percent light duty trucks with less than 0.1 percent buses. For the evening rush hour at this location a cold start percentage of 20 percent was used and traffic speeds were assumed to be 5 mph upstream from red traffic signals and 15 mph when the signal is green.

The average eight hour traffic level on Kuhio Avenue is 92 percent of the evening peak hour level so that the current worst case eight hour level at Site 4 could turn out to be above the allowable State of Hawaii AQS. By the time the proposed project is completed, however, this should no longer be the case. At any rate maximum contribution to these levels by project-related traffic is expected to be less than 0.2 mg/m<sup>3</sup>, an insignificant amount.

For all sites it is important to point out that no carbon monoxide levels above or near present or proposed Federal AQS are predicted as a result of traffic generated by this project.

## VI. POSSIBLE MITIGATIVE MEASURES

As stated earlier the only significant direct emission of air pollutants that this project is likely to create is fugitive dust generated by construction activities. State of Hawaii Department of Health Rules and Regulations (Chapter 43, Section 10) stipulate control measures that are to be employed to reduce this type of emission. Primary control consists of frequent wetting down of loose soil areas with water, oil or suitable chemicals. An effective watering program can reduce particulate emissions from construction sites by as much as 50 percent. Other control measures include good housekeeping on the jobsite and possibly, erection of dust-catching barriers if nearby local residents are being subjected to suspended particulate levels more than 150 micrograms per cubic meter above existing background levels (as measured on a 12-hour basis).

The projected impact of emissions from vehicles operating within the parking garage or on roadways near the project can be decreased if (1) the emission rate of each vehicle is decreased, (2) the total number of vehicles operating is decreased, or (3) the project is designed to permit vehicle movement at more rapid rates of speed with less chance that vehicles can become tied up in queues with engines idling.

Project planners can do little to decrease emission rates from individual vehicles. For the most part these reductions will depend on Federally-mandated controls on new vehicle emissions.

The number of vehicles attracted to the project is determined by the number of spaces in the parking garage, which is in turn related to the floor space in the residential portion of the project. In this case there are limits to these values set by the Waikiki Special Design District legislation and this project has been planned to be within those limits.

It is possible that constructing an additional garage entrance on Pualani Way could lessen queuing time within the garage during morning rush hour but the carbon monoxide analysis carried out in this study indicates that emissions from the parking garage are not expected to cause any serious problems even under worst case meteorological conditions and there would thus be little to gain from this effort.

Current project plans keep about 30 percent of the site in open space with multi-tiered landscaping covering much of the open space area. Such landscaping in itself constitutes a mitigative measure regarding the air pollutant levels to which future residents of the project are likely to be exposed because trees and dense shrubs can serve to remove some particulates and carbon monoxide from the atmosphere.

One other measure that project managers can employ to improve air quality within the project area is to strictly prohibit smoking in the garage area and within confined spaces such as elevators. Tenant exposure to dangerous levels of carbon monoxide and other air pollutants is likely to be much greater in these areas than it is on the sidewalks surrounding the project.

Finally, it is important to note that vehicular emission levels used in this study do not take into account current socio-economic factors which could tend to curtail vehicle usage in future years and to encourage development of non-gasoline-powered vehicles which create few or none of the air pollutants that are presently of concern.



## VII. SUMMARY

The proposed Hasegawa Komuten (USA)-Liliuokalani Trust project can be expected to produce direct air pollutant emissions in the form of fugitive dust from project construction and indirect emissions from vehicles used by future residents of the project.

The fugitive dust emissions will be of a short term nature and adequate control measures exist to insure that such emissions do not become a problem to nearby residents. Particulate air pollution measurements at nearby sampling stations indicate that present levels exceed allowable State of Hawaii ambient air quality standards about once per year, but that particulate air pollution is generally not a problem in the Waikiki area.

Vehicular traffic generated by the project will produce carbon monoxide, hydrocarbons, nitrogen oxides, and air borne lead. Federal regulations should insure future reductions in these emissions, but carbon monoxide emissions and resulting concentrations under worst case traffic and meteorological conditions could still pose some compliance problems with State of Hawaii ambient air quality standards.

A detailed carbon monoxide analysis of five critical receptor sites in the Waikiki area indicates that maximum incremental contributions of carbon monoxide from project-related traffic will occur along the sidewalk bordering Wai Nani Way. Traffic levels along this street are now very low and emissions from the project parking garage could increase morning rush hour carbon monoxide levels at this location by about 4.5 milligrams per cubic meter. Near the intersection of Wai Nani and Ala Wai it is possible that project-related traffic could cause the peak hour State of Hawaii air quality limit for carbon monoxide to be exceeded for a few years after project completion. By 1995, however, all State and Federal air quality standards can be expected to be met at all the critical receptor sites considered whether the project is constructed or not.

No specific mitigative measures regarding project-related traffic appear to be necessary. The landscaping scheme planned for the complex should help to screen future residents of the project from outside air pollutant emissions and banning smoking in the garage, elevators, and

other small enclosed places within the project could also help to improve the quality of the air they breathe.

## REFERENCES

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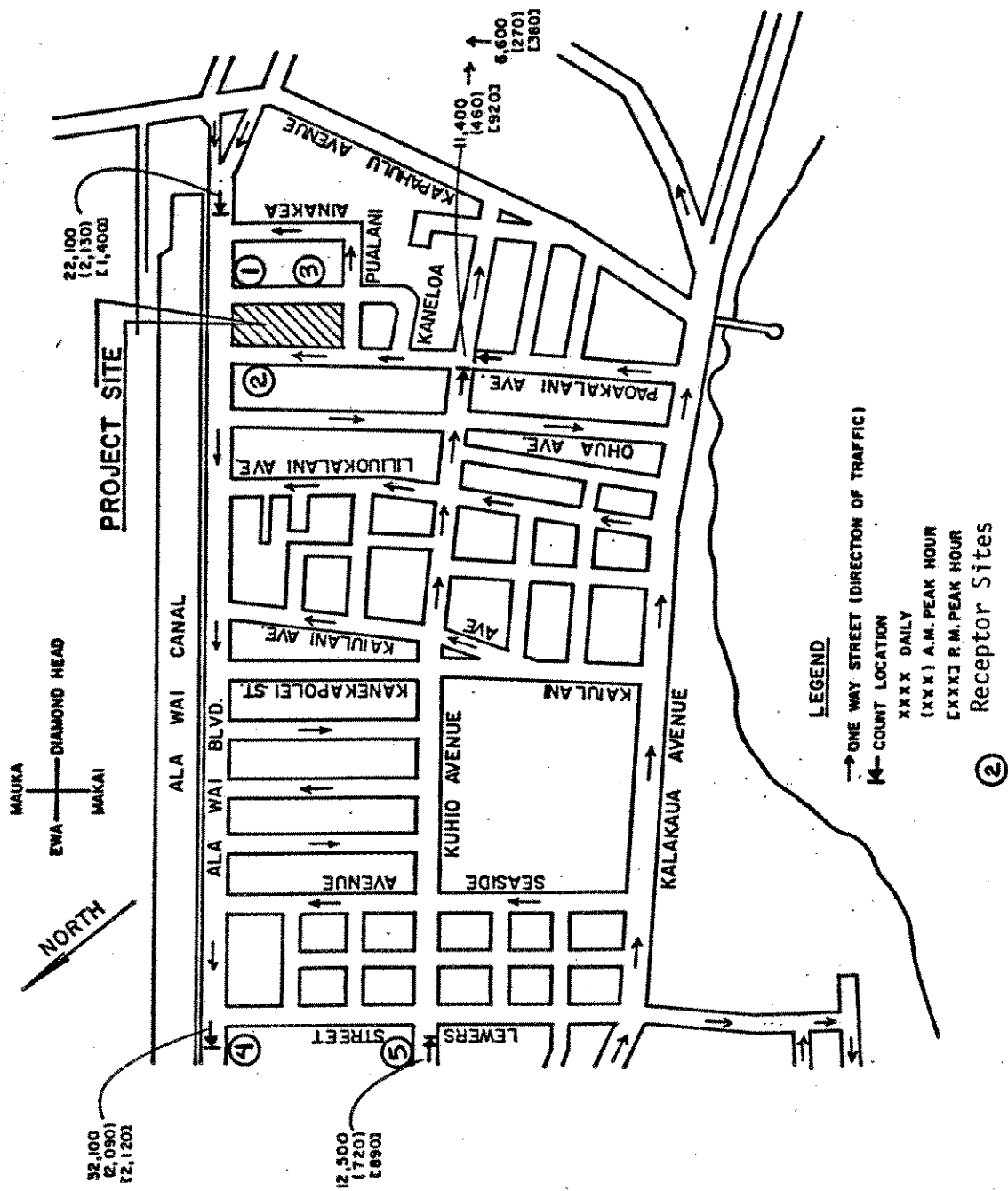
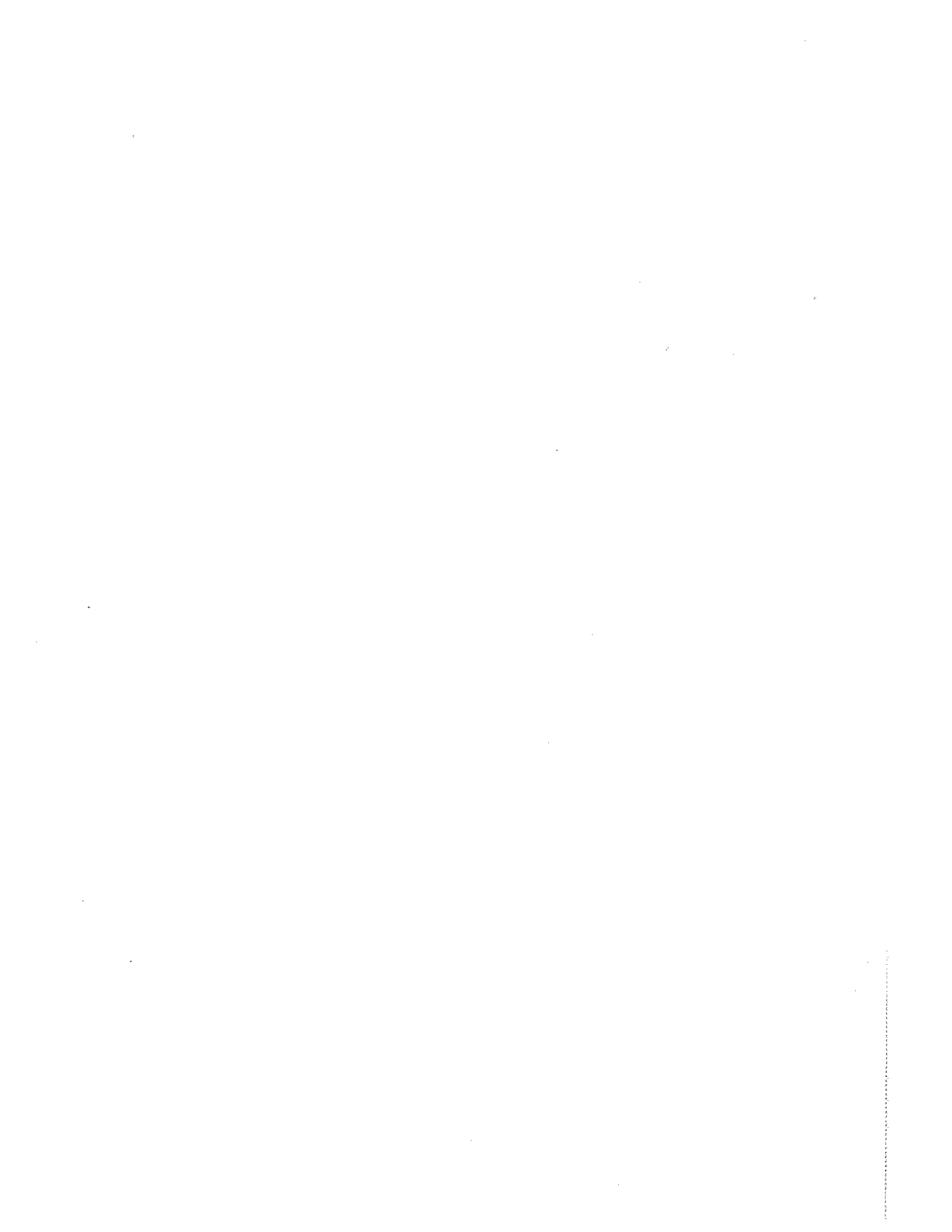


Figure 1. Location of Carbon Monoxide Receptor Sites





FIGURE 2. LOCATION OF AIR POLLUTANT MONITORING STATIONS





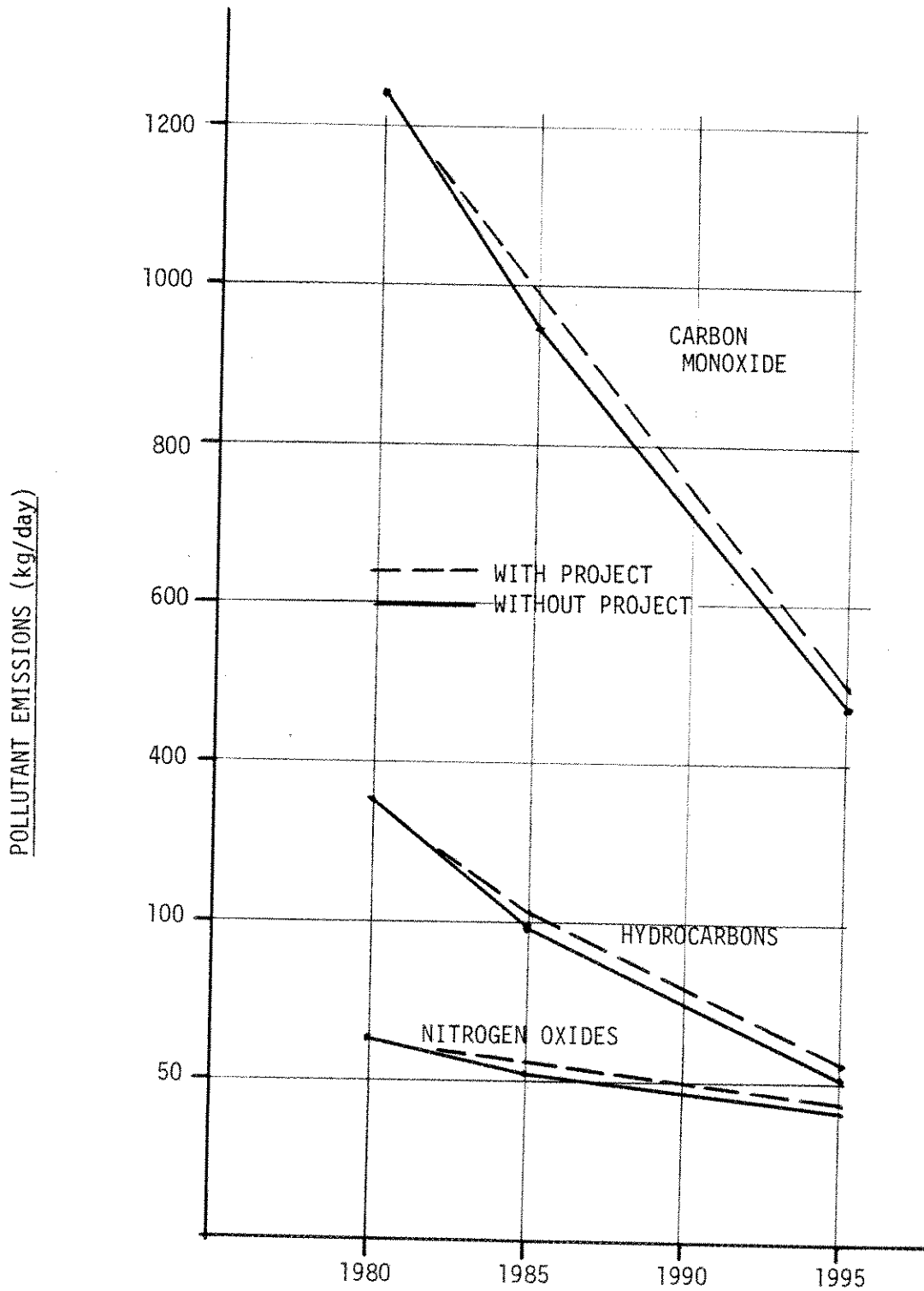


FIGURE 3 - MESOSCALE EMISSIONS ANALYSIS - ALA WAI BLVD.

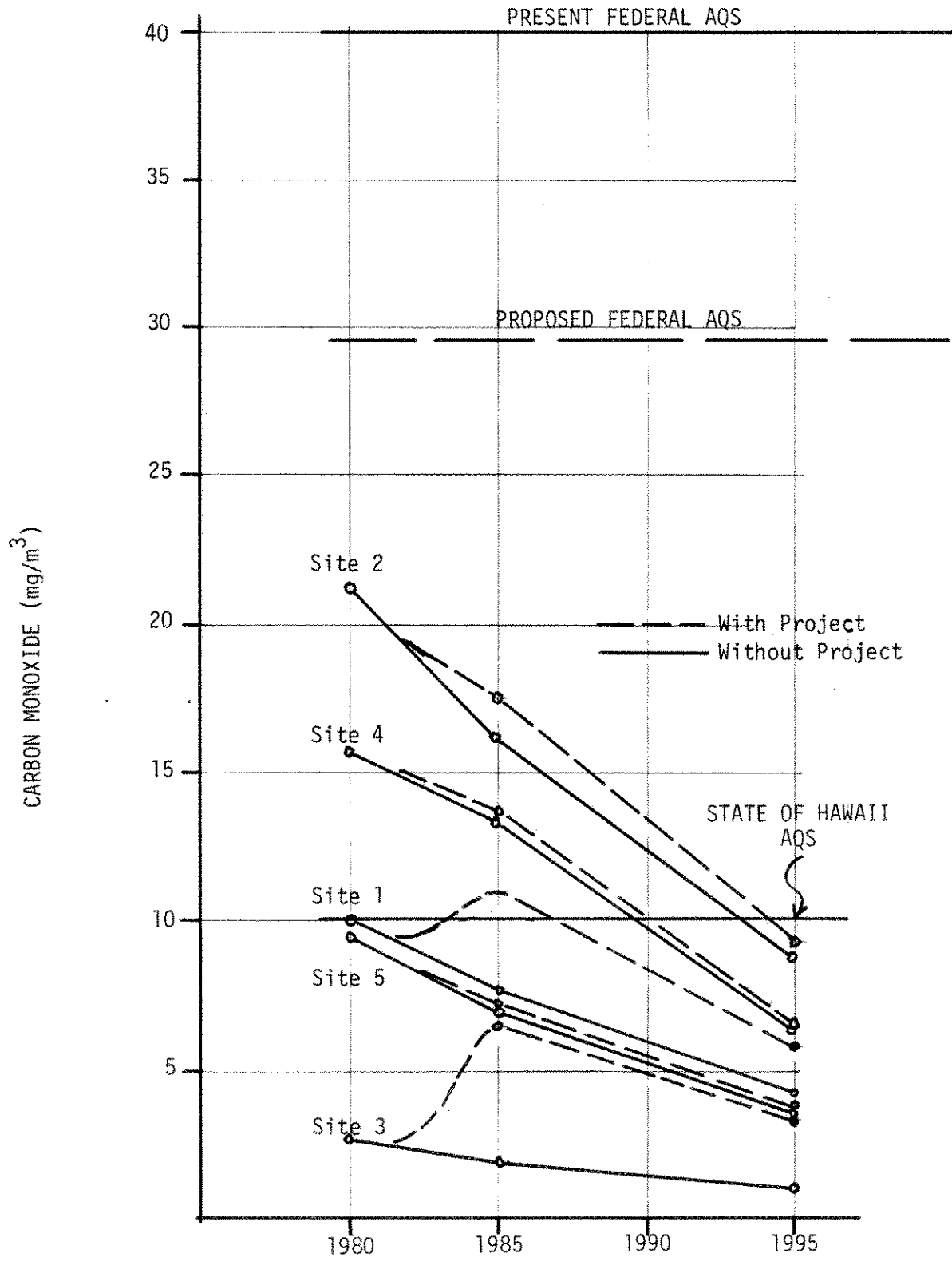


FIGURE 4 - PEAK HOUR CARBON MONOXIDE

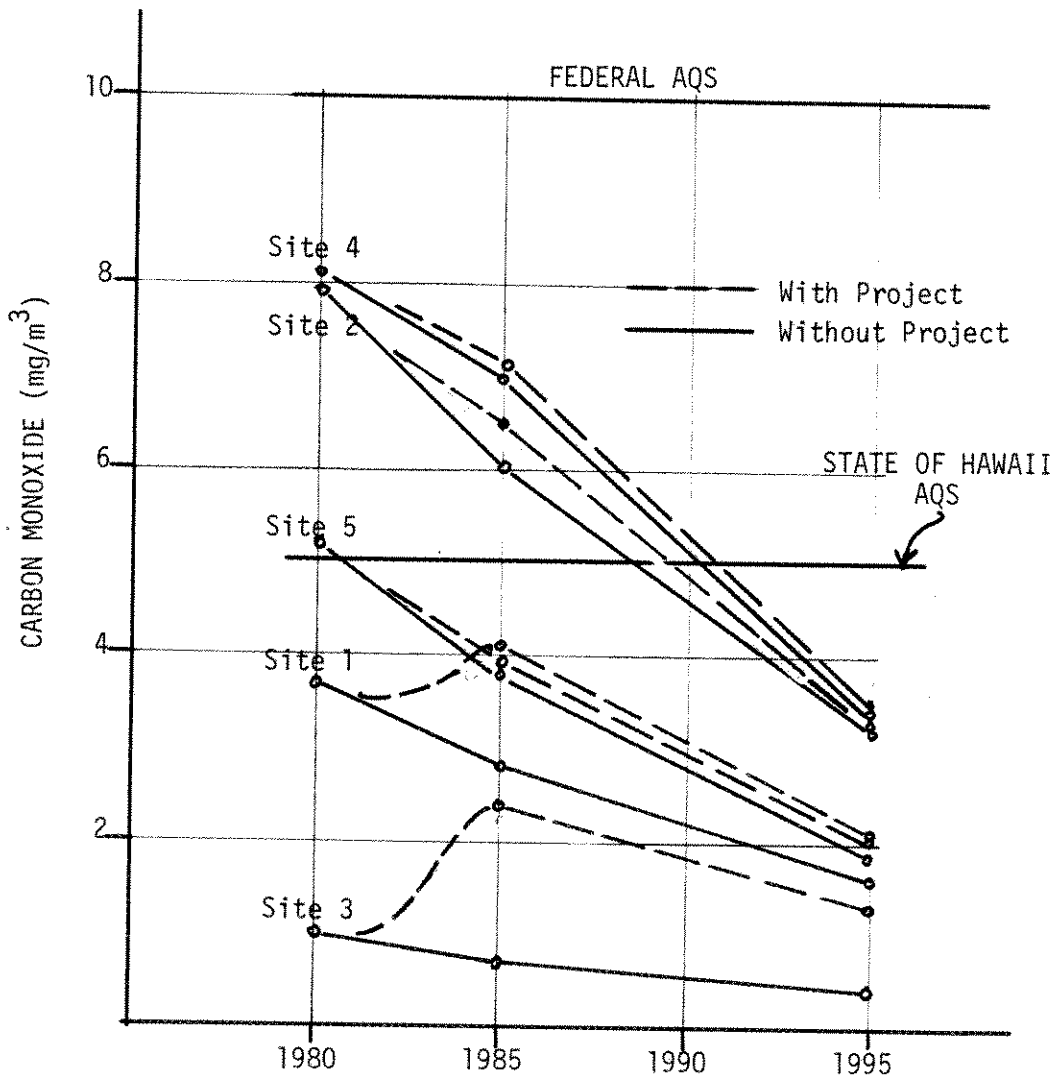


FIGURE 5 - EIGHT HOUR CARBON MONOXIDE



TABLE 1 - SUMMARY OF  
STATE OF HAWAII AND FEDERAL AMBIENT AIR QUALITY STANDARDS

POLLUTANT	SAMPLING PERIOD	FEDERAL STANDARDS		STATE
		PRIMARY	SECONDARY	STANDARDS
1. Suspended particulate matter (micrograms per cubic meter)	Annual Geometric Mean	75	60	-
	Annual Arithmetic Mean	-	-	55
	Maximum Average in any 24 hours	260	150	100
2. Sulfur Dioxide (micrograms per cubic meter)	Annual Arithmetic Mean	80	-	20
	Maximum Average in any 24 hours	365	-	80
	Maximum Average in any 3 hours		1300	400
3. Carbon Monoxide (milligrams per cubic meter)	Maximum Average in any 8 hours		10	5
	Maximum Average in any 1 hour		40	10
4. Hydrocarbons Non-methane (micrograms per cubic meter)	Maximum Average in any 3 hours		160	100
5. Ozone (micrograms per cubic meter)	Maximum Average in any 1 hour		240	100
6. Nitrogen Dioxide (micrograms per cubic meter)	Annual Arithmetic Mean		100	70
	Maximum Average in any 24 hours		-	150
7. Airborne Lead (micrograms per cubic meter)	Average Over Calendar Quarter		1.5	-

Source: 40 Code of Federal Regulations, Part 50 and State of Hawaii Public Health Rules and Regulations, Chapter 42.

TABLE 2

SUMMARY OF AIR POLLUTANT MEASUREMENTS AT ALA MOANA AND  
WAIKIKI MONITORING STATIONS

POLLUTANT	1975	1976	1977	1978	1979	1980
<b>PARTICULATE MATTER</b>						
No. of Samples	88	73	53	61	57	29
Range of Values	41-152	24-130	18-109	21-79	20-102	20-116
Average Value	64	65	40	38	39	39
No. of Times State AQS Exceeded	4	1	1	0	1	1
<b>SULFUR DIOXIDE</b>						
No. of Samples	88	70	54	61	48	25
Range of Values	5-9	5-7	5- 5	5- 5	5-13	5- 5
Average Value	5	5	5	5	5	5
No. of Times State AQS Exceeded	0	0	0	0	0	0
<b>NITROGEN DIOXIDE</b>						
No. of Samples	88	21				
Range of Values	5-64	24-61				
Average Value	38	44				
No. of Times State AQS Exceeded	0	0				

NOTES: Sampling Station moved from Ala Moana Park sewer pumping station to McCoy Pavilion on 2/28/77 and then to Fort DeRussy on 12/5/79. All values in micrograms per cubic meter for a 24 hour sampling period. Data for 1980 through 6/80. Nitrogen dioxide sampling discontinued 4/76.

SOURCE: State of Hawaii Department of Health

TABLE 3

SUMMARY OF AIR POLLUTANT MEASUREMENTS AT  
DEPARTMENT OF HEALTH LAB, HONOLULU

POLLUTANT	1975	1976	1977	1978	1979	1980
CARBON MONOXIDE						
No. of Sampling Days	169	355	359	365	207	
Range of Values	.9-27.4	.5-24.2	0-19.6	0-20.7	0-17.3	
Average Value	6.6	5.4	3.5	3.1	2.9	
No. of Times State AQS Exceeded	35	41	22	19	10	
OXIDANT (OZONE)						
No. of Sampling Days	234	322	300	284	338	174
Range of Values	6-65	2-127	4-61	10-84	10-80	10-80
Average Value	25	40	25	33	39	51
No. of Times State AQS Exceeded	0	1	0	0	0	0

NOTES: Carbon monoxide in milligrams per cubic meter; ozone in micrograms per cubic meter. Values shown are peak one hour values. Carbon monoxide sampling discontinued 9/79. Data for 1980 through 6/80.

SOURCE: State of Hawaii Department of Health.





APPENDIX

RESPONSE TO COMMENTS

ENVIRONMENTAL IMPACT STATEMENT  
HASEGAWA KOMUTEN CONDOMINIUM PROJECT  
LILIUOKALANI TRUST PROPERTY, WAIKIKI

FEBRUARY 20, 1981

## RESPONSE TO COMMENTS RECEIVED DURING EIS REVIEW PERIOD

There were a total of 19 letters received from various County, State and Federal agencies as the result of the review of this EIS.

There were five of these letters which made comments requiring a response of a technical nature. On the following pages are the letters received and the responses provided by the applicant in accordance with regulations of the State of Hawaii Environmental Quality Commission.

This material is to be appended to the draft Environmental Impact Statement dated December, 1980, in order to complete that document.



# University of Hawaii at Manoa

Environmental Center  
Crawford 317 • 2550 Campus Road  
Honolulu, Hawaii 96822  
Telephone (808) 948-7361



Office of the Director

February 6, 1981

RE:0323

Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Sir:

Draft Environmental Impact Statement  
Hasegawa Komuten Condominium Project  
Waikiki, Honolulu, Oahu

This EIS review of the proposed Hasegawa Komuten Condominium has been conducted with the aid of Donald Bell, Real Estate; Jacquelin Miller and Alexis Cheong Linder, Environmental Center.

In general we find the document addresses the environmental impacts associated with the projects quite adequately. We commend your firm for acknowledging potential impacts and proposing mitigative measures in an objective and thorough manner. The emphasis on conformity to goals in the Waikiki Special Design District (WSD) is laudable. Figures in the document of the projected view of the proposal are an aid to assessing the cumulative impacts on view planes and project development. Following are questions of concern to us in the areas of intended use, traffic and noise, and alternate energy design.

The document states that the condominiums are intended for owner-occupant use, an acceptable use within the parameters of the WSD. Given the economic status of the real estate market and the high interest rates we question whether it is reasonable to assume that the units will be sold solely to owner-occupants. If an adequate number of buyers as owner-occupants are not found will the units be offered on a time-sharing basis or for rental units? Should this option be implemented a non-residential traffic pattern and associated noise levels may be generated due to more tourist-like orientation of the occupants. We feel this issue should be addressed in the revised EIS.

Considering the cost of the units we assume that the owner-occupants will primarily be older and will probably not have young school-age children. Thus impacts on nearby schools will be minimal.

The landscaping plans for the proposal are well developed for both passive and active recreational use. This should provide adequately for the recreational needs of a broad age range of occupants. The semi-public areas which offer views of the gardens will

February 6, 1981

add to the enjoyment of pedestrian and vehicular traffic. The proposed landscaping will also be an asset in minimizing the harsh impact of urbanization in an already highly developed area like Waikiki. May we suggest that planting of native species such as ilima, hibiscus, sandalwood or koa be considered in your landscaping plans? Information on native species suitable for landscaping can be obtained from the Botany or Horticulture Department at the University of Hawaii.

Are there any design plans for alternate energy systems for the project such as solar heating, or passive cooling systems? We are pleased to note that the building, although air conditioned, will provide windows which open to take advantage of the tradewinds.

We recognize your efforts to aid the Waikiki Community Center and Waikiki Health Center to relocate to an alternate affordable site. Although this relocation assistance is not required by law, we realize that this is an act of social responsibility on behalf of your company. These two organizations are highly valued and utilized by members of the community and the public at large. It has been a pleasure reviewing this document. We look forward to receiving your response.

Sincerely,

  
Diane C. Drigot, Ph.D.  
Acting Director

LMK

cc: Hasegawa Komuten (USA) Inc.  
OEQC  
Donald Bell  
Jacquelin Miller  
Alexis Cheong Linder

18 February 1981

Diane C. Drigot  
Acting Director, Environmental Center  
University of Hawaii at Manoa  
Crawford 317  
2550 Campus Road  
Honolulu, Hawaii 96822

Subject: Draft Environmental Statement for Hasegawa  
Komuten Condominium Project, Waikiki

Dear Dr. Drigot,

Thank you for your comments of February 6, 1981. Your compliments are very much appreciated by the staff who prepared the EIS.

Following are responses to questions in your letter:

1. Page 1 - Paragraph 3 of your letter. The units will not be sold solely to owner/occupants. As indicated on Page 111 on the EIS, it is expected that ultimately approximately 25% of the units in the project will be owner/occupants and 75% will be investor owned. However, Act 189 of SLH 1980 requires that 50% of the units be offered to owner/occupants initially. Time sharing is not permitted in this area of Waikiki. Ordinance No. 80-107 of the City & County of Honolulu allows time sharing in the resort hotel precinct of Waikiki only. This project is in the apartment precinct. With regard to your comment on the nature of the future residents and relative noise and traffic impact, it should be noted that a greater number of tourist occupants will have a lesser impact on traffic and noise since traffic will be spread out over a longer time period during the day rather than concentrated during the peak hours.

Page 2 - Paragraph 1. Thank you for your suggestion regarding the use of native species in the landscaping plans. A copy of your letter has been provided to the landscape architect for this project so that he can consider it in the final design.

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Fred R. White AIA  
Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA  
Directors

Architecture  
Planning  
Interior Design  
Graphic Design

Suite 300  
Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813  
Telephone (808) 523-9636

Cyril W. Lemmon FAIA  
Founder, Emeritus

Douglas W. Freeth AIA  
Principal 1946-1975

Senior Associates:  
Darrell G. Welch, Jr. AIA  
Alvin M. Yoshimori AIA

Associates:  
Kai Yajima  
N. Robert Hale AIA  
Dennis Daniel AIA  
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Mel Roop APA  
Marco Sunada  
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Stanley T. Yasumoto

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David A. Miller AIA

Page 2 - Paragraph 2. A final decision on the possible use of solar heating is pending further analysis by the mechanical engineer during design development of the project.

Your interest in this project is appreciated.

Very truly yours,

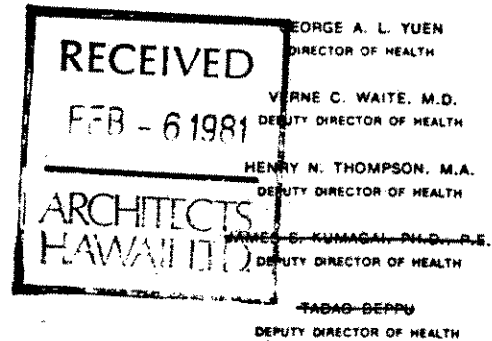


Mel Roop  
Associate  
MR:dn

GEORGE R. ARIYOSHI  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. BOX 3378  
HONOLULU, HAWAII 96801  
February 3, 1981



MEMORANDUM

To: Mr. Michael M. McElroy, Director of Land Utilization  
City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Hasegawa Komuten  
Condominium Project, Waikiki, Oahu

In reply, please refer to:  
File: EPHS-SS

Thank you for allowing us to review and comment on the subject EIS.

We submit the following comments for your information and consideration:

1. Since tire squeal noise from the proposed parking structure may exceed allowable limits, it is suggested that the necessary mitigation measures be initiated during the construction phase of the project. Further, it is recommended that noise attenuation measures to reduce the overall noise levels at the parking structure be undertaken, particularly in the area near the project's makai tower.
2. Both central air conditioning and waste heat recovery systems are mentioned in the EIS, but no indication is given as to where the components of these systems are to be located. Air conditioning condenser units and heat pumps tend to be noisy and are often the source of numerous citizen complaints. It is suggested that special attention be directed towards attenuation of noise from these sources.

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

For Brian J. King  
MELVIN K. KOIZUMI

cc: Office of Environmental Quality Control  
Hasegawa Komuten (USA), Inc. ✓

18 February 1981

Mr. Melvin K. Koizumi  
State of Hawaii  
Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801

Subject: Environmental Impact Statement for Hasegawa Komuten  
Condominium Project, Waikiki


Dear Mr. Koizumi,

In response to your comments of February 3, 1981 to the subject  
EIS, please be advised that noise attenuation measures will be  
taken to reduce noise from the parking structure as you sug-  
gested.

Because the project has not yet been designed and is in pre-  
liminary development, the location of the central air-  
conditioning and waste heat recovery systems is not known at  
this time. Because of the noise from the air-conditioning  
condensor units and heat pumps which you mentioned, they will  
be located as far as possible from the property lines and  
attenuated or placed in enclosures as necessary to meet State  
and County noise requirements.

Thank you for your comments.

Very truly yours,



Mel Roop,  
Associate  
MR:dn

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Paul D. Jones AIA  
Joseph Farrell AIA  
Fred R. White AIA  
Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA  
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Graphic Design

Suite 300  
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Honolulu, Hawaii 96813  
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GEORGE R. ARIYOSHI  
GOVERNOR



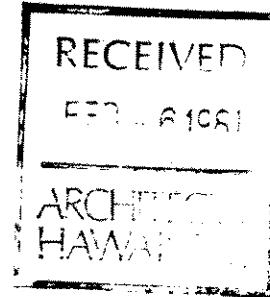
HARRY Y. AKAGI  
Acting Director

TELEPHONE NO.  
548-6915

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

550 HALEKAUWILA ST.  
ROOM 301  
HONOLULU, HAWAII 96813

February 5, 1981



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

Subject: Environmental Impact Statement for Hasegawa Komuten  
Condominium Project

Dear Mr. McElroy:

We have reviewed the subject document and offer the following  
comments for your consideration:

P. 26

If only 366 units instead of 396 units are to be constructed,  
will the number of parking stalls be reduced from 400? If not, what  
would be the rationale for retaining a significantly larger number  
of parking stalls than apartments?

P. 42

The EIS should discuss noise levels in greater detail. What  
noise levels will beach-goers, zoo visitors and students at both  
the Roman Catholic Church School and Jefferson Elementary School  
be subject to during construction? Will pile driving interfere with  
normal school activities? If so, what mitigative measures have been  
considered to minimize conflicts due to construction noises?

P. 50

Natural ventilation should be considered as a means of reducing  
energy usage.

Mr. Michael McElroy  
February 5, 1981  
Page 2

P. 53

The EIS should consider the traffic impact of heavy equipment movements during construction on the surrounding road systems. The EIS should also discuss the cumulative impact of traffic problems due to construction of the condominium and widening of Kuhio Avenue, in the vicinity of the project.

P. 64

What mitigative measures, if any, have been considered to alleviate expected traffic problems at: 1) Ala Wai Boulevard ewa of Lewers; and 2) Kuhio Avenue at Lewers, both of which will exceed their road capacity when the project is completed?

P. 88

The EIS states, "carbon monoxide emissions . . . under worst case traffic and meteorological conditions could still pose some compliance problems with State of Hawaii ambient air quality measures." What mitigative measures are being considered to minimize possible problems?

P. 108

The population figures given in the EIS may underestimate the actual number of people currently residing at the site. Low income families frequently have a greater number of persons per household than more affluent families. The relocation of residents should be discussed in greater detail.

P. 110

How many people are currently serviced by the Waikiki Community Center and the Health Center? Discuss how these people will be served until alternate locations for these programs are found.

P. 113

The EIS should discuss the lack of road capacity in greater detail. What will be the impact on traffic due to insufficient road capacities in the area?

P. 114

We concur with the need for housing on Oahu. Documentation of the need for additional housing of the proposed price range in the Waikiki area should be given to support this statement in the EIS.

Summary of Unresolved Issues

The question of whether 396 units or 366 units will be built should be resolved in this section.

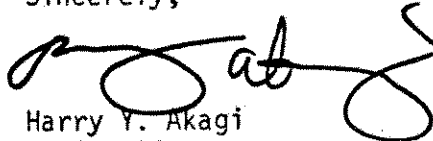
Mr. Michael McElroy  
February 5, 1981  
Page 3

Responses to Comments

The Draft EIS does not contain a reproduction of responses to comments made during the consultation process. This is required by section 1:42 (m) in the EIS Regulations.

We appreciate the opportunity to review the subject EIS and look forward to the revised statement.

Sincerely,

A handwritten signature in black ink, appearing to read 'Harry Y. Akagi', written in a cursive style.

Harry Y. Akagi  
Acting Director

✓cc: Hasegawa Komuten (USA) Inc.

February 20 1981

Mr. Harry Y. Akagi  
Acting Director, State of Hawaii  
Office of Environmental Quality Control  
550 Halekauwila Street  
Room 301  
Honolulu, Hawaii 96813

Subject: Response to Comments on Environmental Impact  
Statements for Hasegawa Komuten Condominium Project,  
Waikiki

Dear Mr. Akagi,

In response to the comments in your letter of February 5, 1981, on the subject project, we are providing the information below as required by EQC regulations. For clarity, the information is referenced by the page number in the EIS as indicated in your letter.

Page 26 - Number of Units. As noted on Page 10 of the EIS, the 30 additional units are "lock out units". This means that it will be the option of the individual owners of the 2-bedroom units as to whether or not the units will be utilized as a single large unit or two smaller units. It is not known at this time how many of the owners will choose to do so. The rationale for providing the larger number of parking spaces is that they are required by the County Department of Land Utilization.

Page 42 - Noise. The noise information on page 42 is limited because that is the soils section of the EIS. The noise section, which begins on page 68, has greater detail.

The highest noise levels experienced during construction will be during the pile driving operations. It is estimated that noise levels for beach goers and zoo visitors during this time will be 65 decibels which is equivalent to traffic noise.

The project will have no noise impact during construction on St. Augustine Roman Catholic Church School as that facility has been closed and is no longer in operation.

The pile driving operation will be heard at Jefferson Elementary School. Noise levels at the library building will be 65 to 70 decibels. This building is air-conditioned and has doors which automatically close so noise is not expected to be a problem. However, there will be a greater noise impact on the classroom buildings as the buildings are naturally ventilated. It is estimated that noise levels from the pile driving operations will be approximately 75 to 85 decibels in

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Francis S. Haines FAIA  
Paul D. Jones AIA  
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Stanley S. Gima AIA  
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Wilbert Hashimoto  
Mel Roop APA  
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Mr. Harry Y. Akagi  
February 20, 1981  
Page 2

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the area of the Wai Nani Way parking lot on the school grounds. This is adjacent to the classroom buildings where handicapped programs are conducted. The noise level will be approximately 75 decibels when pile driving is occurring on the project property near Ala Wai Blvd. and will be approximately 85 decibels when pile driving is being conducted at the makai end of the property. As noted in the EIS, the pile driving operation will have a duration of 3 to 6 weeks. The exact time will not be known until soil tests are complete. Consequently, the precise amount of time during which the school will be subjected to these noise levels, is not known at this time. Pile driving is restricted by Department of Health procedures to the hours between 9:00 A.M. and 5:30 P.M. from Monday through Friday. Classes begin at the school at approximately 8:00 A.M. so the pile driving operation will not commence until one hour after school begins.

Mitigative measures which have been considered to minimize conflicts due to construction noise are listed in the EIS on Page 81. In addition, consideration was given to scheduling the pile driving operations during the summer in order to avoid impact on the school operations. However, the consultant was advised by Mrs. Kagawa, Principal of Jefferson School, that the law requires that summer sessions also be conducted for the handicapped program. It should be noted that the highest noise level of 85 decibels will only be experienced for a short time while pile driving is occurring near the makai-diamond head corner of the project property. An effort will be made to complete this portion of the construction as quickly as possible to further mitigate the noise impact. Other mitigated measures which are available include closing of the classroom windows on one side of the building and educating the handicapped students on the source and reason for the noise to minimize fears they may have.

Page 50 - Natural Ventilation. See Page 20 of the EIS which states "while units will be designed to include airconditioning, they will also have windows which open to take advantage of Hawaii's natural tradewinds."

Page 53 - Traffic. The traffic impact during construction is not considered significant because it is far less than that of the completed project. Movement of heavy equipment, street construction, and other work which will affect traffic will not occur during peak traffic hours. The additional effect of the condominium construction to the traffic impacts of the Kuhio Avenue widening work will be negligible due to the relative location of the projects.

Mr. Harry Y. Akagi  
February 20, 1981  
Page 3

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Fred R. White AIA  
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Alex Weinstein AIA  
David A. Miller AIA

Page 64 - Traffic. Actions to mitigate lack of roadway capacity are the responsibility of the County government. As indicated in various parts of the EIS, this project is consistent with the County's long range plans and objectives. As such, no mitigation measures on the part of the developer have been identified. If no actions are taken to increase capacity, traffic conditions will be eased as discussed on Page 66 of the EIS.

Page 88 - Air Quality. See Page 91 of the EIS.

Page 108 - Existing Population. We concur that it is possible that there are more people currently residing at the project site than is estimated in the EIS. Average numbers of persons per dwelling unit utilized were provided by the County Department of General Planning. It is true that low income families frequently have a greater number of persons per household than affluent families. However, size of the dwelling unit is also a contributing factor to size of family and the dwelling units on the property are rather small since the majority are below 850 sq. ft. with some as small as 385 sq. ft. Assuming 4.0 persons per dwelling unit which is larger than the 2.9 persons per unit utilized in the EIS, the number of persons currently residing at the site would be 104 rather than 75 as stated in the EIS. .

Demolition of the structures will not occur until late 1981 at the earliest. This will give the present residents a significant amount of time to relocate to other housing. The financial condition of the present residents is not known so it is not possible to state the ease of which they will be able to find new housing. If some of the residents cannot afford market rates for housing, there are government subsidy programs which may be utilized.

If any of the present residents qualify for government subsidy programs, and are desirous of obtaining housing through those programs, they should contact the Hawaii Housing Authority, the primary agency in this state. The Hawaii Housing Authority has federal funds for a variety of subsidy programs for low and moderate income persons. They do not, however, have programs to aid in relocation.

There is presently a waiting list for persons desiring the Hawaii Housing Authority programs. Consequently, residents who are interested should contact the Authority if they wish to be eligible before demolition occurs.

Mr. Harry Y. Akagi  
February 20, 1981  
Page 4

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Joseph Farrell AIA  
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Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA

The County's Department of Housing and Community Development also is an agent for dispersing federal housing subsidy funds through the Section 8 rental program. The County has relocation assistance programs but they are only applicable to projects which involve government displacees. For example, if a public building were being built, that agency could assist in the relocation of present residents. The only housing program available to the County is the Section 8 program while the Hawaii Housing Authority has several other programs in addition to Section 8, such as for home ownership.

The buildings on the property are owned by the Liliuokalani Trust who is the landlord. At this time the landlord has no responsibility or program to assist the present residents in relocating to other areas.

Page 110 - Social and Medical Services. Permanent facilities for these services are being sought through County and State sources. Interim ways of serving these people until the alternate locations are provided are being sought, but no solution has been found as of this writing. For example, the Waikiki Health Center is investigating the possibility of temporarily using St. Augustine School since it is vacant. However, the use of that facility has not been determined by the church. On a temporary basis, some residents may use other organizations that provide similar services who are located outside of the Waikiki area. The Waikiki Health Center serves approximately 8,500 patient visits per year.

According to the Waikiki Community Center, meetings for senior citizens are being accommodated at the Sheraton Waikiki.

It is difficult to estimate the total number of persons served by the Waikiki Health Center. Generally, there are 200 senior citizen members plus others in the community. Approximately 32 students are served by the preschool at one time, with turnover throughout the year. There are about 100 calls and drop-ins per month requesting help.

Page 113 - Traffic. See the answer above in response to the comment regarding Page 64 of the EIS.

Page 114 - Housing need. A marketing study was conducted by Hasegawa Komuten to determine the appropriate unit size and price for this area. The units could be considered average and not ultra luxury type units which do not seem appropriate for this location. The project program is based on information

Mr. Harry Y. Akagi  
February 20, 1981  
Page 5

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Francis S. Haines FAIA  
Paul D. Jones AIA  
Joseph Farrell AIA  
Fred R. White AIA  
Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA

from local real estate management sources and represents the best estimate at this time of the market which will be desired at the time that construction is complete on the project which will be almost two years into the future. Approximately two thirds of the units are planned to be 1-bedroom units which have been the most popular in this area. They are suitable for both small family owner/occupants and for use as rentals. The project is designed to provide housing of a type, size and price that is desired by certain owner/occupants and investors in this area, rather than to satisfy a basic need which presently exists.

Summary of Unresolved Issues. This answer is included in response to the comment regarding Page 26 above.

Response to Comments. Included on the following page is a copy of a letter sent to those individuals and agencies who sent letters in response to the Notice of Preparation of the EIS.

I hope that these responses satisfactorily address your concerns.

Very truly yours,



Mel Roop  
Associate

MR:dn/jth



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Francis S. Haines FAIA  
Paul D. Jones AIA  
Joseph Farrell AIA  
Fred R. White AIA  
Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA  
Directors

Architecture  
Planning  
Interior Design  
Graphic Design

Suite 300  
Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813  
Telephone (808)523-9636

Subject: Preparation of Environmental Impact  
Statement for Proposed Condominium  
Project in Waikiki  
TMK: 2-6-28: 49

Thank you for your comments and suggestions re-  
garding the preparation of the Environmental  
Impact Statement for this project.

Your comments will be helpful to us in assuring  
that all of the significant issues regarding this  
project are addressed in the EIS.

Thank you for your assistance and interest in  
the project.

Very truly yours,

Mel Roop  
Associate

MR:dn

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Founder, Emeritus

Douglas W. Freeth AIA  
Principal 1946-1975

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Darrell G. Welch, Jr. AIA  
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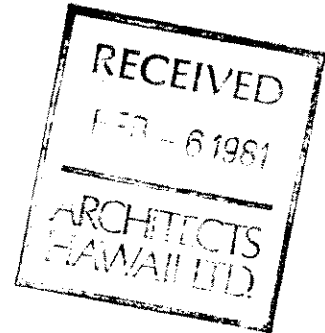
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Dennis Daniel AIA  
Wilbert Hashimoto  
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Marco Sunada  
Emmett R. Herrera ASID, GDA  
Gary W. Marshall AIA  
Stanley T. Yasumoto



# University of Hawaii at Manoa

Water Resources Research Center  
Holmes Hall 283 • 2540 Dole Street  
Honolulu, Hawaii 96822

3 February 1981



Department of Land Utilization  
City & County of Honolulu  
650 S. King Street  
Honolulu, HI 96813

Gentlemen:

Subject: EIS for Hasegawa Komuten Condominium Project,  
Liliuokalani Trust Property, Waikiki

We have reviewed the subject EIS and have the following comments:  
On page 47 the projected water demand (525 gpm or 0.756 mgd) is high.  
We calculate:

$$396 \text{ units} \times 4 \text{ persons/unit} \times 200 \text{ gpm/person/day} = 0.317 \text{ mgd}$$

Thank you for the opportunity to review this EIS. The material  
was reviewed by WRRC and affiliate personnel.

Sincerely,

Edwin T. Murabayashi  
EIS Coordinator

ETM: jm

cc: Y.S. Fok  
H. Gee  
C. Liu  
Hasegawa Komuten (USA) Inc.

February 20, 1981

Mr. Edwin T. Murabayashi  
EIS Coordinator  
University of Hawaii at Manoa  
Water Resources Research Center  
Holmes Hall 283  
2540 Dole Street  
Honolulu HI 96822

Subject: EIS for Hasegawa-Komuten Condominium Project  
Waikiki

Dear Mr. Murabayashi:

This is in response to your letter of February 3, 1981 regarding the calculation of projected water demand in the EIS on page 47. The figure in the EIS was calculated following Uniform Plumbing Code standards which require determination of water demand according to fixture unit count rather than estimated population. This usually results in a higher estimate for projected water demand.

Thank you for your comments.

Very truly yours,

*Mel Roop*

Mel Roop  
Associate

MR:jth

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Francis S. Haines FAIA  
Paul D. Jones AIA  
Joseph Farrell AIA  
Fred R. White AIA  
Stanley S. Gima AIA  
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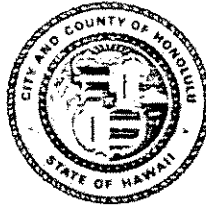
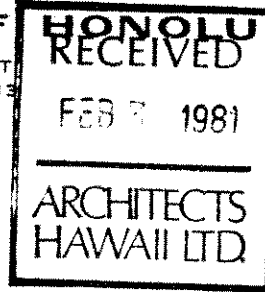
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DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



EILEEN R. ANDERSON  
MAYOR

MICHAEL J. CHUN  
DIRECTOR AND CHIEF ENGINEER

ENV 81-43

January 28, 1981

MEMORANDUM

TO : MR. MICHAEL M. McELROY, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM : MICHAEL J. CHUN, DIRECTOR AND CHIEF ENGINEER

SUBJECT: EIS FOR THE HASEGAWA KOMUTEN CONDOMINIUM PROJECT  
WAIKIKI, OAHU, HAWAII

We have reviewed the subject EIS and have the following comments.

1. New street improvements will be subject to the provisions of Ordinance No. 2412.
2. The 10-inch sewer line should be installed on Paoakalani Avenue and a manhole should be constructed before the line enters the property (see attachment). The City will maintain the line up to the property line and the developer will be responsible for all sewer lines within the property.

MICHAEL J. CHUN  
Director and Chief Engineer

Attach.

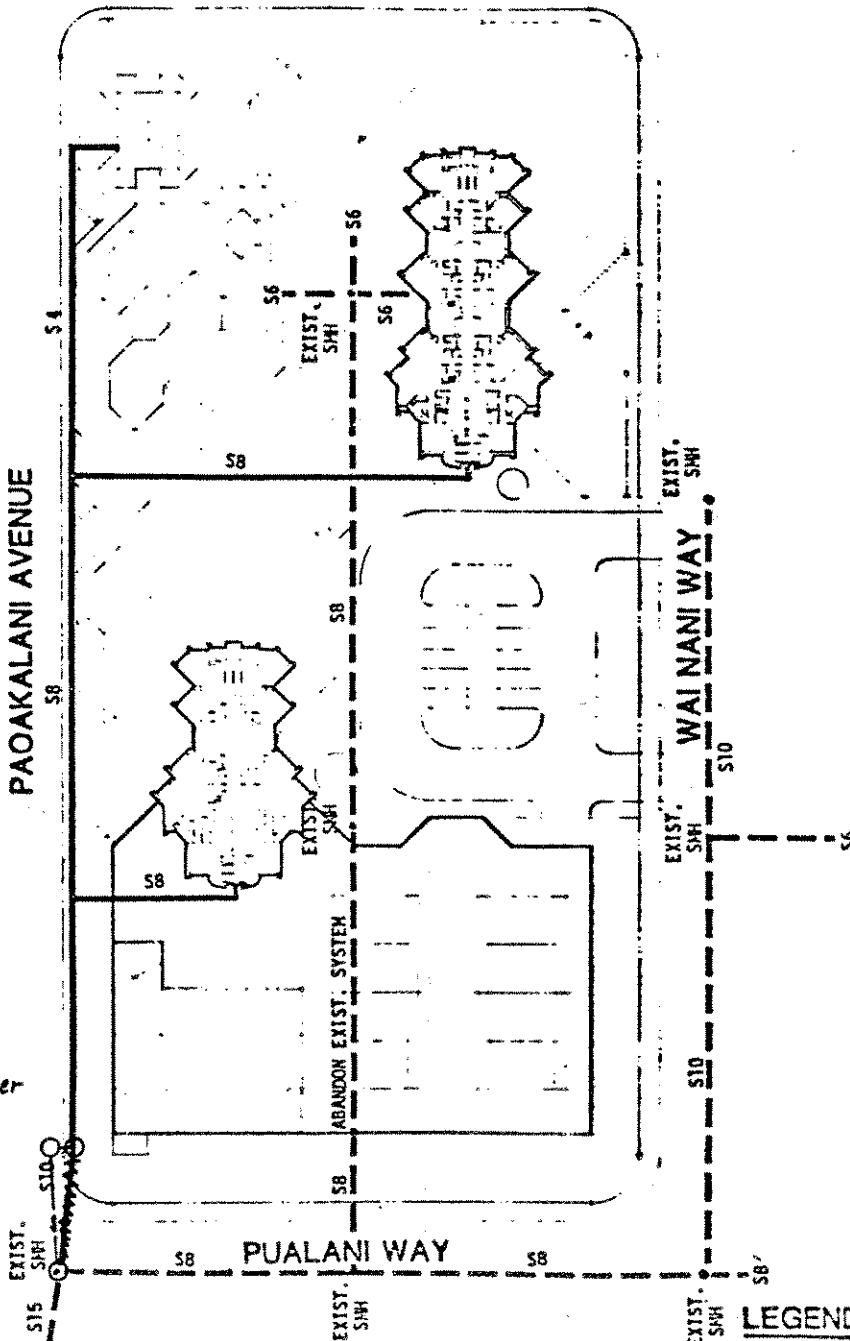
cc: Div. of Engineering  
Div. of Wastewater Management  
Architects Hawaii, Ltd.

ALA WAI BOULEVARD

PAOKALANI AVENUE

WAI NANI WAY

PUALANI WAY



City Sewer



SCALE

0' 50' 100' 150'

LEGEND

- EXISTING SEWER SYSTEM
- PROPOSED SEWER SYSTEM
- SMH - SEWER MAN HOLE

# EXISTING AND PROPOSED SEWER SYSTEM

HK Liliuokalani - Waikiki

FIGURE

14

ARCHITECTS  
HAWAII LTD.

February 20, 1981

Mr. Michael J. Chun  
Director and Chief Engineer  
Department of Public Works  
City & County of Honolulu  
650 S. King Street  
Honolulu HI 96813

Subject: EIS for Hasegawa-Komuten Condominium Project  
Waikiki

Dear Mr. Chun:

Thank you for your comments of January 28, 1981 on the subject  
EIS. As you pointed out, the sewer manhole will be constructed  
on Paoakalani Avenue before the line enters the property.

Very truly yours,



Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

Francis S. Haines FAIA  
Paul D. Jones AIA  
Joseph Farrell AIA  
Fred R. White AIA  
Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA  
Directors

Architecture  
Planning  
Interior Design  
Graphic Design

Suite 300  
Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813  
Telephone (808) 523-9636

Cyril W. Lemmon FAIA  
Founder, Emeritus

Douglas W. Freeth AIA  
Principal 1946-1975

Senior Associates:  
Darrell C. Welch, Jr. AIA  
Alvin M. Yoshimori AIA

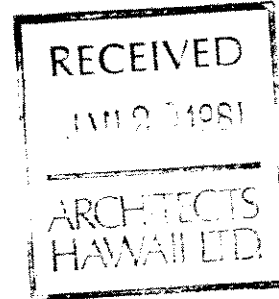
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Dennis Daniel AIA  
Wilbert Hashimoto  
Mel Roop APA  
Marco Sunada  
Emmett R. Herrera ASID, GDA  
Gary W. Marshall AIA  
Stanley T. Yasumoto

DEPARTMENT OF THE ARMY  
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII  
FORT SHAFTER, HAWAII 96858

16 JAN 1981

APZV-EHE-E

Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813



Gentlemen:

The Environmental Impact Statement for Hasegawa Komuten Condominium Project, Liliuokalani Trust Property, Waikiki, Oahu, Hawaii has been reviewed and we have no comments to offer. No Army installations or activities will be affected by the proposed project.

Sincerely,

Original signed by

RAY H. JYO  
Acting Director of Engineering and Housing

Copy Furnished:  
Hasegawa Komuten (USA) Inc.  
c/o Architects Hawaii, Ltd.  
190 South King Street, Suite 300  
Honolulu, Hawaii 96813

February 20, 1981

Mr. Ray H. Jyo  
Acting Director, Engineering & Housing  
Department of the Army  
Headquarters, U.S. Army Support Command, Hawaii  
Fort Shafter HI 96858

Dear Mr. Jyo:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of 16 January 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,



Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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Stanley T. Yasumoto



HEADQUARTERS  
NAVAL BASE PEARL HARBOR  
BOX 110  
PEARL HARBOR, HAWAII 96860

IN REPLY REFER TO:

002A:amn  
Ser 76

15 JAN 1981



Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, HI 96813

Gentlemen:

Environmental Impact Statement  
Hasegawa Komuten Condominium Project  
Liliuokalani Trust Property, Waikiki

The Environmental Impact Statement for the Hasegawa Komuten Condominium Project, forwarded by the Environmental Quality Commission, has been reviewed and the Navy has no comments to offer. As requested by the Commission, the EIS is being returned to them by copy of this letter.


The opportunity to review the subject EIS is appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. D. Eber".

Copy to:

State EQC (w/EIS)

Hasegawa Komuten (USA) Inc.   
c/o Architects Hawaii, Ltd  
190 South King Street, Suite 300  
Honolulu, HI 96813

R. D. EBER  
CAPTAIN, CEC, U.S. NAVY  
FACILITIES ENGINEER  
BY DIRECTION OF THE COMMANDER

February 20, 1981

Captain R. D. Eber  
CEC, U.S. Navy  
Facilities Engineer  
Headquarters, Naval Base Pearl Harbor  
Box 110  
Pearl Harbor HI 96860

Dear Captain Eber:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of 15 January 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,



Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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Gary W. Marshall AIA  
Stanley T. Yasumoto



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

300 ALA MOANA BOULEVARD  
P. O. BOX 50167  
HONOLULU, HAWAII 96850

IN REPLY REFER TO:

ES  
Room 6307

January 8, 1981

Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Re: Hasegawa Komuten Condominium  
Project, Waikiki, Oahu

Dear Sir:

We have reviewed the referenced material and found that due to its location, the proposed project will have no significant deleterious impact on fish and wildlife resources. Please do not hesitate to call on us if we can be of further assistance.

We appreciate this opportunity to comment.

Sincerely yours,

Nevin D. Holmberg  
Deputy Project Leader for  
Environmental Services

cc: Hasegawa Komuten (USA) Inc.  
c/o Architects Hawaii, Ltd.  
190 South King Street, Suite 300  
Honolulu, Hawaii 96813



*Save Energy and You Serve America!*

February 20, 1981

Mr. Nevin D. Holmberg  
Deputy Project Leader for Environmental Services  
Fish & Wildlife Service  
U.S. Department of the Interior  
P. O. Box 50167  
Honolulu HI 96850

Dear Mr. Holmberg:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of January 8, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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Marco Sunada  
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Gary W. Marshall AIA  
Stanley T. Yasumoto

(dpl)

Serial 508  
11000  
8 January 1980

Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Gentlemen:

The Coast Guard has reviewed the Environmental Impact Statement for the Hasegawa Komuten Condominium Project and has no objection or constructive comments to offer at the present time.

Sincerely,

*/s/*  
J. E. SCHWARTZ  
Commander, U. S. Coast Guard  
District Planning Officer  
Fourteenth Coast Guard District  
By Direction of the District Commander

*Copy to:* Hasegawa Komuten (USA) Inc.

DEPARTMENT OF TRANSPORTATION

U. S. COAST GUARD  
Office of the Commander  
14th Coast Guard District  
PJKK Federal Building  
300 Ala Moana, 9th Floor  
Honolulu, Hawaii 96850

February 20, 1981

Mr. J. E. Schwartz  
Commander, U. S. Coast Guard  
District Planning Officer  
Fourteenth Coast Guard District  
PJKK Federal Building  
300 Ala Moana Blvd., 9th Floor  
Honolulu HI 96850

Dear Mr. Schwartz:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of 8 January 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

*Mel Roop*

Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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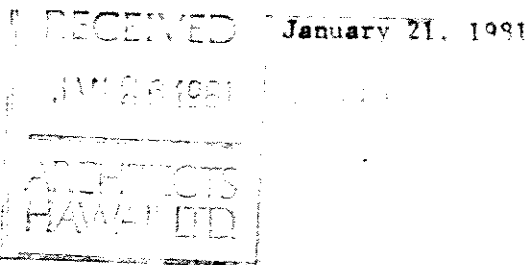
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Gary W. Marshall AIA  
Stanley T. Yasumoto

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

P. O. BOX 80006  
HONOLULU, HI 96850



Department of Land Utilization  
City & County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Sir:

Thank you for letting us review the EIS for the Hasegawa Komuten  
Condominium Project - Waikiki, Oahu

We have no comments.

Sincerely yours,

MAX S. CORAY  
Acting District Conservationist

cc: Hasegawa Komuten (USA) Inc.  
c/o Architects Hawaii, Ltd.  
190 South King Street, Suite 300  
Honolulu, Hawaii 96813

February 20, 1981

Mr. Max S. Coray  
Acting District Conservationist  
U.S. Department of Agriculture  
Soil Conservation Service  
P. O. Box 50006  
Honolulu HI 96850

Dear Mr. Coray:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of January 21, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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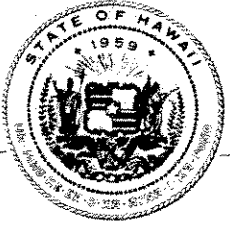
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Gary W. Marshall AIA  
Stanley T. Yasumoto





DEPARTMENT OF PLANNING  
AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St. Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

February 3, 1981

AKH  
FW FW  
MR MOK  
\*2814  
FILE

GEORGE R. ARIYOSHI  
*Governor*

HIDETO KONO  
*Director*

FRANK SKRIVANEK  
*Assistant Director*

O  
P  
Y

Ref. No. 2683

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

Dear Mr. McElroy:

Subject: Draft Environmental Impact Statement for the Hasegawa  
Komuten Condominium Project, Waikiki, Oahu

We have reviewed the subject document and find that it has adequately  
assessed the major environmental impacts which can be anticipated from the  
implementation of this project.

Thank you for the opportunity to review and comment on this matter.

Sincerely,

Hideto Kono

cc: Mr. Harry Akagi, Acting Director  
Office of Environmental Quality Control

✓ Mr. Mel Roop  
Associate, Architects Hawaii Limited

February 20, 1981

Mr. Hideto Kono  
Director  
Dept. of Planning & Economic Development  
State of Hawaii  
P. O. Box 2359  
Honolulu HI 96804


Dear Mr. Kono:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of February 3, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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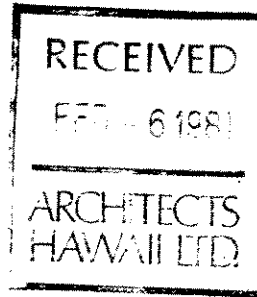
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Marco Sunada  
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Gary W. Marshall AIA  
Stanley T. Yasumoto



February 3, 1981

Honorable Michael McElroy  
Director, Department of  
Land Utilization  
City and County of Honolulu  
650 So. King Street  
Honolulu, Hawaii 96813

Dear Mr. McElroy:

This office has reviewed the draft EIS for Hasegawa Komuten Condominium Project, Waikiki, Oahu - TMK: 2-6-28:49 and concurs with its recommendations (p. 43):

". . . an archaeological consultant will be retained to monitor construction activities and to write a report on features such as burials, trash dumps, and buried irrigation ditches that might be discovered."

Sincerely,

A handwritten signature in cursive script that reads "Susumu Ono".

SUSUMU ONO, Chairman  
Board of Land and Natural Resources;  
and  
State Historic Preservation Officer

cc: Hasegawa Komuten (USA)

February 20, 1981

Mr. Susumu Ono, Chairman  
Board of Land & Natural Resources and  
State Historic Preservation Officer  
State of Hawaii  
1151 Punchbowl Street  
Honolulu HI 96813

Dear Mr. Ono:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of February 3, 1981 regarding the  
subject project.

It will be incorporated into the appendix of the final  
Environmental Impact Statement for this project.

Very truly yours,

*Mel Roop*  
Mel Roop  
Associate

MR:jth

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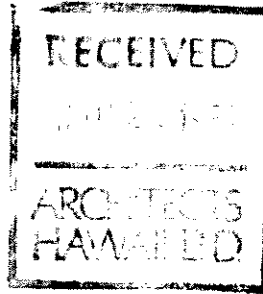
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Gary W. Marshall AIA  
Stanley T. Yasumoto



SEP 2 1981

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

Dear Mr. McElroy:

Environmental Impact Statement  
Hasegawa Komuten Condominium Project

Thank you for the opportunity to review the subject Environmental Impact Statement. We have no substantive comments to offer which could improve the document.

Very truly yours,

A handwritten signature in cursive script that reads "Ryokichi Higashionna".

Ryokichi Higashionna  
Director of Transportation

ALK:jk

cc: Hasegawa Komuten (USA), Inc.

ARCHITECTS  
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Telephone (808) 523-9636

February 20, 1981

Mr. Ryokichi Higashionna  
Director of Transportation  
State of Hawaii  
869 Punchbowl Street  
Honolulu HI 96813

Dear Mr. Higashionna:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter reference STP 8.6974 received by  
this office on January 20, 1981 regarding the subject project.

It will be incorporated into the appendix of the final  
Environmental Impact Statement for this project.

Very truly yours,



Mel Roop  
Associate

MR:jth

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Gary W. Marshall AIA  
Stanley T. Yasumoto

GEORGE R. ARIYOSHI  
GOVERNOR



JOHN FARIAS, JR.  
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA  
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII  
DEPARTMENT OF AGRICULTURE  
1428 SO. KING STREET  
HONOLULU, HAWAII 96814

January 8, 1981

MEMORANDUM

To: Department of Land Utilization  
City and County of Honolulu

Subject: EIS for Hasegawa Komuten (USA) Inc.  
TMK: 2-6-28:49 Waikiki

The Department of Agriculture has no comments to offer on the subject environmental statement.

The EIS report is returned herewith for your further use.

Thank you for the opportunity to comment.

JOHN FARIAS, JR.  
Chairman, Board of Agriculture

cc: Hasegawa Komuten (USA) Inc.

Enc.

February 20, 1981

Mr. John Farias, Jr.  
Chairman, Board of Agriculture  
State of Hawaii  
1428 S. King Street  
Honolulu HI 96814

Dear Mr. Farias:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of January 8, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

*Mel Roop*

Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

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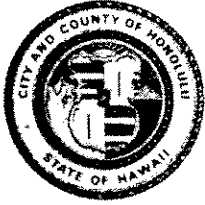
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Stanley T. Yasumoto



DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • (808) 523-4411

FW | KY  
MR | MR  
AES  
#2814

EN R. ANDERSON  
MAYOR



MICHAEL M. McELROY  
DIRECTOR

80/WSDD-38 (MK)

February 6, 1981

Mr. Mel Roop, Associate  
Architects Hawaii, Ltd.  
Suite 300, Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Roop:

Draft EIS for Hasegawa Komuten  
Condominium Project--Tax Map Key 2-6-28: 49

We have reviewed the Draft EIS and found that the potential impacts of the proposed project have been adequately addressed.

Very truly yours,

Handwritten signature of Michael M. McElroy in cursive.

MICHAEL M. McELROY  
Director of Land Utilization

MMM:ey

February 20, 1981

Mr. Michael M. McElroy  
Director of Land Utilization  
City & County of Honolulu  
650 S. King Street  
Honolulu HI 96813

Dear Mr. McElroy:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of February 6, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

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Founder, Emeritus

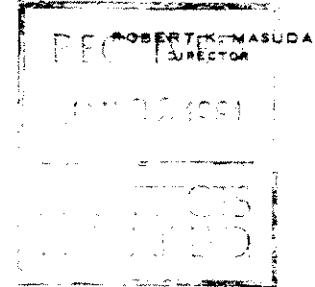
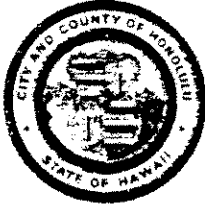
Douglas W. Freeth AIA  
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Gary W. Marshall AIA  
Stanley T. Yasumoto

DEPARTMENT OF PARKS AND RECREATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



EILEEN R. ANDERSON  
MAYOR

January 20, 1981

MEMORANDUM

TO : MICHAEL McELROY, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM : ROBERT K. MASUDA, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT  
HASEGAWA KOMUTEN CONDOMINIUM PROJECT  
TMK: 2-6-28: 49

We have no comments to offer on the EIS for the Hasegawa  
Komuten Condominium Project at this time.

/s/ Robert K. Masuda

ROBERT K. MASUDA, Director

RKM:vc

cc: ✓ Hasegawa Komuten

February 20, 1981

Mr. Robert K. Masuda  
Director  
Department of Parks & Recreation  
City & County of Honolulu  
Honolulu HI 96813

Dear Mr. Masuda:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of January 20, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

## ARCHITECTS HAWAII LTD.

Francis S. Haines FAIA  
Paul D. Jones AIA  
Joseph Farrell AIA  
Fred R. White AIA  
Stanley S. Gima AIA  
Alex Weinstein AIA  
David A. Miller AIA  
Directors

Architecture  
Planning  
Interior Design  
Graphic Design

Suite 300  
Pacific Trade Center  
190 South King Street  
Honolulu, Hawaii 96813  
Telephone (808) 523-9636

Cyril W. Lemmon FAIA  
Founder, Emeritus

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BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

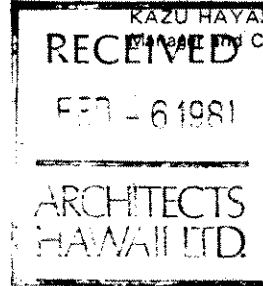
30 SOUTH BERETANIA

HONOLULU, HAWAII 96843



EILEEN ANDERSON, Mayor  
YOSHIE H. FUJINAKA, Chairman  
DAT QUON PANG, Vice Chairman  
RYOKICHI HIGASHIONNA  
Donna M. Howard  
Michael J. Chun  
ROBERT A. SOUZA  
CLAUDE T. YAMAMOTO

January 30, 1981



KAZU HAYASHIDA  
Manager and Chief Engineer

TO : MR. MICHAEL M. McELROY  
DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM : KAZU HAYASHIDA  
BOARD OF WATER SUPPLY

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR  
HASEGAWA KOMUTEN CONDOMINIUM PROJECT, WAIKIKI

We have no additional comments on the proposed project except to reaffirm our water commitment policy because of the "tight" water situation. A decision on committing water to the development will take place following receipt of the building permit and construction drawings.

Thank you for letting us review the environmental document.

If you have any questions or require additional information, please call Lawrence Whang at 548-5221.

*S/Kazu*

KAZU HAYASHIDA  
Manager and Chief Engineer

cc: Hasegawa Komuten (USA), Inc.

February 20, 1981

Mr. Kazu Hayashida  
Manager & Chief Engineer  
Board of Water Supply  
City & County of Honolulu  
630 S. Beretania  
Honolulu HI 96843

Dear Mr. Hayashida:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of January 30, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

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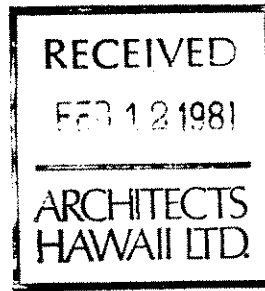
Suite 300  
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Stanley T. Yasumoto



PB 81-107

February 9, 1981

TO: DEPARTMENT OF LAND UTILIZATION  
FROM: ROY H. TANJI  
DIRECTOR AND BUILDING SUPERINTENDENT  
SUBJECT: HASEGAWA KOMUTEN CONDOMINIUM PROJECT  
ENVIRONMENTAL IMPACT STATEMENT

We have reviewed the Environmental Impact Statement for the Hasegawa Komuten Condominium Project and do not have any objections to the project.

Thank you for the opportunity to comment.

A handwritten signature in cursive script, appearing to read "Roy H. Tanji".

ROY H. TANJI  
Director and Building Superintendent

AF:vk  
cc: ✓ Hasegawa Komuten (USA) Inc.  
J. Harada

February 20, 1981

ARCHITECTS  
HAWAII LTD.

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190 South King Street  
Honolulu, Hawaii 96813  
Telephone (808) 523-9636

Mr. Roy H. Tanji  
Director & Building Superintendent  
Department of Land Utilization  
City & County of Honolulu  
650 S. King Street  
Honolulu HI 96813

Dear Mr. Tanji:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of February 9, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,



Mel Roop  
Associate

MR:jth

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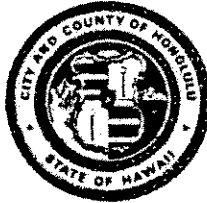


DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
**CITY AND COUNTY OF HONOLULU**

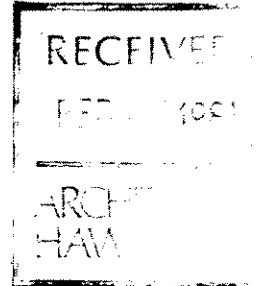
650 SOUTH KING STREET,  
HONOLULU, HAWAII 96813  
PHONE 523-4161

KY  
MC MGR  
FILE  
#224

EILEEN R. ANDERSON  
MAYOR



JOSEPH K. CONANT  
DIRECTOR



February 3, 1981

Department of Land Utilization  
City and County of Honolulu  
Honolulu, Hawaii

Gentlemen:

Subject: Hasegawa Komuten Condominium  
Project - Environmental  
Impact Statement

We have no comment on the subject EIS at the  
present time.

Sincerely,

A handwritten signature in cursive script, appearing to read "Joseph K. Conant".

Joseph K. Conant

cc: Hasegawa Komuten (USA), Inc.  
c/o Architects Hawaii, Ltd.  
Environmental Quality Commission

February 20, 1981

Mr. Joseph K. Conant  
Director  
Department of Housing & Community Development  
City & County of Honolulu  
650 S. King Street  
Honolulu HI 96813

Dear Mr. Conant:

Subject: Environmental Impact Statement  
Hasegawa-Komuten Condominium  
Waikiki, Honolulu, Hawaii

Thank you for your letter of February 3, 1981 regarding the subject project.

It will be incorporated into the appendix of the final Environmental Impact Statement for this project.

Very truly yours,

  
Mel Roop  
Associate

MR:jth

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